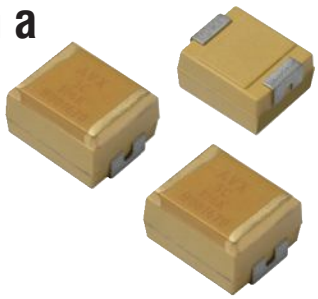
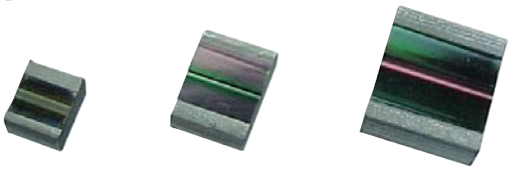
Latest Products from...

Parallel Ceramic Capacitors in a Molded Case



See page 1108

Polymer Multilayer Capacitors



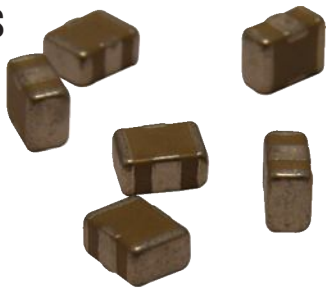
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Ultra-high Voltage Ceramic Capacitors



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X2Y (Reg) Safety Capacitors



See page 1169

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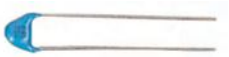
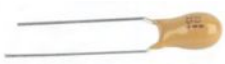
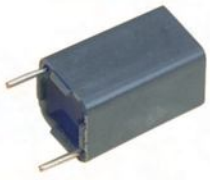
Turn to page iv for more information

Farnell

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Selection Chart

235326

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RL Re-reeling available

RF/Microwave Ceramics

RF/Microwave Ceramic Capacitors

U Series



U Series capacitors are COG (NP0) chip capacitors specially designed for Ultra low ESR for applications in the communications market. Max ESR and effective capacitance are met on each value producing lot to lot uniformity.

Tolerance	Indicated by the 10th digit of Mftrs. List No. B = ±0.1pF C = ±0.25pF G = ±2% J = ±5%
Temperature coefficient	0±30ppm/°C
Insulation resistance	$10^{12}\Omega$min. @ 25°C and WVDC
Dielectric working voltage	250% of rated WVDC
Dimensions (LxWxH)	0402: 1 x 0.50 x 0.6mm 0603: 1.52 x 0.76 x 0.91mm 0805: 2.01 x 1.25 x 1.02mm

0402 Case Size

Order Multiple=5
50 Volt d.c. COG 0402 Case Size

pF	Mftrs. List No.	Order Code	Price Each 5+	50+	250+	1K+	5K+
0.5	04025U0R5BAT2A	SMD 756-7995 RL	0.118	0.105	0.090	0.076	0.059
1	04025U1R0BAT2A	SMD 756-8002 RL	0.160	0.083	0.046	0.032	0.031
1.5	04025U1R5BAT2A	SMD 756-8010 RL	0.132	0.118	0.101	0.085	0.066
1.8	04025U1R8BAT2A	SMD 756-8029 RL	0.132	0.118	0.101	0.085	0.066
2.2	04025U2R2BAT2A	SMD 756-8037 RL	0.132	0.118	0.101	0.085	0.066
2.4	04025U2R4BAT2A	SMD 756-8045 RL	0.080	0.070	0.060	0.051	0.040
3	04025U3R0BAT2A	SMD 756-8053 RL	0.132	0.118	0.101	0.085	0.066
3.6	04025U3R6BAT2A	SMD 756-8061 RL	0.095	0.084	0.072	0.062	0.048
4.7	04025U4R7CAT2A	SMD 756-8070 RL	0.075	0.067	0.058	0.049	0.039
5.6	04025U5R6CAT2A	SMD 756-8088 RL	0.119	0.106	0.092	0.076	0.062
6.8	04025U6R8CAT2A	SMD 756-8100 RL	0.075	0.067	0.058	0.049	0.039
8.2	04025U8R2CAT2A	SMD 756-8118 RL	0.119	0.106	0.092	0.076	0.062
10	04025U100GAT2A	SMD 756-8126 RL	0.118	0.105	0.090	0.076	0.059
12	04025U120GAT2A	SMD 756-8134 RL	0.132	0.118	0.101	0.085	0.066
15	04025U150GAT2A	SMD 756-8142 RL	0.095	0.084	0.072	0.062	0.048

0603 Case Size

Order Multiple=5
200 Volt d.c. COG 0603 Case Size

pF	Mftrs. List No.	Order Code	Price Each 5+	50+	250+	1K+	5K+
1	06032U1R0BAT2A	SMD 756-8150 RL	0.290	0.250	0.210	0.180	0.144
1.2	06032U1R2BAT2A	SMD 756-8169 RL	0.290	0.250	0.210	0.180	0.144
1.5	06032U1R5BAT2A	SMD 756-8177 RL	0.290	0.250	0.210	0.180	0.144
1.8	06032U1R8BAT2A	SMD 756-8185 RL	0.200	0.179	0.152	0.129	0.103
2	06032U2R0BAT2A	SMD 756-8193 RL	0.310	0.164	0.092	0.066	0.065
2.4	06032U2R4BAT2A	SMD 756-8207 RL	0.290	0.250	0.210	0.180	0.144
2.7	06032U2R7BAT2A	SMD 756-8215 RL	0.350	0.280	0.210	0.138	0.068
3	06032U3R0BAT2A	SMD 756-8223 RL	0.290	0.250	0.210	0.180	0.144
3.3	06032U3R3BAT2A	SMD 756-8231 RL	0.290	0.250	0.210	0.180	0.144
3.9	06032U3R9BAT2A	SMD 756-8240 RL	0.290	0.250	0.210	0.180	0.144
4.7	06032U4R7CAT2A	SMD 756-8258 RL	0.177	0.160	0.134	0.114	0.090
5.6	06032U5R6CAT2A	SMD 756-8266 RL	0.198	0.179	0.150	0.128	0.101
6.8	06032U6R8CAT2A	SMD 756-8274 RL	0.198	0.179	0.150	0.128	0.101
7.5	06032U7R5CAT2A	SMD 756-8282 RL	0.220	0.118	0.066	0.048	0.046
8.2	06032U8R2CAT2A	SMD 756-8290 RL	0.250	0.220	0.186	0.160	0.153
10	06032U100GAT2A	SMD 756-8304 RL	0.198	0.179	0.150	0.128	0.101
12	06032U120GAT2A	SMD 756-8312 RL	0.177	0.160	0.134	0.114	0.090
15	06032U150GAT2A	SMD 756-8320 RL	0.198	0.179	0.150	0.128	0.101
18	06032U180GAT2A	SMD 756-8339 RL	0.177	0.160	0.134	0.114	0.090

Order Multiple=5
100 Volt d.c. COG 0603 Case Size

pF	Mftrs. List No.	Order Code	Price Each 5+	50+	250+	1K+	5K+
22	06031U220GAT2A	SMD 756-8347 RL	0.198	0.179	0.150	0.128	0.101
27	06031U270GAT2A	SMD 756-8355 RL	0.177	0.160	0.134	0.114	0.090
33	06031U330GAT2A	SMD 756-8363 RL	0.177	0.160	0.134	0.114	0.090
39	06031U390GAT2A	SMD 756-8371 RL	0.198	0.179	0.150	0.128	0.101
47	06031U470JAT2A	SMD 756-8380 RL	0.165	0.149	0.125	0.106	0.084

0805 Case Size

388599

Order Multiple=5
200 Volt d.c. COG 0805 Case Size

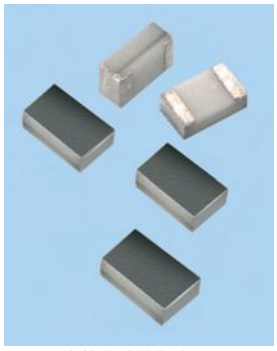
pF	Mftrs. List No.	Order Code	Price Each 5+	50+	250+	1K+	5K+
1	08052U1R0BAT2A	SMD 756-8398 RL	0.300	0.270	0.240	0.196	0.156
1.5	08052U1R5BAT2A	SMD 756-8401 RL	0.330	0.300	0.260	0.220	0.175
2.2	08052U2R2BAT2A	SMD 756-8410 RL	0.300	0.270	0.240	0.196	0.156
2.4	08052U2R4BAT2A	SMD 756-8428 RL	0.300	0.270	0.240	0.196	0.156
2.7	08052U2R7BAT2A	SMD 756-8436 RL	0.330	0.300	0.260	0.220	0.175
3	08052U3R0BAT2A	SMD 756-8444 RL	0.330	0.300	0.260	0.220	0.175
3.3	08052U3R3BAT2A	SMD 756-8452 RL	0.330	0.300	0.260	0.220	0.175

Order Multiple=5
200 Volt d.c. COG 0805 Case Size

pF	Mftrs. List No.	Order Code	Price Each 5+	50+	250+	1K+	5K+
3.9	08052U3R9BAT2A	SMD 756-8460 RL	0.300	0.270	0.240	0.196	0.156
4.7	08052U4R7CAT2A	SMD 756-8479 RL	0.270	0.210	0.113	0.075	0.072
5.6	08052U5R6CAT2A	SMD 756-8487 RL	0.200	0.186	0.157	0.133	0.105
7.5	08052U7R5CAT2A	SMD 756-8495 RL	0.200	0.186	0.157	0.133	0.105
8.2	08052U8R2CAT2A	SMD 756-8509 RL	0.200	0.186	0.157	0.133	0.105
9.1	08052U9R1CAT2A	SMD 756-8517 RL	0.230	0.210	0.176	0.149	0.118
10	08052U100GAT2A	SMD 756-8525 RL	0.200	0.186	0.157	0.133	0.105
12	08052U120GAT2A	SMD 756-8533 RL	0.200	0.186	0.157	0.133	0.105
15	08052U150GAT2A	SMD 756-8541 RL	0.230	0.210	0.176	0.149	0.118
18	08052U180GAT2A	SMD 756-8550 RL	0.230	0.210	0.176	0.149	0.118
22	08052U220GAT2A	SMD 756-8568 RL	0.200	0.186	0.157	0.133	0.105
24	08052U240GAT2A	SMD 756-8576 RL	0.230	0.210	0.176	0.149	0.118
27	08052U270GAT2A	SMD 756-8584 RL	0.200	0.186	0.157	0.133	0.105
33	08052U330GAT2A	SMD 756-8592 RL	0.230	0.210	0.176	0.149	0.118
36	08052U360GAT2A	SMD 756-8606 RL	0.148	0.133	0.112	0.095	0.075
39	08052U390GAT2A	SMD 756-8614 RL	0.200	0.186	0.157	0.133	0.105
47	08052U470JAT2A	SMD 756-8622 RL	0.192	0.172	0.144	0.122	0.099
68	08052U680JAT2A	SMD 756-8649 RL	0.220	0.193	0.161	0.137	0.111
82	08052U820JAT2A	SMD 756-8657 RL	0.192	0.172	0.144	0.122	0.099
100	08052U101JAT2A	SMD 756-8665 RL	0.220	0.193	0.161	0.137	0.111
130	08052U131JAT2A	SMD 756-8673 RL	0.192	0.172	0.144	0.122	0.099

RF/Microwave Capacitors

ACCU-P®



H=0.40 W=1.00 D=0.55mm

- Low ESR, high Q, availability of very low capacitance values and very tight capacitance tolerances
- The RF power handling capability allows for its usage in both small signal and RF power applications
- Inspection, test and quality control procedures in accordance with ISO 9001, CECC, IECQ and USA MIL Standards guarantee product of the highest quality
- Minimal batch to batch variability of parameters at high frequency
- Hand soldering: Due to their construction utilizing relatively high thermal conductivity materials, Accu-Ps have become the preferred device in R & D labs and production environments where hand soldering is used

The use of very low-loss dielectric materials (silicon dioxide and silicon oxynitride) in conjunction with highly conductive electrode metals results in low ESR and high Q. At high frequency these characteristics change at a slower rate with increasing frequency than conventional ceramic microwave capacitors. Using thin-film technology, the above-mentioned frequency characteristics are obtained without significant compromise of properties required for surface mounting. The use of high thermal conductivity materials results in excellent RF power handling capabilities.

Operating and storage temperature	-55°C to +125°C	Proof voltage	2.5 U_R for 5 secs
Temperature coefficient	0 ±30ppm/°C dielectric code J	Aging characterisitic	Zero
Capacitance measurement	1MHz, 1Vrms	Dielectric absorbtion	0.01%
Insulation resistance	$\geq 10^{10}$		

0402 Case Size

388600

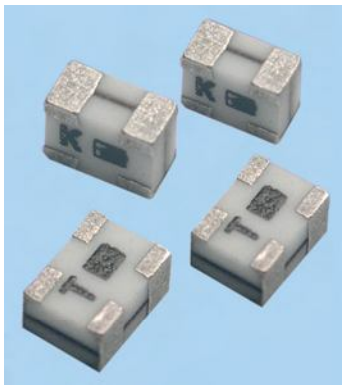
Capacitance (pF)	Mftrs. List No.	Order Code	Price Each 1+	25+	100+	1K+	3K+
25 Volt d.c.							
0.2	04023J0R2ABSTR	SMD 110-0608 RL	0.77	0.67	0.58	0.49	0.38
0.3	04023J0R3ABSTR	SMD 110-0611 RL	0.54	0.48	0.41	0.34	0.27
0.5	04023J0R5ABSTR	SMD 110-0613 RL	0.68	0.60	0.52	0.44	0.34
0.7	04023J0R7ABSTR	SMD 110-0615 RL	0.56	0.50	0.42	0.35	0.29
0.8	04023J0R8ABSTR	SMD 110-0616 RL	0.53	0.48	0.40	0.34	0.27
0.9	04023J0R9ABSTR	SMD 110-0617 RL	0.54	0.48	0.41	0.34	0.27
1.2	04023J1R2BBSTR	SMD 110-0618 RL	0.49	0.44	0.37	0.31	0.26
1.8	04023J1R8BBSTR	SMD 110-0620 RL	0.49	0.44	0.37	0.31	0.26
2.7	04023J2R7BBSTR	SMD 110-0623 RL	0.63	0.56	0.33	0.23	0.22
3.9	04023J3R9BBSTR	SMD 110-0625 RL	0.63	0.56	0.33	0.23	0.22
4.7	04023J4R7BBSTR	SMD 110-0626 RL	0.63	0.56	0.33	0.23	0.22
10 Volt d.c							
18	0402ZK180GBSTR	SMD 110-0633	0.80	0.72	0.51	0.34	0.32

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RL Re-reeling available

Thin-Film 3dB Directional Couplers

DB0805 Series



Reel Quantity = 3000

The ITF SMD 3dB 90° Coupler is based on thin-film multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.

The ITF 3dB 90° Coupler is offered in a variety of frequency bands compatible with various types of high frequency wireless systems such as GSM, PCS, W-CDMA etc.

- Miniature size
- Low Insertion Loss
- High Isolation
- Power Handling: 10W RF CW
- Operating Temperature: -40°C to +85°C
- Applications: Balanced amplifiers and signal distribution in mobile communications

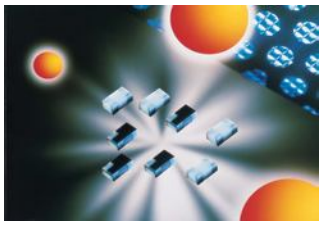
Fo (MHz)	I. Loss @ Fo (dB)	Phase Balance Max (deg)	Device Marking	Mftrs. List No.	Order Code
880	0.35	3	Y	DB0805A0880ASTR	110-0636
915	0.35	3	V	DB0805A0915ASTR	110-0637
967	0.35	3	V	DB0805A0967ASTR	110-0638
1350	0.35	3	C	DB0805A1350ASTR	110-0639
1650	0.35	3	F	DB0805A1650ASTR	110-0640
1800	0.30	3	F	DB0805A1800ASTR	110-0641
1850	0.30	3	K	DB0805A1850ASTR	110-0642
1900	0.30	3	K	DB0805A1900ASTR	110-0643
1950	0.25	3	K	DB0805A1950ASTR	110-0644
2140	0.25	3	L	DB0805A2140ASTR	110-0645
2325	0.25	3	T	DB0805A2325ASTR	110-0647

388602

	Price Each				
Order Code	1+	25+	100+	1K+	3K+
All Values ●	1.12	0.93	0.85	0.64	0.62

Thin -Film Directional Couplers

CP0603 High Directivity LGA Termination



The ITF LGA Coupler is based on thin-film multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.

The ITF Coupler is offered in a variety of frequency bands compatible with various types of high frequency wireless systems.

Features:

- Inherent Low Profile
- Self Alignment during Reflow
- Excellent Solderability
- Low Parasitics
- Better Heat Dissipation
- Operating/Storage Temp -40°C to +85°C
- Power Rating 3W RF Cont

For full technical specifications, please see the datasheet on the Farnell website

464338

		Price Each				
Mftrs. List No.	Order Code	1+	100+	500+	1K+	3K+
CP0603AXXXXCNTR	SMD 134-3813●	1.04	0.83	0.65	0.58	0.51
CP0603AXXXXHNTR	SMD 134-3814●	0.74	0.59	0.47	0.41	0.37
CP0603AXXXXANTR	SMD 134-3815●	0.74	0.59	0.47	0.41	0.37
CP0603AXXXXDNTR	SMD 134-3817●	1.04	0.83	0.65	0.58	0.51
CP0603AXXXXBNTR	SMD 134-3818●	1.04	0.83	0.65	0.58	0.51
CP0603AXXXXMNTR	SMD 134-3819●	1.04	0.83	0.65	0.58	0.51
CP0603AXXXXENTR	SMD 134-3820●	1.04	0.83	0.65	0.58	0.51
CP0603AXXXXFNTR	SMD 134-3821●	1.04	0.83	0.65	0.58	0.51
CP0603AXXXXGNTR	SMD 134-3823●	1.04	0.83	0.65	0.58	0.51
CP0603AXXXXLNTR	SMD 134-3824●	1.04	0.83	0.65	0.58	0.51

LDC Series

Chip Multilayer Hybrid Couplers



- Directional coupler
- Ultra-small, low-profiled and lightweight SMD
- Low loss

Operating Temperature -40°C to +85°C

Frequency min. (MHz)	Frequency Response	Frequency max. (MHz)	Coupling (dB)	Insertion Loss	Impedance (Ω)	Mftrs. List No.	Order Codes
0603 Case Size							
1710	1747.5	1785	20	0.26	50	LDC181G7420B-327	129-4665
0805 Case Size							
1710	1747.5	1785	12.8	0.5	50	LDC211G7412B-032	129-4666
1850	1880	1910	14	0.23	50	LDC211G8814B-027	129-4667
1895	1907.5	1920	14	0.33	50	LDC211G9014B-027	129-4668
1920	1950	1980	17.3	0.27	50	LDC211G9517B-031	129-4669
824	836.5	849	20	0.15	50	LDC21836M20B-027	129-4670
880	897.5	915	20	0.16	50	LDC21897M20B-027	129-4671

452091

		Price Each			
MHz	Order Code	5+	50+	200+	500+
0603 Case Size					
1747.5	SMD 129-4665●	0.270	0.200	0.163	0.133
0805 Case Size					
1747.5	SMD 129-4666●	0.200	0.153	0.122	0.102
1880	SMD 129-4667●	0.210	0.162	0.128	0.108
1907.5	SMD 129-4668●	0.200	0.153	0.122	0.102
1950	SMD 129-4669●	0.200	0.153	0.122	0.102
836.5	SMD 129-4670●	0.200	0.153	0.122	0.102
897.5	SMD 129-4671●	0.210	0.162	0.128	0.108

LDB Series

Chip Multilayer Hybrid Baluns



- Chip type SMD baluns constructed with copper conductor and ceramic material
- Ideal for high-frequency applications
- Small-size and low-loss baluns can be customized for the balance impedance of 10ohm to 200ohm

Frequency (MHz)	Impedance (Ω)	Insertion Loss (dB)	Mftrs. List No.	Order Codes
0603 Case Size				
1842.5	50	1.3	LDB181G8405C-110	129-4759
1842.5	200	1.4	LDB181G8420C-110	129-4760
1880	200	1.4	LDB181G8820C-110	129-4761
1955	50	1.3	LDB181G9505C-110	129-4762
1955	100	1.3	LDB181G9510C-110	129-4764
2450	50	1.1	LDB182G4505C-110	129-4765
2450	200	1.4	LDB182G4520C-110	129-4767
2540	100	1.1	LDB182G4510C-110	129-4766
0805 Case Size				
1800	50	0.9	LDB211G8005C-001	129-4768
1800	100	0.9	LDB211G8010C-001	129-4769
1800	200	0.9	LDB211G8020C-001	129-4770
1900	50	0.9	LDB211G9005C-001	129-4771
1900	100	0.9	LDB211G9010C-001	129-4772
1900	200	0.9	LDB211G9020C-001	129-4773
2400	50	0.9	LDB212G4005C-001	129-4774
2400	100	1	LDB212G4010C-001	129-4776
2400	200	1.1	LDB212G4020C-001	129-4777
5250	100	1.1	LDB215G2510C-001	129-4778
5250	200	1.25	LDB215G2520C-001	129-4779
5375	100	1.1	LDB215G3710C-001	129-4780
836.5	200	1.1	LDB21836M20C-001	129-4781
881.5	200	1.5	LDB21881M20C-001	129-4782
897.5	50	1.5	LDB21897M05C-001	129-4783
942.5	50	1.5	LDB21942M05C-001	129-4784
942.5	200	1.4	LDB21942M20C-001	129-4785

452121

		Price Each				
Frequency	Order Code	5+	50+	200+	500+	1K+
0603 Case Size						
1842.5MHz	SMD 129-4759●	0.170	0.124	0.099	0.081	0.072
1842.5MHz	SMD 129-4760●	0.170	0.124	0.099	0.081	0.072
1880MHz	SMD 129-4761●	0.194	0.143	0.112	0.092	0.082
1955MHz	SMD 129-4762●	0.170	0.124	0.099	0.081	0.072
1955MHz	SMD 129-4764●	0.170	0.128	0.099	0.081	0.072
2450MHz	SMD 129-4765●	0.260	0.189	0.149	0.122	0.108
2450MHz	SMD 129-4767●	0.170	0.128	0.099	0.081	0.072
2540MHz	SMD 129-4766●	0.260	0.189	0.149	0.122	0.108
0805 Case Size						
1800MHz	SMD 129-4768●	0.200	0.153	0.122	0.102	0.092
1800MHz	SMD 129-4769●	0.270	0.200	0.162	0.134	0.116
1800MHz	SMD 129-4770●	0.200	0.153	0.122	0.102	0.092
1900MHz	SMD 129-4771●	0.200	0.153	0.122	0.102	0.092
1900MHz	SMD 129-4772●	0.200	0.153	0.122	0.102	0.092
1900MHz	SMD 129-4773●	0.184	0.138	0.110	0.092	0.083
2400MHz	SMD 129-4774●	0.270	0.200	0.162	0.135	0.122
2400MHz	SMD 129-4776●	0.200	0.153	0.122	0.102	0.092
2400MHz	SMD 129-4777●	0.270	0.200	0.162	0.135	0.122
5250MHz	SMD 129-4778●	0.170	0.124	0.100	0.085	0.075
5250MHz	SMD 129-4779●	0.170	0.124	0.100	0.085	0.075
5375MHz	SMD 129-4780●	0.200	0.153	0.122	0.102	0.092
836.5MHz	SMD 129-4781●	0.200	0.153	0.122	0.102	0.092
881.5MHz	SMD 129-4782●	0.200	0.153	0.122	0.102	0.092
897.5MHz	SMD 129-4783●	0.187	0.134	0.108	0.090	0.081
942.5MHz	SMD 129-4784●	0.184	0.138	0.110	0.092	0.083
942.5MHz	SMD 129-4785●	0.200	0.153	0.122	0.102	0.092

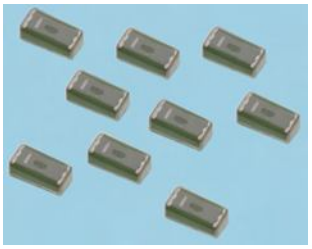
RL Re-reeling available

RF/Microwave Ceramics - continued

LDA Series

Chip Multilayer Antennas

muRata innovator in Electronics



- This antenna is designed for the applications of PDC, PHS, and Wireless LAN systems
- It's compact size, light weight and wide band width provide benefits to the systems

Operating temperature	-40 to 85°C
Case size	1206
Impedance	50ohm

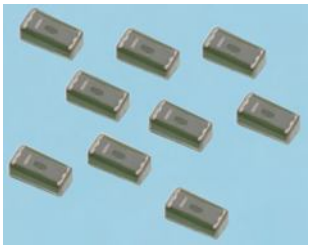
452114

Frequency	Order Code	Price Each 1+	25+	100+	250+	500+
2.73GHz	SMD 129-4743●	2.02	1.51	1.20	1.00	0.88
2.85GHz	SMD 129-4744●	2.02	1.51	1.20	1.00	0.88
2.98GHz	SMD 129-4745●	1.66	1.23	1.00	0.83	0.72
3.03GHz	SMD 129-4746●	2.02	1.51	1.20	1.00	0.88
3.14GHz	SMD 129-4747●	1.79	1.33	1.06	0.89	0.77
3.27GHz	SMD 129-4748●	1.79	1.33	1.06	0.89	0.77
3.33GHz	SMD 129-4749●	1.66	1.23	1.00	0.83	0.72
3.58GHz	SMD 129-4750●	1.79	1.33	1.06	0.89	0.77
3.88GHz	SMD 129-4752●	1.66	1.23	1.00	0.83	0.72
5.2GHz	SMD 129-4753●	1.79	1.33	1.06	0.89	0.77
5.5GHz	SMD 129-4754●	1.79	1.33	1.06	0.89	0.77
5.8GHz	SMD 129-4755●	1.79	1.33	1.06	0.89	0.77
6GHz	SMD 129-4756●	1.79	1.33	1.06	0.89	0.77
6.2GHz	SMD 129-4757●	1.66	1.23	1.00	0.83	0.72
7.8GHz	SMD 129-4758●	1.79	1.33	1.06	0.89	0.77

ANC Series

Chip Dielectric Antennas

muRata innovator in Electronics



- Operating temperature -40 to 85°C

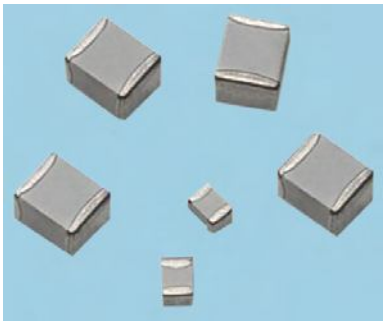
Frequency (MHz)	Bandwidth (MHz)	VSWR max.	Mftrs. List No.	Order Codes
2442	68	3	ANCG12G44SAA129	129-4723
2442	100	3.5	ANCV12G44SAA127	129-4724

452094

Bandwidth	Order Code	Price Each 1+	25+	100+	250+	500+
68MHz	129-4723●	1.68	1.29	1.01	0.86	0.77
100MHz	129-4724●	1.21	0.95	0.77	0.63	0.55

SQCA/CB RF Capacitors

Ceramic Low ESR, High Q Capacitors



SQCA/CB are ultra low ESR microwave capacitors suitable for RF Power Amplifiers. They come in non- mag termination for MRI applications. They offer very high Q and resonant frequency and power handling capability.

Operating temperature	-55 to 175°C	Case size	SQCA = 0605
Resonant frequency	>10000 @ 1 MHz		SQCB = 1210

0605 Case Size

pF	Mftrs. List No.	Order Code	Price Each 1+	50+	250+	500+
150 Volt d.c.						
0.6	SQCAEM0R6BATME\500	SMD 130-1992●	2.32	1.86	1.64	1.28
0.8	SQCAEM0R8BATME\500	SMD 130-1993●	1.15	0.91	0.81	0.64
1	SQCAEM1R0BATME\500	SMD 130-1994●	1.61	1.28	1.13	0.89
1.1	SQCAEM1R1BATME\500	SMD 130-1995●	1.15	0.91	0.81	0.64
1.2	SQCAEM1R2BATME\500	SMD 130-1996●	2.32	1.86	1.64	1.28
1.5	SQCAEM1R5BATME\500	SMD 130-1997●	1.15	0.91	0.81	0.64
1.6	SQCAEM1R6BATME\500	SMD 130-1999●	1.15	0.91	0.81	0.64
1.8	SQCAEM1R8BATME\500	SMD 130-2001●	1.15	0.91	0.81	0.64
1.9	SQCAEM1R9BATME\500	SMD 130-2002●	1.34	1.07	0.95	0.74
2	SQCAEM2R0BATME\500	SMD 130-2003●	1.15	0.91	0.81	0.64
2.2	SQCAEM2R2BATME\500	SMD 130-2004●	1.15	0.91	0.81	0.64
2.4	SQCAEM2R4BATME\500	SMD 130-2005●	1.15	0.91	0.81	0.64
2.7	SQCAEM2R7BATME\500	SMD 130-2006●	1.22	0.98	0.87	0.67
3	SQCAEM3R0BATME\500	SMD 130-2007●	1.15	0.91	0.81	0.64
3.3	SQCAEM3R3BATME\500	SMD 130-2008●	1.15	0.91	0.81	0.64
3.9	SQCAEM3R9BATME\500	SMD 130-2009●	1.15	0.91	0.81	0.64
4.7	SQCAEM4R7BATME\500	SMD 130-2010●	1.15	0.91	0.81	0.64
5.6	SQCAEM5R6BATME\500	SMD 130-2011●	1.15	0.91	0.81	0.64
6.8	SQCAEM6R8BATME\500	SMD 130-2013●	1.15	0.91	0.81	0.64
8.2	SQCAEM8R2BATME\500	SMD 130-2014●	2.32	1.86	1.64	1.28
10	SQCAEM100FATME\500	SMD 130-2015●	4.34	3.46	3.02	2.38
12	SQCAEM120FATME\500	SMD 130-2016●	2.16	1.74	1.51	1.19
15	SQCAEM150FATME\500	SMD 130-2017●	2.16	1.74	1.51	1.19
18	SQCAEM180FATME\500	SMD 130-2018●	2.16	1.74	1.51	1.19
22	SQCAEM220FATME\500	SMD 130-2019●	2.16	1.74	1.51	1.19
27	SQCAEM270FATME\500	SMD 130-2020●	4.34	3.46	3.02	2.38
33	SQCAEM330FATME\500	SMD 130-2021●	2.16	1.74	1.51	1.19
39	SQCAEM390FATME\500	SMD 130-2022●	2.16	1.74	1.51	1.19
47	SQCAEM470FATME\500	SMD 130-2023●	2.16	1.74	1.51	1.19

1210 Case Size

452073

pF	Mftrs. List No.	Order Code	Price Each 1+	50+	250+	500+
200 Volt d.c.						
220	SQCB2M221JATME\500	SMD 130-1989●	3.20	2.54	2.22	1.73
270	SQCB2M271JATME\500	SMD 130-1990●	1.60	1.27	1.12	0.87
300 Volt d.c.						
120	SQCB9M121JATME\500	SMD 130-1985●	1.70	1.35	1.19	0.93
150	SQCB9M151JATME\500	SMD 130-1987●	1.60	1.27	1.12	0.87
180	SQCB9M181JATME\500	SMD 130-1988●	2.38	1.89	1.65	1.29
500 Volt d.c.						
1	SQCB7M1R0BATME\500	SMD 130-1958●	2.88	2.30	2.01	1.58
1.2	SQCB7M1R2BATME\500	SMD 130-1959●	1.53	1.21	1.07	0.85
1.5	SQCB7M1R5BATME\500	SMD 130-1960●	1.44	1.14	1.01	0.79
1.8	SQCB7M1R8BATME\500	SMD 130-1961●	1.53	1.21	1.07	0.85
2.2	SQCB7M2R2BATME\500	SMD 130-1963●	2.88	2.30	2.01	1.58
2.7	SQCB7M2R7BATME\500	SMD 130-1964●	2.88	2.30	2.01	1.58
3.3	SQCB7M3R3BATME\500	SMD 130-1965●	1.53	1.21	1.07	0.85
3.9	SQCB7M3R9BATME\500	SMD 130-1966●	1.44	1.14	1.01	0.79
4.7	SQCB7M4R7BATME\500	SMD 130-1967●	2.88	2.30	2.01	1.58
5.6	SQCB7M5R6BATME\500	SMD 130-1968●	2.13	1.68	1.50	1.18
6.8	SQCB7M6R8BATME\500	SMD 130-1969●	1.44	1.14	1.01	0.79
8.2	SQCB7M8R2BATME\500	SMD 130-1970●	1.44	1.14	1.01	0.79
10	SQCB7M100FATME\500	SMD 130-1971●	4.34	3.85	3.37	2.62
12	SQCB7M120FATME\500	SMD 130-1972●	2.16	1.92	1.68	1.31
15	SQCB7M150FATME\500	SMD 130-1973●	4.34	3.85	3.37	2.62
18	SQCB7M180FATME\500	SMD 130-1975●	3.00	2.68	2.35	1.83
22	SQCB7M220FATME\500	SMD 130-1976●	2.31	2.05	1.79	1.39
27	SQCB7M270FATME\500	SMD 130-1977●	2.31	2.05	1.79	1.39
33	SQCB7M330FATME\500	SMD 130-1978●	4.34	3.85	3.37	2.62
39	SQCB7M390FATME\500	SMD 130-1979●	2.16	1.92	1.68	1.31
47	SQCB7M470FATME\500	SMD 130-1980●	3.21	2.85	2.50	1.95
56	SQCB7M560JATME\500	SMD 130-1981●	1.60	1.27	1.12	0.87
68	SQCB7M680JATME\500	SMD 130-1982●	1.70	1.35	1.19	0.93
82	SQCB7M820JATME\500	SMD 130-1983●	1.60	1.27	1.12	0.87
100	SQCB7M101JATME\500	SMD 130-1984●	3.20	2.54	2.22	1.73

AVX Hi-Q Designer Kits



A range of Hi-Q designer kits giving the user maximum range choice with enough samples to be useful during test and development. Once used, each product in the kits can be replenished through Farnell InOne. Also included with the kit is a full range card and a data CD Rom. 5 of each capacitance value (within the stated range) is supplied in each kit.

No. of Values	Capacitance Values	Mftrs List No.	Order Code
30 Values	1 pF to 270 pF	RFSQ001	130-1957
30 Values	0.6 pF to 56 pF	RFSQ002	130-1991

452081

Order Code	Price Each 1+	3+
130-1957●	46.39	39.26
130-1991●	46.39	39.26

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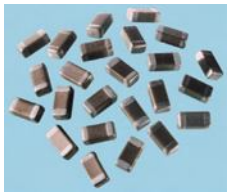
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RL Re-reeling available

Farnell

High Frequency/High Power Chip Monolithic Ceramic Capacitor

MA Series



- Miniature sizes
- Very high Q at high frequency
- High RF power capabilities
- Impervious to environmental conditions
- Low noise

Performance Characteristics		Performance Characteristics	
Dielectric	P090	Operating Temperature	-55°C to125°C
Temperature Coefficient	±20ppm/°C		

0505 Case Size

pF	Order Code	Price Each 1+	50+	500+	1K+
150 Volt d.c. P090, 0505 Case Size					
1	SMD 129-4566●	2.12	1.69	1.41	1.21
1.2	SMD 129-4567●	2.12	1.69	1.41	1.21
1.5	SMD 129-4569●	0.36	– –	– –	– –
1.8	SMD 129-4571●	2.65	2.12	1.77	1.52
2.2	SMD 129-4574●	2.12	1.69	1.41	1.21
3.3	SMD 129-4577●	2.65	2.12	1.77	1.52
3.9	SMD 129-4578●	2.65	2.12	1.77	1.52
4.7	SMD 129-4580●	2.65	2.12	1.77	1.52
5.6	SMD 129-4583●	1.34	1.07	0.89	0.77
6.8	SMD 129-4585●	1.34	1.07	0.89	0.77
8.2	SMD 129-4560●	2.65	2.12	1.77	1.52
8.2	SMD 129-4587●	1.34	1.07	0.89	0.77
10	SMD 129-4561●	1.34	1.07	0.89	0.77
12	SMD 129-4563●	1.39	1.11	0.93	0.80
15	SMD 129-4564●	1.39	1.11	0.93	0.80
18	SMD 129-4565●	1.11	0.89	0.75	0.63
22	SMD 129-4572●	1.39	1.11	0.93	0.80
27	SMD 129-4573●	1.39	1.11	0.93	0.80
33	SMD 129-4575●	1.39	1.11	0.93	0.80
39	SMD 129-4576●	1.39	1.11	0.93	0.80
47	SMD 129-4579●	1.39	1.11	0.93	0.80
56	SMD 129-4582●	1.39	1.11	0.93	0.80
68	SMD 129-4584●	1.39	1.11	0.93	0.80
82	SMD 129-4586●	1.39	1.11	0.93	0.80
100	SMD 129-4562●	1.81	1.45	1.21	1.04

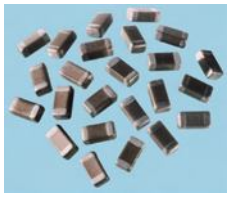
1111 Case Size

452088

pF	Order Code	Price Each 1+	50+	500+	750+
50 Volt d.c. P090, 1111 Case Size					
680	SMD 129-4619●	1.90	1.52	1.27	1.09
1000	SMD 129-4591●	2.53	2.02	1.68	1.45
200 Volt d.c. P090, 1111 Case Size					
220	SMD 129-4603●	1.90	1.52	1.27	1.09
330	SMD 129-4608●	1.90	1.52	1.27	1.09
470	SMD 129-4614●	2.53	2.02	1.68	1.45
500 Volt d.c. P090, 1111 Case Size					
0.5	SMD 129-4588●	2.71	2.17	1.81	1.56
1	SMD 129-4597●	2.71	2.17	1.81	1.56
1.2	SMD 129-4598●	2.71	2.17	1.81	1.56
1.5	SMD 129-4599●	1.82	1.45	1.21	1.04
1.8	SMD 129-4601●	3.62	2.90	2.41	2.08
2.2	SMD 129-4605●	2.71	2.17	1.81	1.56
2.7	SMD 129-4606●	2.71	2.17	1.81	1.56
3.3	SMD 129-4610●	3.62	2.90	2.41	2.08
3.9	SMD 129-4612●	2.17	1.73	1.45	1.24
4.7	SMD 129-4615●	3.62	2.90	2.41	2.08
5.6	SMD 129-4617●	1.37	1.09	0.91	0.79
6.8	SMD 129-4620●	1.37	1.09	0.91	0.79
8.2	SMD 129-4622●	1.37	1.09	0.91	0.79
10	SMD 129-4589●	1.37	1.09	0.91	0.79
12	SMD 129-4592●	1.42	1.13	0.94	0.82
15	SMD 129-4594●	1.42	1.13	0.94	0.82
18	SMD 129-4596●	1.42	1.13	0.94	0.82
22	SMD 129-4602●	1.42	1.13	0.94	0.82
27	SMD 129-4604●	1.42	1.13	0.94	0.82
33	SMD 129-4607●	1.42	1.13	0.94	0.82
39	SMD 129-4609●	1.42	1.13	0.94	0.82
47	SMD 129-4613●	1.42	1.13	0.94	0.82
56	SMD 129-4616●	1.42	1.13	0.94	0.82
68	SMD 129-4618●	1.42	1.13	0.94	0.82
82	SMD 129-4621●	1.42	1.13	0.94	0.82
100	SMD 129-4590●	1.42	1.13	0.94	0.82
150	SMD 129-4595●	1.66	1.33	1.10	0.95

Chip Monolithic Ceramic Capacitors

High Frequency Type ERB Series



- Negligible inductance is achieved by its monolithic structure so the series can be used at frequencies above 1GHz
- Nickel barriered terminations of ERB series improve solderability and decrease solder leaching
- ERB18/21 series are designed for both flow and re-flow soldering and ERB32 series are designed for re-flow soldering

Performance Characteristics		Performance Characteristics	
Dielectric	C0G	Dielectric	C0G
Temperature Coefficient	±30ppm/°C	Temperature Coefficient	±30ppm/°C
Operating Temperature	-55°C to125°C	Insulation Resistance	100,000MΩ

0603 Case Size

Order Multiple=5 pF	Order Code	Price Each 5+	50+	250+	1K+	4K+
200 Volt d.c. C0G, 0603 Case Size						
1	SMD 129-4484●	0.330	0.250	0.220	0.194	0.153
1.1	SMD 129-4485●	0.250	0.184	0.168	0.146	0.115
1.2	SMD 129-4486●	0.270	0.196	0.180	0.155	0.122
1.3	SMD 129-4487●	0.250	0.184	0.168	0.146	0.115
1.5	SMD 129-4488●	0.250	0.184	0.168	0.146	0.115
1.6	SMD 129-4491●	0.250	0.184	0.168	0.146	0.115
1.8	SMD 129-4492●	0.270	0.196	0.180	0.155	0.122
2	SMD 129-4495●	0.131	0.098	0.090	0.082	0.065
2.4	SMD 129-4496●	0.250	0.184	0.168	0.146	0.115
2.7	SMD 129-4497●	0.270	0.196	0.180	0.155	0.122
3	SMD 129-4500●	0.250	0.184	0.168	0.146	0.115
3.3	SMD 129-4501●	0.330	0.250	0.220	0.194	0.153
3.6	SMD 129-4502●	0.270	0.196	0.180	0.155	0.122
3.9	SMD 129-4503●	0.330	0.250	0.220	0.194	0.153
4.3	SMD 129-4505●	0.270	0.196	0.180	0.155	0.122
4.7	SMD 129-4506●	0.270	0.196	0.180	0.155	0.122
5.1	SMD 129-4508●	0.163	0.122	0.112	0.102	0.082
5.6	SMD 129-4509●	0.131	0.098	0.090	0.082	0.065
6.2	SMD 129-4511●	0.163	0.122	0.112	0.102	0.082
6.8	SMD 129-4512●	0.163	0.122	0.112	0.102	0.082
7.5	SMD 129-4513●	0.163	0.122	0.112	0.102	0.082
8.2	SMD 129-4514●	0.163	0.122	0.112	0.102	0.082
9.1	SMD 129-4515●	0.163	0.122	0.112	0.102	0.082
10	SMD 129-4479●	0.163	0.122	0.112	0.102	0.082
12	SMD 129-4481●	0.106	0.074	0.073	0.065	0.049
15	SMD 129-4482●	0.194	0.143	0.133	0.122	0.092
18	SMD 129-4483●	0.194	0.143	0.133	0.122	0.092
22	SMD 129-4493●	0.194	0.143	0.133	0.122	0.092
27	SMD 129-4494●	0.194	0.143	0.133	0.122	0.092
33	SMD 129-4498●	0.155	0.114	0.106	0.098	0.073
39	SMD 129-4499●	0.194	0.143	0.133	0.122	0.092
47	SMD 129-4504●	0.194	0.143	0.133	0.122	0.092
68	SMD 129-4510●	0.155	0.114	0.106	0.098	0.073
100	SMD 129-4480●	0.194	0.143	0.133	0.122	0.092

0805 Case Size

Order Multiple=5 pF	Order Code	Price Each 5+	50+	250+	1K+
200 Volt d.c. C0G, 0805 Case Size					
1.2	SMD 129-4523●	0.540	0.400	0.380	0.320
1.5	SMD 129-4524●	0.270	0.200	0.192	0.161
1.8	SMD 129-4525●	0.540	0.400	0.380	0.320
2.2	SMD 129-4527●	0.510	0.380	0.360	0.300
2.7	SMD 129-4528●	0.540	0.400	0.380	0.320
3.3	SMD 129-4530●	0.510	0.380	0.360	0.300
3.9	SMD 129-4531●	0.510	0.380	0.360	0.300
4.7	SMD 129-4534●	0.540	0.400	0.380	0.320
5.6	SMD 129-4535●	0.290	0.220	0.200	0.171
6.8	SMD 129-4537●	0.360	0.280	0.260	0.210
8.2	SMD 129-4538●	0.360	0.280	0.260	0.210
10	SMD 129-4516●	0.360	0.280	0.260	0.210
12	SMD 129-4518●	0.470	0.360	0.330	0.290
15	SMD 129-4521●	0.470	0.360	0.330	0.290
18	SMD 129-4522●	0.470	0.360	0.330	0.290
22	SMD 129-4526●	0.380	0.290	0.270	0.220
39	SMD 129-4529●	0.380	0.290	0.270	0.220
47	SMD 129-4533●	0.360	0.270	0.250	0.210
68	SMD 129-4536●	0.730	0.550	0.510	0.440
100	SMD 129-4517●	0.730	0.550	0.510	0.440

1210 Case Size

452086

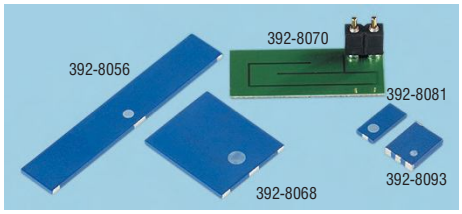
Order Multiple=5 pF	Order Code	Price Each 5+	50+	250+	1K+
500 Volt d.c. C0G, 1210 Case Size					
3.3	SMD 129-4549●	1.62	1.21	1.13	0.97
3.9	SMD 129-4550●	2.16	1.62	1.51	1.30
4.7	SMD 129-4552●	2.16	1.62	1.51	1.30
5.6	SMD 129-4554●	0.84	0.63	0.58	0.50
6.8	SMD 129-4557●	0.84	0.63	0.58	0.50
8.2	SMD 129-4559●	0.84	0.63	0.58	0.50
10	SMD 129-4539●	1.11	0.84	0.78	0.66
12	SMD 129-4541●	1.14	0.86	0.80	0.68
15	SMD 129-4542●	1.52	1.14	1.06	0.91
18	SMD 129-4543●	1.52	1.14	1.06	0.91
22	SMD 129-4545●	1.52	1.14	1.06	0.91
27	SMD 129-4546●	1.14	0.86	0.80	0.68
33	SMD 129-4547●	1.52	1.14	1.06	0.91
39	SMD 129-4548●	1.14	0.86	0.80	0.68
47	SMD 129-4551●	1.14	0.86	0.80	0.68
56	SMD 129-4553●	1.14	0.86	0.80	0.68
68	SMD 129-4555●	1.52	1.14	1.06	0.91
82	SMD 129-4558●	1.14	0.86	0.80	0.68
100	SMD 129-4540●	1.14	0.86	0.80	0.68

RL Re-reeling available

RF/Microwave Ceramics - continued

Surface Mount Ceramic Antennas

Phicomp YAGEO



A range of some of the smallest surface mount Bluetooth/WLAN antennas.

- High Gain of 4 dBi
- Ceramic antennas optimized for 433MHz, and 870MHz.
- New 900/1800MHz dual-band antenna ideal for mobile phones.
- Bluetooth compatible 2.45MHz antenna, in both long and short versions
- Environmentally sound - manufactured using low-temperature co-fired ceramic (LTCC) with lead free terminations
- Operating temperature: -55°C to 125°C

Description	Order Code	Working Frequency	Bandwidth	Gain (dB)	Impedance
433MHz Antenna	392-8056	433MHz	20MHz	0.5	50Ω
870MHz Antenna	392-8068	900MHz	100MHz	1.5	50Ω
2.4GHz Buetooth Antenna	392-8093	2.45GHz	100MHz≥	1.2	50Ω
0.9/1.8/1.9GHz Triple Band Antenna + IPEX	772-6082	1.9GHz	–	0.5	50Ω
0.9/1.8/1.9GHz Triple Band Antenna + MMCX	772-6090	1.9GHz	–	0.5	50Ω
ANTENNA, 5.3 X 2.0, 2.45GHZ	128-2672	2.45GHz	>100MHz	4	50Ω
ANTENNA, 3.2 X 1.6, 2.45GHZ	128-2673	2.45GHz	>100MHz	3.1	50Ω
ANTENNA, 12.0 X 4.0, 433MHZ	128-2674	433MHz	≥100MHz	0.5	50Ω

236430

Mftrs. List No.	Order Code	Price Each 1+	10+	100+
431312120043	SMD 392-8056 ●	11.00	9.46	8.80
431111900087	SMD 392-8068 ●	4.87	3.48	3.39
431311100245	SMD 392-8093 ●	3.72	2.47	2.22
431333000919	772-6082 ●	8.96	6.97	6.23
431333001919	772-6090 ●	12.40	9.65	8.62
431115300245	SMD 128-2672 ●	2.14	1.42	1.27
431171200245	SMD 128-2673 ●	1.65	1.09	0.98
431112920043	SMD 128-2674 ●	4.82	3.35	2.99

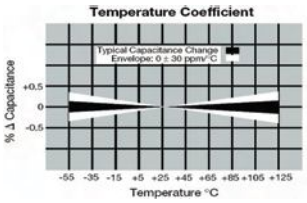
Multilayer Ceramic, High - Capacitor

MLCC Dielectics

AVX

A multilayer ceramic capacitor (MLCC) is a monolithic block of ceramic containing two sets of offset, interleaved planar electrodes that extend to two opposite surfaces of the ceramic dielectric. This deceivingly simple structure requires a considerable amount of sophistication, both in material and in manufacture, to produce it in the quantities used in today's electronic equipment.

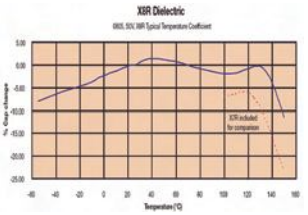
NP0



NP0 dielectric exhibits ultra stability in terms of time, temperature, frequency and voltage variations. Typical applications are in tuned circuits, timing circuits and fast rise time circuits.

Operating temperature	-55°C to 125°C
Cap variation with temperature	0+/-30ppm/°C
Aging characteristic	No

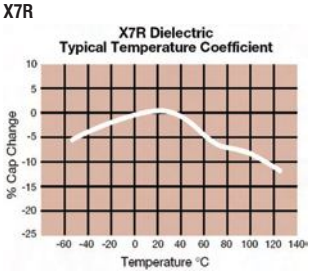
X8R



X8R dielectric is specifically formulated to provide predicted performance at elevated temperatures. Applications include on-engine sensors and drilling equipment.

Operating temperature	-55°C to 150°C
Cap variation with temperature	+/-15%
Aging characteristic	Yes

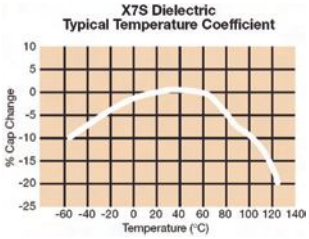
X7R



These dielectics offer the greater volumetric efficiency whilst maintaining stability within the defined limits. Applications would include bypass, coupling and filtering circuits.

Operating temperature	-55°C to 125°C
Cap variation with temperature	+/-15%
Aging characteristic	Yes

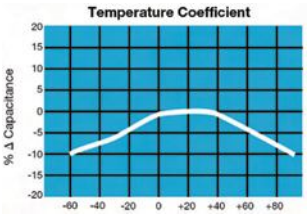
X7S



X7S dielectric chip usage covers the broad spectrum of industrial applications where known changes in capacitance due to applied voltages are acceptable.

Operating temperature	-55°C to 125°C
Cap variation with temperature	+/-22%
Aging characteristic	Yes

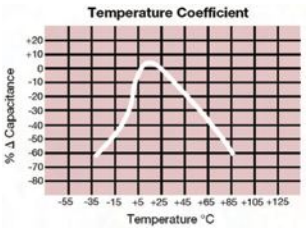
X5R



The X5R range of MLCCs is targeted for general purpose applications including filtering and decoupling. This ceramic formulation allows a high capacitance offering.

Operating temperature	-55°C to 85°C
Cap variation with temperature	+/-15%
Aging characteristic	Yes

Y5V



Y5V dielectric offers the highest volumetric efficiency. Applications would include bypass and decoupling circuits where temperature dependence is not of major importance.

Operating temperature	-30°C to 85°C
Cap variation with temperature	+22%-82%
Aging characteristic	Yes

452283

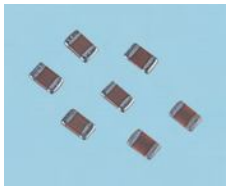
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Hi-Cap

Phicomp YAGEO



- Multilayer ceramic chip capacitors
- High performance and reliability
- 0402, 0603, 0805, 1206, 1210 and 1812 case sizes
- Nickel barrier terminations
- Conform to **IEC 60-68**

Performance Characteristics

	X5R	X7R	Y5V
Operating Temperature	-55°C to +85°C	-55°C to +125°C	-25°C to +85°C
Tolerance	±10%	±10%	20% to 80%

0402 Case Size

Order Multiple=10 µF	Dielectric	Order Code	Price Each 10+	100+	1K+	10K+	+
6.3 Volt d.c.							
1	X5R	SMD 940-2063 ● RL	0.109	0.087	0.075	0.065	– –
1	Y5V	SMD 940-2071 ● RL	0.108	0.086	0.075	0.065	– –
10 Volt d.c.							
0.22	X5R	SMD 940-2055 ● RL	0.108	0.087	0.075	0.065	– –
16 Volt d.c.							
0.1	X7R	SMD 940-2047 ● RL	0.113	0.090	0.078	0.068	– –

0603 Case Size

Order Multiple=10 µF	Dielectric	Order Code	Price Each 10+	100+	1K+	10K+	+
6.3 Volt d.c.							
2.2	X5R	SMD 940-2101 ● RL	0.079	0.068	0.066	0.065	– –
4.7	X5R	SMD 940-2110 ● RL	0.158	0.136	0.112	0.065	– –
4.7	Y5V	SMD 940-2128 ● RL	0.103	0.091	0.073	0.067	– –
10 Volt d.c.						– –	– –
1	X5R	SMD 940-2080 ● RL	0.058	0.053	0.044	0.067	– –
2.2	Y5V	SMD 940-2098 ● RL	0.057	0.053	0.044	0.068	– –

RL Re-reeling available

Farnell

0805 Case Size

Order Multiple=10 µF	Dielectric	Order Code	Price Each 10+	100+	1K+	10K+	+
10 Volt d.c.							
2.2	X7R	SMD 940-2152● RL	0.136	0.113	0.096	0.078	– –
4.7	X5R	SMD 940-2160● RL	0.158	0.135	0.119	0.065	– –
10	X5R	SMD 940-2136● RL	0.230	0.191	0.170	0.073	– –
10	Y5V	SMD 940-2144● RL	0.157	0.135	0.112	0.065	– –

1206 Case Size

Order Multiple=10 µF	Dielectric	Order Code	Price Each 10+	100+	1K+	10K+	+
10 Volt d.c.							
4.7	X7R	SMD 940-2195● RL	0.183	0.167	0.139	0.078	– –
10	X5R	SMD 940-2179● RL	0.310	0.260	0.230	0.065	– –
22	Y5V	SMD 940-2187● RL	0.260	0.240	0.200	0.073	– –

1210 Case Size

Order Multiple=10 µF	Dielectric	Order Code	Price Each 10+	100+	1K+	10K+	+
6.3 Volt d.c.							
47	X5R	SMD 940-2268● RL	1.330	1.180	1.000	0.078	– –
100	X5R	SMD 940-2209● RL	3.250	2.920	2.450	0.065	– –
10 Volt d.c.							
22	X5R	SMD 940-2233● RL	0.870	0.770	0.660	0.560	– –
22	Y5V	SMD 940-2241● RL	0.450	0.390	0.340	0.560	– –
25 Volt d.c.							
10	X5R	SMD 940-2217● RL	0.620	0.550	0.440	0.560	– –
4.7	X5R	SMD 940-2250● RL	0.400	0.350	0.310	0.560	– –
1	X7R	SMD 940-2225● RL	0.200	0.180	0.145	0.560	– –

1812 Case Size

N.B. Order codes 9402268 and 9402209 are of ±20% tolerance.

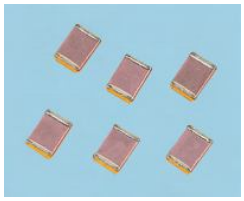
411910

Order Multiple=10 µF	Dielectric	Order Code	Price Each 10+	100+	1K+	10K+	+
16 Volt d.c.							
22	X5R	SMD 940-2292● RL	1.410	1.260	1.070	0.073	– –
47	X5R	SMD 940-2314● RL	3.500	3.160	2.660	0.560	– –
50 Volt d.c.							
1	X7R	SMD 940-2284● RL	0.550	0.470	0.410	0.560	– –

Hi-Cap Multilayer Ceramic Capacitors

The Hi-Cap range has been designed to replace products such as electrolytic and tantalum capacitors, where high capacitance values are required in a small space.
Ceramic offers many advantages including longer life, greater reliability, and superior high frequency performance. In noise bypassing and decoupling applications, tantalum devices can be replaced with a lower value Hi-Cap (due to better Z and ESR), enabling designers to use a smaller and lower cost part.
Combine this with being non-polarised and, by definition fail-safe, Hi-Cap is the preferred choice for capacitors in the range of 1uF to 100uF.

Hi-Cap MLCC – Surface Mount



- High performance multilayer ceramic chip capacitors
- Capacitance range 1 to 100µF
- Voltage range 6.3 to 50V d.c.
- Designed for use as alternative to electrolytic and tantalum capacitors

	X5R	X7R	Y5V
Operating temperature	-55°C to +85°C	-55°C to +125°C	-55°C to +85°C
Tolerance	±10%	±10%	20% +80%

Capacitance (µF)	Voltage (V d.c.)	Case Size	Reel Quantity	Mftrs. List No.	Order Code
X5R					
4.7	6.3	0805	3000	GRM219R60J475KE19D	952-2999
1	6.3	0603	4000	GRM188R60J105KA01D	952-7699
10	4	0603	4000	GRM188R60G106ME47	780-6558
47	6.3	1210	1000	GRM32ER60J476ME20L	952-7788
10	10	1210	1000	GRM32ER61A106KA01L	952-7796
22	16	1210	3000	GRM32ER61C226KE20L	952-7800
100	6.3	1812	5000	GRM43SR60J107ME20L	952-7834
100	6.3	2220	300	GRM55FR60J107KA01L	952-7842
X7R					
1	16	0805	3000	GRM21BR71C105KA01L	952-7710
10	6.3	1206	1000	GRM31CR70J106KA01L	952-7729
4.7	10	1206	2000	GRM31CR71A475KA01L	952-7737
2.2	16	1206	3000	GRM31MR71C225KA35L	952-7753
1	25	1206	3000	GRM31MR71E105KA01L	952-7761
1	50	1210	1000	GRM32RR71H105KA01L	952-7826
Y5V					
2.2	25	0805	3000	GRM21BF51E225ZA01L	952-7702
10	10	1206	3000	GRM31MF51A106ZA01L	952-7745
22	10	1210	1000	GRM32CF51A226ZA01L	952-7770
10	25	1210	2000	GRM32NF51E106ZA01L	952-7818

333794

Order Multiple=10 µF	Volts d.c.	Order Code	Price Each 10+	50+	100+	500+	1K+
X5R							
4.7	6.3	SMD 952-2999● RL	0.220	0.194	0.164	0.135	0.124
1	6.3	SMD 952-7699● RL	0.032	0.028	0.015	0.011	0.010
10	4	SMD 780-6558● RL	0.550	0.490	0.420	0.350	0.320
47	6.3	SMD 952-7788● RL	0.950	0.800	0.640	0.570	0.510
10	10	SMD 952-7796● RL	0.220	0.194	0.164	0.135	0.124
22	16	SMD 952-7800● RL	0.720	0.620	0.540	0.450	0.410
100	6.3	SMD 952-7834● RL	2.200	1.940	1.670	1.380	1.260
100	6.3	SMD 952-7842● RL	3.020	2.690	2.300	1.880	1.730
X7R							
1	16	SMD 952-7710● RL	0.046	0.042	0.026	0.018	0.016
10	6.3	SMD 952-7729● RL	0.166	0.149	0.119	0.082	0.077
4.7	10	SMD 952-7737● RL	0.128	0.115	0.090	0.063	0.059
2.2	16	SMD 952-7753● RL	0.066	0.058	0.051	0.042	0.039
1	25	SMD 952-7761● RL	0.055	0.050	0.043	0.036	0.034
1	50	SMD 952-7826● RL	0.157	0.139	0.119	0.097	0.090
Y5V							
2.2	25	SMD 952-7702● RL	0.051	0.045	0.034	0.024	0.022
10	10	SMD 952-7745● RL	0.115	0.097	0.053	0.037	0.034
22	10	SMD 952-7770● RL	0.280	0.250	0.173	0.120	0.111
10	25	SMD 952-7818● RL	0.240	0.210	0.166	0.115	0.105

Hi-Cap MLCC - Surface Mount on Full Reels

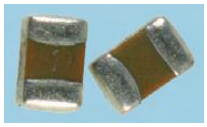
- High performance multilayer ceramic chip capacitors supplied on full reels



423564

µF	Volts d.c.	Case Size	Mftrs. List No.	Order Code	Reel Quantity	Price Per Reel 1+	3+
X5R							
4.7	6.3	0805	GRM219R60J475KE19D	SMD 111-8205	4000	245.46	228.07
1	6.3	0603	GRM188R60J105KA01D	SMD 111-8206●	4000	45.02	41.83
10	10	1210	GRM32ER61A106KA01L	SMD 111-8217●	1000	99.71	92.64
22	16	1210	GRM32ER61C226KE20L	SMD 111-8218●	1000	250.87	233.09
47	6.3	1210	GRM32ER60J476ME20L	SMD 111-8216●	1000	282.23	262.23
100	6.3	1812	GRM43SR60J107ME20L	SMD 111-8221●	500	381.13	354.11
100	6.3	2220	GRM55FR60J107KA01L	SMD 111-8222●	300	314.07	291.81
X7R							
1	16	0805	GRM21BR71C105KA01L	SMD 111-8208●	3000	48.25	44.83
1	25	1206	GRM31MR71E105KA01L	SMD 111-8214●	3000	77.18	71.72
1	50	1210	GRM32RR71H105KA01L	SMD 111-8220●	1000	54.67	50.81
2.2	16	1206	GRM31MR71C225KA35L	SMD 111-8212●	3000	82.50	76.64
4.7	10	1206	GRM31CR71A475KA01L	SMD 111-8210●	2000	90.06	83.67
10	6.3	1206	GRM31CR70J106KA01L	SMD 111-8209●	2000	115.79	107.58
Y5V							
2.2	25	0805	GRM21BF51E225ZA01L	SMD 111-8207●	3000	53.06	49.31
10	10	1206	GRM31MF51A106ZA01L	SMD 111-8211●	3000	120.62	112.07
10	25	1210	GRM32NF51E106ZA01L	SMD 111-8219●	2000	167.25	155.40
22	10	1210	GRM32CF51A226ZA01L	SMD 111-8215●	2000	196.20	182.29

Multilayer ceramic–Hi-Cap 0402 - 2220 Sizes



KEMET multilayer ceramic chip capacitors are produced in plants designed specifically for chip capacitor manufacture. The process features a high degree of mechanization, as well as precise conditions. Extensive technology, engineering and quality assurance programs supplement the manufacturing. Standard end terminations use a nickel barrier layer and a tin over-plate to provide excellent soldering ability for the customer.

Characteristics

	X5R	X7R	Y5V
Operating Temperature	-55°C to +85°C	-55°C to +125°C	-30°C to +85°C
Tolerance	±10%	±10%	-20% +80%
Insulation resistance 100,000MΩ		Dielectric strength 2.5VR for 1 minute	

0402 Case Size

µF	Order Code	Price Each 10+	100+	1K+	4K+
16 Volt d.c. X7R					
0.1	SMD 128-8252● RL	0.015	0.013	0.011	0.009
4 Volt d.c. X5R					
3.3	NEW! SMD 157-2621●	0.300	0.149	0.100	0.074
4.7	NEW! SMD 157-2622●	0.390	0.199	0.133	0.100
6.3 Volt d.c. X5R					
0.22	NEW! SMD 157-2610●	0.035	0.018	0.011	0.009
1	SMD 128-8253● RL	0.037	0.032	0.028	0.024
2.2	SMD 128-8200● RL	0.490	0.330	0.250	0.200
10 Volt d.c. X5R					
0.1	SMD 128-8282● RL	0.023	0.011	0.007	0.005

RL Re-reeling available

Multilayer Ceramic, High - Capacitor - continued

0402 Case Size - continued

0603 Case Size

µF	Order Code	10+	100+	1K+	4K+
50 Volt d.c. X7R					
0.1	SMD 128-8255● RL	0.013	0.012	0.010	0.009
200 Volt d.c. X7R					
0.01	SMD 128-8254● RL	0.073	0.063	0.053	0.045
6.3 Volt d.c. X5R					
2.2	SMD 128-8257● RL	0.083	0.071	0.061	0.050
3.3	SMD 110-8324●	0.117	0.107	0.096	0.085
4.7	SMD 922-7784● RL	0.122	0.110	0.100	0.089
10	SMD 128-8201● RL	0.660	0.430	0.320	0.260
10 Volt d.c. X5R					
1	SMD 922-7776● RL	0.099	0.088	0.077	0.067
2.2	SMD 110-8322● RL	0.122	0.110	0.100	0.089
4.7	NEW SMD 157-2625●	0.240	0.121	0.080	0.061
16 Volt d.c. X5R					
0.68	NEW SMD 157-2624●	0.057	0.029	0.019	0.014
1	SMD 128-8256● RL	0.043	0.038	0.033	0.028
2.2	SMD 128-8203● RL	0.200	0.137	0.095	0.084
25 Volt d.c. X5R					
1	SMD 128-8202● RL	0.084	0.053	0.042	0.032

0805 Case Size

µF	Order Code	10+	100+	1K+	2K+
16 Volt d.c. X7R					
0.47	SMD 128-8279● RL	0.042	0.031	0.027	0.016
1	SMD 922-7792● RL	0.078	0.067	0.056	0.043
2.2	SMD 128-8262● RL	0.091	0.077	0.066	0.057
25 Volt d.c. X7R					
0.47	SMD 128-8281● RL	0.108	0.080	0.053	0.035
1	NEW SMD 163-7035●	0.152	0.076	0.051	0.038
50 Volt d.c. X7R					
0.22	SMD 128-8261● RL	0.164	0.141	0.119	0.102
10 Volt d.c. X7R					
0.12	SMD 128-8259● RL	0.065	0.056	0.046	0.039
4 Volt d.c. X5R					
47	SMD 128-8205● RL	2.710	1.800	1.360	1.080
6.3 Volt d.c. X5R					
4.7	SMD 922-7857● RL	0.153	0.142	0.132	0.121
10	SMD 922-7814● RL	0.220	0.193	0.181	0.158
22	SMD 110-8326● RL	0.660	0.610	0.570	0.490
47	NEW SMD 157-2633●	1.950	0.980	0.650	0.480
10 Volt d.c. X5R					
2.2	SMD 922-7822● RL	0.141	0.133	0.122	0.114
6.8	NEW SMD 157-2632●	0.630	0.310	0.210	0.157
16 Volt d.c. X5R					
3.3	NEW SMD 157-2630●	0.330	0.164	0.109	0.081
4.7	SMD 922-7849● RL	0.188	0.177	0.155	0.143
10	SMD 128-8204● RL	0.460	0.310	0.230	0.180
25 Volt d.c. X5R					
4.7	NEW SMD 157-2631●	0.300	0.149	0.100	0.074
16 Volt d.c. Y5V					
1	SMD 922-7806● RL	0.059	0.046	0.035	0.022
2.2	SMD 922-7830● RL	0.077	0.067	0.056	0.043

1206 Case Size

µF	Order Code	10+	100+	1K+	4K+
10 Volt d.c. X7R					
10	SMD 128-8264● RL	0.125	0.107	0.091	0.077
16 Volt d.c. X7R					
2.2	SMD 922-7911● RL	0.144	0.132	0.122	0.110
25 Volt d.c. X7R					
0.47	SMD 128-8280● RL	0.071	0.035	0.030	0.023
1	SMD 922-7865● RL	0.089	0.077	0.067	0.056
4.7	SMD 128-8211● RL	0.480	0.320	0.250	0.200
50 Volt d.c. X7R					
0.68	SMD 128-8263● RL	0.290	0.260	0.220	0.183
1	SMD 128-8207● RL	0.480	0.320	0.250	0.200
2.2	SMD 128-8208● RL	0.520	0.350	0.260	0.200
6.3 Volt d.c. X5R					
10	SMD 128-8286● RL	0.260	0.180	0.110	0.067
22	SMD 128-8265● RL	0.410	0.350	0.300	0.260
100	SMD 135-8552●	1.800	1.290	0.880	0.670
10 Volt d.c. X5R					
10	SMD 922-7890● RL	0.240	0.220	0.187	0.177
22	NEW SMD 157-2634●	0.510	0.260	0.171	0.128
47	NEW SMD 157-2639●	1.600	0.790	0.540	0.390
16 Volt d.c. X5R					
3.3	NEW SMD 157-2636●	0.330	0.164	0.109	0.081
4.7	SMD 922-7946● RL	0.300	0.280	0.260	0.240
6.8	NEW SMD 157-2638●	0.480	0.240	0.161	0.121
10	SMD 922-7881● RL	0.260	0.240	0.220	0.188
25 Volt d.c. X5R					
4.7	SMD 922-7938● RL	0.610	0.560	0.510	0.430
10	SMD 128-8206● RL	0.620	0.410	0.310	0.250

µF	Order Code	10+	100+	1K+	4K+
50 Volt d.c. X5R					
4.7	NEW SMD 157-2637●	0.510	0.260	0.171	0.128
10 Volt d.c. Y5V					
10	SMD 922-7903● RL	0.110	0.100	0.089	0.077
16 Volt d.c. Y5V					
2.2	SMD 922-7920● RL	0.110	0.100	0.090	0.077
4.7	SMD 922-7954● RL	0.100	0.089	0.077	0.067
25 Volt d.c. Y5V					
1	SMD 922-7873● RL	0.067	0.056	0.043	0.033

N.B. Order code 135-8552 is of ±20% tolerance.

1210 Case Size

µF	Order Code	10+	100+	1K+	4K+
6.3 Volt d.c. X7R					
10	SMD 128-8212● RL	0.570	0.370	0.280	0.230
10 Volt d.c. X7R					
4.7	SMD 128-8216● RL	0.650	0.430	0.320	0.260
16 Volt d.c. X7R					
10	SMD 128-8213● RL	0.800	0.540	0.410	0.320
25 Volt d.c. X7R					
4.7	SMD 128-8217● RL	0.520	0.350	0.260	0.200
10	SMD 135-8512●	0.620	0.420	0.310	0.250
50 Volt d.c. X7R					
1	SMD 922-7962● RL	0.230	0.200	0.188	0.166
2.2	SMD 128-8214● RL	0.620	0.410	0.310	0.250
3.3	SMD 128-8215● RL	0.650	0.430	0.320	0.260
4.7	SMD 135-8511●	0.600	0.400	0.300	0.240
6.3 Volt d.c. X5R					
22	SMD 922-7997● RL	0.950	0.870	0.780	0.710
47	SMD 110-8327● RL	0.760	0.710	0.670	0.610
100	SMD 110-8328● RL	1.490	1.380	1.300	1.170
10 Volt d.c. X5R					
10	SMD 922-7970● RL	0.440	0.410	0.370	0.340
16 Volt d.c. X5R					
22	SMD 128-8266● RL	0.510	0.430	0.370	0.310
16 Volt d.c. Y5V					
10	SMD 922-7989● RL	0.330	0.300	0.280	0.250

1812 Case Size

µF	Order Code	10+	100+	1K+	4K+
25 Volt d.c. X7R					
10	SMD 135-8500●	1.70	1.13	0.86	0.68
50 Volt d.c. X7R					
0.47	SMD 128-8285● RL	0.74	0.58	0.34	0.26
1	SMD 922-9094● RL	0.59	0.53	0.46	0.42
4.7	SMD 135-8499●	1.52	1.03	0.77	0.62

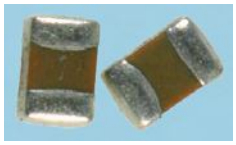
2220 Case Size

406029

µF	Order Code	10+	100+	1K+	2K+
50 Volt d.c. X7R					
1	SMD 128-8284● RL	1.13	0.78	0.42	0.34

Multilayer ceramic – Hi-Cap 0402 - 1210 Sizes

KEMET CHARGED.



Dielectric	C0G/NP0
Temperature coefficient	±30ppm/°C
Operating Temperature	-55°C to +125°C
Tolerance	±5%

SMD

KEMET now offers industry-leading capacitance values that combine ultra-high capacitance with the stability and performance of a Class 1 dielectric. These new part types provide design engineers with an MLCC alternative to competing capacitor technologies in applications that are sensitive to electrically and/or mechanically induced circuit noise.

0402 Case Size

nF	Order Code	10+	100+	500+	1K+	10K+
25 Volt d.c.						
2.2	SMD 153-5555●	0.220	0.110	0.073	0.056	0.044
50 Volt d.c.						
0.47	SMD 153-5556●	0.210	0.106	0.071	0.053	0.042
0.68	SMD 153-5557●	0.210	0.106	0.071	0.053	0.042
1	SMD 153-5558●	0.184	0.093	0.062	0.046	0.037
1.5	SMD 153-5561●	0.220	0.110	0.073	0.056	0.044
100 Volt d.c.						
0.47	SMD 153-5562●	0.260	0.132	0.089	0.066	0.053
1	SMD 153-5563●	0.230	0.115	0.077	0.058	0.046

RL Re-reeling available

0603 Case Size

nF	Order Code	10+	100+	Price Each 500+	1K+	4K+
25 Volt d.c.						
15	SMD 153-5564●	0.210	0.103	0.069	0.052	0.041
50 Volt d.c.						
2.2	SMD 153-5565●	0.155	0.077	0.052	0.039	0.031
3.3	SMD 153-5566●	0.160	0.080	0.054	0.040	0.032
4.7	SMD 153-5567●	0.160	0.080	0.054	0.040	0.032
6.8	SMD 153-5568●	0.197	0.099	0.066	0.049	0.039
100 Volt d.c.						
1.5	SMD 153-5569●	0.240	0.123	0.081	0.061	0.048

0805 Case Size

nF	Order Code	10+	100+	Price Each 500+	1K+	2K5+
25 Volt d.c.						
47	SMD 153-5570●	0.540	0.270	0.180	0.135	0.108
50 Volt d.c.						
6.8	SMD 153-5571●	0.470	0.240	0.159	0.119	0.096
10	SMD 153-5573●	0.400	0.200	0.136	0.102	0.081
15	SMD 153-5574●	0.450	0.230	0.150	0.113	0.091
22	SMD 153-5575●	0.470	0.240	0.159	0.119	0.096
100 Volt d.c.						
3.3	SMD 153-5576●	0.360	0.182	0.122	0.091	0.073
4.7	SMD 153-5577●	0.390	0.197	0.131	0.099	0.078

1206 Case Size

nF	Order Code	10+	100+	Price Each 500+	1K+	10K+
25 Volt d.c.						
15	SMD 153-5578●	1.190	0.590	0.390	0.300	0.240
50 Volt d.c.						
22	SMD 153-5579●	1.120	0.570	0.370	0.280	0.230
33	SMD 153-5580●	1.120	0.570	0.370	0.280	0.230
47	SMD 153-5581●	1.250	0.620	0.410	0.310	0.250
68	SMD 153-5582●	1.420	0.710	0.470	0.350	0.280
100 Volt d.c.						
6.8	SMD 153-5583●	0.700	0.350	0.240	0.176	0.141

1210 Case Size

nF	Order Code	10+	100+	Price Each 500+	1K+	2K5+
50 Volt d.c.						
100	SMD 153-5585●	2.55	1.28	0.85	0.64	0.51
150	SMD 153-5586●	2.55	1.28	0.85	0.64	0.51
100 Volt d.c.						
100	SMD 153-5587●	3.12	1.56	1.04	0.77	0.62

1812 Case Size

nF	Order Code	10+	100+	Price Each 500+	1K+	+
50 Volt d.c.						
220	NEW SMD 167-9459●	3.38	1.69	1.12	0.67	– –
470	NEW SMD 167-9460●	3.69	1.84	1.23	0.73	– –
100 Volt d.c.						
100	NEW SMD 167-9461●	3.46	1.73	1.15	0.69	– –
150	NEW SMD 167-9462●	3.69	1.84	1.23	0.73	– –
330	NEW SMD 167-9463●	4.92	2.46	1.64	0.98	– –

2220 Case Size

498375

nF	Order Code	10+	100+	Price Each 500+	1K+	+
50 Volt d.c.						
22	NEW SMD 167-9452●	1.45	0.72	0.48	0.29	– –
33	NEW SMD 167-9453●	1.47	0.73	0.49	0.29	– –
47	NEW SMD 167-9455●	1.37	0.68	0.46	0.27	– –
220	NEW SMD 167-9456●	1.73	0.86	0.57	0.34	– –
100 Volt d.c.						
100	NEW SMD 167-9457●	1.69	0.85	0.56	0.33	– –
150	NEW SMD 167-9458●	1.92	0.96	0.64	0.38	– –

Multilayer Ceramic

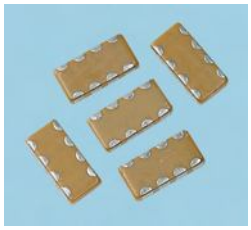
Capacitance Conversion Table

0.000001µF	=	0.001nF	=	1pF
0.00001µF	=	0.01nF	=	10pF
0.0001µF	=	0.1nF	=	100pF
0.001µF	=	1nF	=	1000pF
0.01µF	=	10nF	=	10000pF
0.1µF	=	100nF	=	100000pF
1µF	=	1000nF	=	1000000pF
10µF	=	10000nF	=	10000000pF
100µF	=	100000nF	=	100000000pF

Over 480,000 products online GO

Capacitor Arrays

2 and 4 Element



- Two and four capacitors in an array package
- 0405, 0508 and 0612 case sizes
- Reduces required board space, saves production time
- Ideal for pre-production, prototyping and production shortfalls

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**

2 Element, 0405 Case Size

pF	nF	Mftrs. List No.	Order Code	Order Multiple=5 5+	50+	Price Each 250+	1K+	2K+
50 Volt d.c NP0								
15	0.015	W1A25A150KAT2A	SMD 130-1738●	0.240	0.192	0.164	0.128	0.110
68	0.068	W1A25A680KAT2A	SMD 130-1739●	0.157	0.129	0.110	0.085	0.073
16 Volt d.c X7R								
10000	10	W1A2YC103MAT2A	SMD 130-1741●	0.240	0.192	0.164	0.128	0.110
50 Volt d.c X7R								
1000	1	W1A25C102KAT2A	SMD 130-1740●	0.171	0.138	0.119	0.094	0.073
10 Volt d.c X5R								
100000	100	W1A2ZD104MAT2A	SMD 130-1744●	0.310	0.210	0.111	0.080	0.076
16 Volt d.c X5R								
22000	22	W1A2YD223MAT2A	SMD 130-1742●	0.171	0.138	0.119	0.094	0.073

2 Element, 0508 Case Size

pF	nF	Mftrs. List No.	Order Code	Order Multiple=5 5+	50+	Price Each 250+	1K+	2K+
16 Volt d.c X7R								
470	0.47	W2A25A471KAT2A	SMD 138-0914●	0.440	0.340	0.300	0.240	0.194
16 Volt d.c X7R								
100000	100	W2A2YC104K4T2A	SMD 130-1747●	0.350	0.270	0.250	0.192	0.151
50 Volt d.c X7R								
1000	1	W2A25C102KAT2A	SMD 130-1745●	0.188	0.157	0.138	0.109	0.092
10000	10	W2A25C103KAT2A	SMD 130-1746●	0.188	0.157	0.138	0.109	0.092

4 Element, 0508 Case Size

pF	nF	Mftrs. List No.	Order Code	Order Multiple=5 5+	50+	Price Each 250+	1K+	2K+
50 Volt d.c NP0								
18	0.018	W2A45A180KAT2A	SMD 130-1748●	0.197	0.157	0.139	0.109	0.092
100	0.1	W2A45A101K4T2A	SMD 130-1749●	0.240	0.187	0.166	0.130	0.104
16 Volt d.c X7R								
100000	100	W2A4ZC104MAT2A	SMD 130-1752●	0.350	0.210	0.120	0.080	0.076
50 Volt d.c X7R								
10000	10	W2A45C103KAT2A	SMD 130-1751●	0.300	0.220	0.121	0.080	0.076
10 Volt d.c X5R								
1500	1.5	W2A41C152KAT2A	SMD 130-1750●	0.330	0.260	0.230	0.177	0.150

4 Element, 0612 Case Size

pF	nF	Mftrs. List No.	Order Code	Order Multiple=5 5+	50+	Price Each 250+	1K+	2K+
50 Volt d.c NP0								
33	0.033	W3A45A330KAT2A	SMD 130-1754●	0.300	0.240	0.210	0.162	0.137
470	0.47	W3A45A471KAT2A	SMD 130-1758●	0.300	0.240	0.210	0.162	0.137
100 Volt d.c NP0								
10	0.01	W3A41A100KAT2A	SMD 130-1753●	0.210	0.167	0.149	0.116	0.099
56	0.056	W3A41A560KAT2A	SMD 130-1756●	0.197	0.157	0.139	0.109	0.092
100	0.1	W3A41A101KAT2A	SMD 130-1757●	0.380	0.270	0.144	0.101	0.095
16 Volt d.c X7R								
68000	68	W3A4YC683KAT2A	SMD 130-1766●	0.440	0.350	0.310	0.250	0.210
100000	100	W3A4YC104MAT2A	SMD 130-1768●	0.460	0.400	0.320	0.200	0.191
50 Volt d.c X7R								
1000	1	W3A45C102M4T2A	SMD 130-1759●	0.340	0.270	0.240	0.187	0.150
3300	3.3	W3A45C332KAT2A	SMD 130-1761●	0.220	0.171	0.153	0.119	0.101
10000	10	W3A45C103MAT2A	SMD 130-1762●	0.240	0.200	0.184	0.155	0.136
15000	15	W3A45C153KAT2A	SMD 130-1763●	0.300	0.230	0.200	0.158	0.133
22000	22	W3A45C223M4T2A	SMD 130-1764●	0.340	0.270	0.240	0.187	0.150
47000	47	W3A45C473K4T2A	SMD 130-1765●	0.460	0.370	0.320	0.250	0.210
100 Volt d.c X7R								
2200	2.2	W3A41C222KAT2A	SMD 130-1760●	0.220	0.171	0.153	0.119	0.101

Multi Value 4 Element, 0612 Case Size

452066

1st Value	2nd Value	Mftrs. List No.	Order Code	Order Multiple=5 5+	50+	Price Each 250+	1K+
16 Volt d.c X7R							
10 nF	100 nF	W3A4YC103M104MAT2A	SMD 138-0917●	1.10	0.83	0.75	0.58

£ € 40,000 PRICES REDUCED

RL Re-reeling available

Farnell

Multilayer Ceramic - continued

0612 Series – Arrays



- Four 0603 capacitors of the same value on one array
- Saves placement time and cost, reduced amount of board space needed
- Each individual capacitor element has Nickel barrier terminations for improved solderability
- 4000 per reel

H = 0.8 min 1.2 max, W = 1.6±0.15, D = 3.2±0.15

	NPO	X7R	Y5V
Operating Temperature	-55°C to +125°C	-55°C to +125°C	-25°C to +85°C
Temperature coefficient	(0±30) x 10^{-6}/K	±15% @ 20°C	—
Tolerance	±5%	±10%	-20% +80%
Climatic category (IEC)	55/125/56	55/125/56	25/085/21

Mftrs. List No. 06122CGXXYJ9B200 where XX=capacitance value and Y=multiplier in pF

Order Multiple=10 pF	Order Code	Price Each 10+	50+	100+	1K+	4K+
50 Volt d.c. NPO						
22	SMD 156-693● RL	0.185	0.151	0.138	0.117	0.091
47	SMD 156-711● RL	0.176	0.144	0.132	0.111	0.086
100	SMD 156-723● RL	0.250	0.199	0.173	0.140	0.126
220	SMD 156-735● RL	0.240	0.194	0.168	0.136	0.123
330	SMD 156-747● RL	0.360	0.280	0.250	0.200	0.172
470	SMD 156-759● RL	0.340	0.280	0.250	0.210	0.160
1000	SMD 156-760● RL	0.550	0.450	0.380	0.330	0.260

Mftrs. List No. 06122RXXYKSB200 where XX=capacitance value and Y=multiplier in pF

Order Multiple=10 pF	Order Code	Price Each 10+	50+	100+	1K+	4K+
16 Volt d.c. X7R						
10000	SMD 335-1865● RL	0.310	0.270	0.250	0.163	0.104
47000	SMD 335-1907● RL	0.240	0.210	0.200	0.129	0.102
100000	SMD 335-1920● RL	0.480	0.440	0.400	0.320	0.160

Mftrs. List No. 06122RXXYKSB200 where XX=capacitance value and Y=multiplier in pF

Order Multiple=10 pF	Order Code	Price Each 10+	50+	100+	1K+	4K+
50 Volt d.c. X7R						
1000	SMD 156-772● RL	0.350	0.270	0.250	0.200	0.159
2200	SMD 156-784● RL	0.270	0.220	0.192	0.157	0.126
4700	SMD 156-802● RL	0.270	0.220	0.192	0.157	0.126
25 Volt d.c. X7R						
10000	SMD 156-814● RL	0.270	0.220	0.192	0.157	0.126
47000	SMD 156-840● RL	0.350	0.270	0.250	0.200	0.159

Mftrs. List No. 06122FXXY8B20D where XX=capacitance value and Y=multiplier in pF

Order Multiple=10 pF	Order Code	Price Each 10+	50+	100+	1K+	4K+
25 Volt d.c. Y5V						
100000	SMD 335-1993● RL	0.330	0.280	0.270	0.174	0.137

The following values are available as full reels:

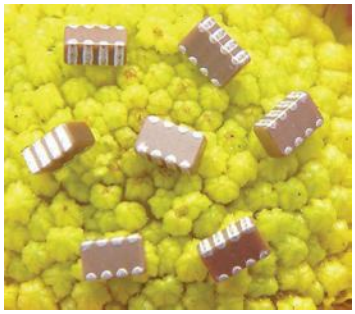


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pF	Reel Qty	Order Code	Price Per Reel 1+	3+
50 Volt d.c. NPO				
100	4000	NEW SMD 136-2546●	186.25	170.50
220	4000	NEW SMD 136-2547●	196.04	179.46
16 Volt d.c. X7R				
100000	4000	NEW SMD 136-2538●	269.35	246.59
25 Volt d.c. X7R				
47000	4000	NEW SMD 136-2515●	224.72	205.73

Capacitor Arrays

GNM Series



- High density mounting due to mounting space saving
- Mounting cost saving
- Applications include general electronic equipment

Case size	Dielectric Characteristic	Capacitance µF	Volts V	Number of Capacitors	Mftrs. List No.	Order Code
	Tolerance = ±20		Operating temperature-25°C to 85°C			
0504	X5R	0.1	10	2	GNM1M2R61A104MA01D	111-5027
0504	X5R	1	10	2	GNM1M2B31A105ME17D	111-5028
0504	X5R	1	16	2	GNM1M2B31C105ME18D	111-5031
0805	X5R	1	16	2	GNM212B31C105MA15D	111-5032
0805	X5R	2.2	10	2	GNM212B31A225ME15D	111-5033
0805	X7R	0.1	16	4	GNM214B11C104MA01D	111-5034
0805	X5R	1	10	4	GNM214B31A105ME17D	111-5035

423266

Order Code	Price Each 10+	100+	500+	1K+	2K+
All Values●	0.068	0.047	0.039	0.032	0.027

Surface Mount – Nickel Barrier



- Multilayer ceramic chip capacitors
- Nickel barrier terminations
- High performance and reliability
- 0603, 0805 and 1206 case sizes

Case Size	L	W	H	Tape Width	Qty per reel
0603	1.6 ± 0.1	0.8 ± 0.1	0.8 ± 0.1	8	4000
0805	2 ± 0.2	1.2 +0.2/0.15	1.4 max	8	4000
1206	3.2 ± 0.2	1.6 ± 0.2	1.52 max	8	4000

	NPO	X7R	Y5V
Operating temperature	-55°C to +125°C	-55°C to +125°C	-30°C to +85°C
Tolerance	±5%	±10%	+80% -20%

N.B. For ease of selection capacitance value is listed in both **pF** and **nF**, or **uF** and **nF**.

0603 Case Size

Order Multiple=10 pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+	8K+
50 Volt d.c. NPO								
22	0.022	SMD 940-6107● RL	0.017	0.011	0.008	0.007	0.006	0.005
100	0.1	SMD 940-6115● RL	0.018	0.012	0.009	0.007	0.006	0.005
220	0.22	SMD 940-6123● RL	0.033	0.022	0.015	0.012	0.010	0.008
1000	1	SMD 940-6131● RL	0.070	0.048	0.036	0.031	0.024	0.018

Order Multiple=10 µF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+	8K+
16 Volt d.c. X7R								
0.1	100	SMD 940-6140● RL	0.041	0.029	0.021	0.015	0.012	0.011

Order Multiple=10 pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+	8K+
25 Volt d.c. X7R								
22000	22	SMD 940-6158● RL	0.017	0.012	0.009	0.007	0.006	0.005
47000	47	SMD 940-6166● RL	0.050	0.034	0.027	0.020	0.015	0.012
50 Volt d.c. X7R								
1000	1	SMD 940-6174● RL	0.017	0.011	0.008	0.007	0.006	0.005
10000	10	SMD 940-6182● RL	0.022	0.014	0.010	0.008	0.007	0.006
10 Volt d.c. Y5V								
470000	470	SMD 940-6190● RL	0.059	0.040	0.031	0.024	0.021	0.015
25 Volt d.c. Y5V								
100000	100	SMD 940-6204● RL	0.018	0.012	0.009	0.007	0.006	0.005

0805 Case Size

Order Multiple=10 pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+	8K+
50 Volt d.c. NPO								
1000	1	SMD 940-6212● RL	0.074	0.050	0.038	0.032	0.027	0.021
1000	1	SMD 940-6344● RL	0.028	0.017	0.012	0.010	0.008	0.007
2200	2.2	SMD 940-6220● RL	0.150	0.100	0.075	0.062	0.049	0.042
100 Volt d.c. NPO								
10	0.01	SMD 940-6239● RL	0.042	0.030	0.022	0.015	0.013	0.011
22	0.022	SMD 940-6247● RL	0.042	0.030	0.022	0.015	0.013	0.011
33	0.033	SMD 940-6255● RL	0.042	0.030	0.022	0.015	0.013	0.011
47	0.047	SMD 940-6263● RL	0.042	0.030	0.022	0.015	0.013	0.011
100	0.1	SMD 940-6271● RL	0.050	0.035	0.027	0.021	0.015	0.013
220	0.22	SMD 940-6280● RL	0.055	0.038	0.030	0.023	0.018	0.014
470	0.47	SMD 940-6298● RL	0.079	0.052	0.039	0.034	0.028	0.022
1	0.001	SMD 940-6301● RL	0.210	0.147	0.110	0.089	0.072	0.060

Order Multiple=10 µF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+	8K+
10 Volt d.c. X7R								
1	1000	SMD 940-6301● RL	0.210	0.147	0.110	0.089	0.072	0.060
16 Volt d.c. X7R								
0.22	220	SMD 940-6310● RL	0.095	0.064	0.048	0.040	0.033	0.028
0.33	330	SMD 940-6328● RL	0.170	0.115	0.087	0.070	0.055	0.047
0.47	470	SMD 940-6336● RL	0.177	0.119	0.090	0.072	0.059	0.049

RL Re-reeling available

Order Multiple=10			Price Each					
pF	nF	Order Code	10+	100+	500+	1K+	4K+	8K+
50 Volt d.c.								
X7R								
6800	1	SMD 940-6344● RL	0.028	0.017	0.012	0.010	0.008	0.007
10000	10	SMD 940-6352● RL	0.033	0.022	0.015	0.012	0.010	0.008
22000	22	SMD 940-6360● RL	0.052	0.036	0.028	0.022	0.016	0.014
47000	47	SMD 940-6379● RL	0.055	0.038	0.030	0.023	0.018	0.014
100000	100	SMD 940-6387● RL	0.048	0.033	0.024	0.018	0.014	0.012

Order Multiple=10			Price Each					
µF	nF	Order Code	10+	100+	500+	1K+	3K+	6K+
25 Volt d.c. Y5V								
1	1000	SMD 940-6395● RL	0.063	0.042	0.033	0.027	0.022	0.016
50 Volt d.c. Y5V								
0.1	100	SMD 940-6409● RL	0.022	0.014	0.010	0.008	0.007	0.006

1206 Case Size

Order Multiple=10			Price Each					
pF	nF	Order Code	10+	100+	500+	1K+	4K+	8K+
25 Volt d.c. NPO								
4700	4.7	SMD 940-6417● RL	0.380	0.260	0.187	0.152	0.122	0.104
10000	10	SMD 940-6425● RL	0.660	0.430	0.340	0.270	0.210	0.181
100 Volt d.c. NPO								
10	0.01	SMD 940-6433● RL	0.084	0.055	0.042	0.036	0.030	0.023
22	0.022	SMD 940-6441● RL	0.084	0.055	0.042	0.036	0.030	0.023
100	0.1	SMD 940-6450● RL	0.084	0.055	0.042	0.036	0.030	0.023
220	0.22	SMD 940-6468● RL	0.107	0.071	0.053	0.044	0.036	0.031
330	0.33	SMD 940-6476● RL	0.060	0.041	0.031	0.024	0.019	0.016
470	0.47	SMD 940-6484● RL	0.132	0.088	0.066	0.053	0.043	0.037
1000	1	SMD 940-6492● RL	0.172	0.116	0.087	0.070	0.056	0.048

Order Multiple=10			Price Each					
µF	nF	Order Code	10+	100+	500+	1K+	3K+	6K+
10 Volt d.c. X7R								
2.2	2200	SMD 940-6506● RL	0.400	0.280	0.199	0.160	0.129	0.109
16 Volt d.c. X7R								
1	1000	SMD 940-6514● RL	0.350	0.220	0.168	0.138	0.112	0.093
25 Volt d.c. X7R								
0.33	330	SMD 940-6522● RL	0.280	0.180	0.135	0.110	0.089	0.074
0.47	470	SMD 940-6530● RL	0.330	0.210	0.160	0.129	0.107	0.089

Order Multiple=10			Price Each					
pF	nF	Order Code	10+	100+	500+	1K+	4K+	8K+
50 Volt d.c. X7R								
10000	10	SMD 940-6549● RL	0.067	0.046	0.035	0.030	0.023	0.017
100000	100	SMD 940-6557● RL	0.106	0.070	0.053	0.044	0.036	0.030

242741

Order Multiple=10			Price Each					
µF	nF	Order Code	10+	100+	500+	1K+	3K+	6K+
16 Volt d.c. Y5V								
2.2	2200	SMD 940-6565● RL	0.170	0.115	0.087	0.070	0.055	0.047
4.7	4700	SMD 940-6573● RL	0.163	0.110	0.083	0.067	0.053	0.045

FREE Re-reeling service



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Surface Mount

EPCOS



- Multilayer ceramic chip capacitors
- High reliability and performance
- 0603, 0805 and 1206 case sizes
- Silver/nickel/tin terminations

	COG	X7R	Y5V
Operating temperature	-55°C to +125°C	-55°C to +125°C	-55°C to +85°C
Temperature coefficient	± 30 x 10^{-6}/K	—	—
Tolerance	±5%	±10%	±20%
Insulation resistance @ 25°C	10^5 MΩ	10^5 MΩ	10^4 MΩ

Soldering heat – Recommended preheat at 130°C with a maximum soldering temperature of 260°C. Hot air heating recommended for rework.

N.B. For ease of selection capacitance values are listed in both **pF** and **nF**.

0603 Case Size

Reel quantity 4000pcs

Mftrs. List No. B37930-K5xxyJ60 where xx is the capacitance value in pF and y=multiplier in pF

Order Multiple=10				Price Each				
50 Volt d.c. COG, 0603 Case Size								
pF	nF	Order Code	10+	100+	500+	1K+	4K+	
10	0.01	SMD 975-3478● RL	0.036	0.024	0.020	0.013	0.011	
22	0.022	SMD 975-3486● RL	0.040	0.028	0.023	0.016	0.012	
33	0.033	SMD 975-3494● RL	0.030	0.020	0.016	0.011	0.009	
47	0.047	SMD 975-3508● RL	0.032	0.021	0.018	0.012	0.010	
100	0.1	SMD 975-3516● RL	0.029	0.020	0.016	0.011	0.009	
220	0.22	SMD 975-3524● RL	0.019	0.012	0.010	0.008	0.007	
330	0.33	SMD 975-3532● RL	0.026	0.017	0.015	0.010	0.009	
470	0.47	SMD 975-3540● RL	0.048	0.035	0.029	0.021	0.019	

Mftrs. List No. B37931-K910K60

Order Multiple=10				Price Each				
16 Volt d.c. X7R, 0603 Case Size								
pF	nF	Order Code	10+	100+	500+	1K+	4K+	
100000	100	SMD 753-567● RL	0.070	0.048	0.040	0.032	0.027	

Mftrs. List No. B37931-K5xxyK60 where xx is the capacitance value in pF and y=multiplier in pF

Order Multiple=10				Price Each				
50 Volt d.c. X7R, 0603 Case Size								
pF	nF	Order Code	10+	100+	500+	1K+	4K+	
470	0.47	SMD 753-579● RL	0.015	0.009	0.008	0.006	0.005	
1000	1	SMD 753-580● RL	0.021	0.014	0.011	0.008	0.007	
2200	2.2	SMD 753-592● RL	0.021	0.014	0.011	0.008	0.007	
3300	3.3	SMD 753-609● RL	0.030	0.020	0.016	0.011	0.009	
4700	4.7	SMD 753-610● RL	0.030	0.020	0.016	0.011	0.009	
10000	10	SMD 753-622● RL	0.021	0.014	0.011	0.008	0.007	
22000	22	SMD 521-2856● RL	0.011	0.009	0.007	0.006	0.005	
33000	33	SMD 521-2868● RL	0.010	0.008	0.007	0.006	0.005	
47000	47	SMD 521-2870● RL	0.012	0.009	0.008	0.007	0.006	

Mftrs. List No. B37932-K0104M60

Order Multiple=10				Price Each				
25 Volt d.c. Z5U, 0603 Case Size								
pF	nF	Order Code	10+	100+	500+	1K+	4K+	
100000	100	SMD 753-634● RL	0.119	0.086	0.070	0.052	0.046	

0805 Case Size

Reel quantity=5000 pcs

Mftrs. List No. B37940-K5xxyK60 where xx is the capacitance value in pF and y=multiplier in pF

Order Multiple=10				Price Each				
50 Volt d.c. COG, 0805 Case Size								
pF	nF	Order Code	10+	100+	500+	1K+	5K+	
10	0.01	SMD 975-3559● RL	0.032	0.023	0.017	0.012	0.011	
22	0.022	SMD 975-3567● RL	0.033	0.024	0.019	0.012	0.011	
33	0.033	SMD 975-3575● RL	0.027	0.019	0.015	0.011	0.010	
47	0.047	SMD 975-3583● RL	0.035	0.026	0.020	0.013	0.012	
100	0.1	SMD 975-3591● RL	0.034	0.024	0.019	0.013	0.011	
220	0.22	SMD 975-3605● RL	0.035	0.026	0.021	0.015	0.012	
330	0.33	SMD 975-3613● RL	0.053	0.038	0.033	0.026	0.020	
470	0.47	SMD 975-3621● RL	0.051	0.036	0.031	0.023	0.019	
1000	1	SMD 975-3630● RL	0.075	0.051	0.044	0.033	0.029	

Mftrs. List No. B37941-K5xxyK60 where xx is the capacitance value in pF and y=multiplier in pF

Order Multiple=10				Price Each				
50 Volt d.c. X7R, 0805 Case Size								
pF	nF	Order Code	10+	100+	500+	1K+	5K+	
470	0.47	SMD 755-679● RL	0.021	0.013	0.011	0.008	0.007	
1000	1	SMD 755-680● RL	0.033	0.024	0.019	0.012	0.011	
2200	2.2	SMD 755-692● RL	0.033	0.024	0.019	0.012	0.011	
3300	3.3	SMD 755-709● RL	0.034	0.024	0.020	0.013	0.012	
4700	4.7	SMD 755-710● RL	0.033	0.024	0.019	0.012	0.011	
10000	10	SMD 755-722● RL	0.037	0.028	0.021	0.015	0.013	
22000	22	SMD 755-760● RL	0.045	0.031	0.026	0.019	0.017	
33000	33	SMD 755-771● RL	0.046	0.032	0.028	0.019	0.017	
47000	47	SMD 755-825● RL	0.057	0.039	0.033	0.026	0.021	
100000	100	SMD 755-849● RL	0.076	0.052	0.044	0.034	0.029	

1206 Case Size

Reel quantity=4000 pcs

Mftrs. List No. B37871-K5xxyJ60 where xx is the capacitance value in pF and y=multiplier in pF

Order Multiple=10				Price Each				
50 Volt d.c. COG, 1206 Case Size								
pF	nF	Order Code	10+	100+	500+	1K+	4K+	
10	0.01	SMD 975-3648● RL	0.084	0.060	0.048	0.037	0.031	
22	0.022	SMD 975-3656● RL	0.086	0.062	0.050	0.038	0.032	
33	0.033	SMD 975-3664● RL	0.086	0.062	0.050	0.038	0.032	
47	0.047	SMD 975-3672● RL	0.086	0.062	0.050	0.038	0.032	
100	0.1	SMD 975-3680● RL	0.084	0.060	0.048	0.037	0.031	
220	0.22	SMD 975-3699● RL	0.093	0.065	0.052	0.041	0.035	
470	0.47	SMD 975-3710● RL	0.103	0.075	0.060	0.046	0.039	
1000	1	SMD 975-3729● RL	0.103	0.073	0.060	0.046	0.038	
2200	2.2	SMD 975-3737● RL	0.181	0.129	0.105	0.080	0.067	
4700	4.7	SMD 975-3753● RL	0.250	0.175	0.142	0.109	0.094	

Mftrs. List No. B37872-K5xxyK60 where xx is the capacitance value in pF and y=multiplier in pF

RL Re-reeling available

Multilayer Ceramic - continued

Surface Mount - continued

Order Multiple=10
16 Volt d.c. X7R, 1206 Case Size

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
470000	470	SMD 757-548● RL	0.320	0.220	0.191	0.145	0.122

Mftrs. List No. B37872-K9xxyK60 where xx is the capacitance value in pF and y=multiplier in pF

208546

Order Multiple=10
50 Volt d.c. X7R, 1206 Case Size

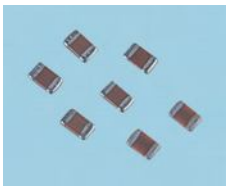
pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
1000	1	SMD 757-561● RL	0.079	0.053	0.045	0.035	0.030
4700	4.7	SMD 757-597● RL	0.080	0.055	0.045	0.036	0.030
10000	10	SMD 757-603● RL	0.078	0.053	0.045	0.035	0.030
22000	22	SMD 757-615● RL	0.100	0.071	0.057	0.044	0.038
47000	47	SMD 757-639● RL	0.121	0.088	0.072	0.055	0.045
100000	100	SMD 757-640● RL	0.123	0.089	0.072	0.055	0.047

Surface Mount – Chip ceramic

GRM15/18/21/31 Series

muRata innovator in Electronics

SMD



- Multilayer ceramic chip capacitors
- High performance and reliability
- 0402, 0603, 0805, and 1206 case sizes
- Nickel barrier terminations
- Conform to **IEC 384-10**

0402 case size	L=1.0±0.05, W=0.5±0.05, H=0.45 to 0.55, P=0.15 to 0.3
0603 case size	L=1.6±0.1, W=0.8±0.1, H=0.7 to 0.9, P=0.25 to 0.65
0805 case size	L=2.0±0.15, W=1.25±0.15, H=0.51 to 1.27, P=0.25 to 0.75
1206 case size	L=3.2±0.15, W=1.60±0.15, H=0.51 to 1.60, P=0.25 to 0.75

Performance Characteristics

	NPO	X7R	Y5V
Operating Temperature	-55°C to125°C	-55°C to125°C	-55°C to125°C
Insulation resistance 100,000MΩ		Dielectric strength 2.5VR for 1 minute	

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**

0402 Case Size

Tolerance <4.7pF ±0.25pF, 5.8pF to 8.2pF ±0.5pF, >10pF ±5%

Order Multiple=10

pF	nF	Reel Qty	Order Code	Price Each 10+	100+	500+	1K+
6.3 Volt d.c. X5R, 0402 Case Size							
470000	470	10000	SMD 881-9726● RL	0.092	0.077	0.065	0.055
10 Volt d.c. X5R, 0402 Case Size							
220000	220	10000	SMD 881-9718● RL	0.070	0.057	0.049	0.042
16 Volt d.c. X7R, 0402 Case Size							
100000	100	10000	SMD 881-9742● RL	0.023	0.019	0.016	0.014
25 Volt d.c. X7R, 0402 Case Size							
10000	10	10000	SMD 881-9734● RL	0.020	0.015	0.012	0.010
50 Volt d.c. COG, 0402 Case Size							
1	0.001	10000	SMD 881-9530● RL	0.014	0.012	0.010	0.008
2.2	0.0022	10000	SMD 881-9610● RL	0.011	0.010	0.008	0.007
3.3	0.0033	10000	SMD 881-9637● RL	0.019	0.015	0.008	0.006
4.7	0.0047	10000	SMD 881-9661● RL	0.018	0.015	0.012	0.009
6.8	0.0068	10000	SMD 881-9696● RL	0.018	0.015	0.012	0.009
10	0.01	10000	SMD 881-9564● RL	0.031	0.016	0.012	0.010
15	0.015	10000	SMD 881-9599● RL	0.019	0.015	0.008	0.006
22	0.022	10000	SMD 881-9629● RL	0.019	0.015	0.008	0.006
33	0.033	10000	SMD 881-9645● RL	0.027	0.015	0.012	0.010
47	0.047	10000	SMD 881-9670● RL	0.022	0.018	0.015	0.013
68	0.068	10000	SMD 881-9548● RL	0.019	0.010	0.006	0.005
100	0.1	10000	SMD 881-9572● RL	0.029	0.023	0.019	0.016
150	0.15	10000	SMD 881-9602● RL	0.023	0.017	0.010	0.007
220	0.22	10000	SMD 881-9580● RL	0.040	0.020	0.017	0.014
330	0.33	10000	SMD 881-9653● RL	0.031	0.021	0.012	0.009
470	0.47	10000	SMD 881-9688● RL	0.048	0.041	0.034	0.030
680	0.68	10000	SMD 881-9700● RL	0.046	0.026	0.021	0.019
1000	1	10000	SMD 881-9556● RL	0.066	0.037	0.032	0.027

0603 Case Size

Tolerance <4.7pF ±0.25pF, 5.8pF to 8.2pF ±0.5pF, >10pF ±5%

Order Multiple=10

pF	nF	Reel Qty	Order Code	Price Each 10+	100+	500+	1K+
50 Volt d.c. COG, 0603 Case Size							
1	0.001	4000	SMD 881-9750● RL	0.026	0.019	0.011	0.007
1.5	0.0015	4000	SMD 881-9769● RL	0.026	0.020	0.011	0.008
2.2	0.0022	4000	SMD 881-9777● RL	0.026	0.020	0.011	0.008
3.3	0.0033	4000	SMD 881-9785● RL	0.026	0.020	0.011	0.008
4.7	0.0047	4000	SMD 881-9793● RL	0.026	0.020	0.011	0.008
6.8	0.0068	4000	SMD 881-9807● RL	0.026	0.022	0.017	0.012
10	0.01	4000	SMD 881-9815● RL	0.038	0.020	0.018	0.014
15	0.015	4000	SMD 881-9823● RL	0.038	0.020	0.018	0.014
22	0.022	4000	SMD 881-9831● RL	0.038	0.020	0.018	0.014
47	0.047	4000	SMD 881-9840● RL	0.038	0.020	0.018	0.014
68	0.068	4000	SMD 881-9858● RL	0.026	0.019	0.011	0.007
100	0.1	4000	SMD 881-9866● RL	0.040	0.021	0.018	0.015
150	0.15	4000	SMD 881-9874● RL	0.030	0.022	0.012	0.009
220	0.22	4000	SMD 881-9882● RL	0.049	0.026	0.022	0.019
330	0.33	4000	SMD 881-9890● RL	0.051	0.029	0.025	0.021
470	0.47	4000	SMD 881-9904● RL	0.038	0.028	0.015	0.011
680	0.68	4000	SMD 881-9912● RL	0.066	0.037	0.032	0.027
1000	1	4000	SMD 881-9920● RL	0.068	0.042	0.035	0.029
1500	1.5	4000	SMD 881-9939● RL	0.097	0.053	0.046	0.038
2200	2.2	4000	SMD 881-9947● RL	0.101	0.055	0.048	0.040
25 Volt d.c. X7R, 0603 Case Size							
47000	47	4000	SMD 882-0007● RL	0.039	0.026	0.014	0.012
50 Volt d.c. X7R, 0603 Case Size							
1000	1	4000	SMD 881-9955● RL	0.031	0.018	0.016	0.012
2200	2.2	4000	SMD 881-9963● RL	0.023	0.016	0.009	0.007
4700	4.7	4000	SMD 881-9971● RL	0.023	0.016	0.009	0.007
10000	10	4000	SMD 881-9980● RL	0.031	0.018	0.016	0.012
22000	22	4000	SMD 881-9998● RL	0.041	0.035	0.030	0.026
47000	47	4000	SMD 882-0015● RL	0.062	0.036	0.031	0.026
100000	100	4000	SMD 882-0023● RL	0.054	0.034	0.030	0.025

0805 Case Size

Order Multiple=10

pF	nF	Reel Qty	Order Code	Price Each 10+	100+	500+	1K+
50 Volt d.c. COG, 0805 Case Size							
2200	2.2	4000	SMD 882-0031● RL	0.132	0.073	0.062	0.052
3300	3.3	4000	SMD 882-0040● RL	0.171	0.092	0.079	0.067
4700	4.7	4000	SMD 882-0058● RL	0.190	0.157	0.135	0.113
6800	6.8	4000	SMD 882-0066● RL	0.270	0.150	0.126	0.105
10000	10	4000	SMD 882-0074● RL	0.400	0.220	0.188	0.156
50 Volt d.c. X7R, 0805 Case Size							
4700	4.7	4000	SMD 882-0082● RL	0.095	0.079	0.067	0.057
10000	10	4000	SMD 882-0090● RL	0.053	0.045	0.039	0.033
22000	22	4000	SMD 882-0104● RL	0.039	0.031	0.017	0.012
47000	47	3000	SMD 882-0112● RL	0.078	0.044	0.038	0.031
100000	100	3000	SMD 882-0120● RL	0.096	0.055	0.047	0.039
220000	220	3000	SMD 882-0139● RL	0.230	0.125	0.106	0.089

1206 Case Size

386676

Order Multiple=10

pF	nF	Reel Qty	Order Code	Price Each 10+	100+	500+	1K+
50 Volt d.c. COG, 1206 Case Size							
6800	6.8	4000	SMD 882-0147● RL	0.480	0.250	0.220	0.182
10000	10	4000	SMD 882-0155● RL	0.540	0.280	0.250	0.210
15000	15	4000	SMD 882-0163● RL	0.580	0.310	0.270	0.230
18000	18	4000	SMD 882-0171● RL	0.390	0.290	0.162	0.114
22000	22	4000	SMD 882-0180● RL	0.590	0.320	0.270	0.230
33000	33	4000	SMD 882-0198● RL	0.610	0.320	0.270	0.230
47000	47	4000	SMD 882-0201● RL	0.670	0.560	0.480	0.410
25 Volt d.c. COG, 1206 Case Size							
100000	100	2000	SMD 882-0210● RL	0.790	0.400	0.330	0.280

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Surface Mount – Chip Ceramic on Full Reels

muRata innovator in Electronics

GRM15/18/21/31 Series

FULL REELS

SMD

- Multilayer ceramic chip capacitors supplied on full reels

0402 Case Size

pF	Mfts. List No.	Order Code	Reel Qty	Price Per Reel 1+	3+
6.3 Volt d.c. X5R, 0402 Case Size					
470000	GRM155R60J474KE19D	SMD 111-8149●	10000	130.26	121.03
10 Volt d.c. X5R, 0402 Case Size					
220000	GRM155R61A224KE19D	SMD 111-8148●	10000	98.10	91.15
16 Volt d.c. X7R, 0402 Case Size					
100000	GRM155R71C104KA88D	SMD 111-8151●	10000	32.16	29.89
25 Volt d.c. X7R, 0402 Case Size					
10000	GRM155R71E103KA01D	SMD 111-8150●	10000	25.38	23.58
50 Volt d.c. COG, 0402 Case Size					
1	GRM1555C1H1R0CZ01D	SMD 111-8128●	10000	22.84	21.23
2.2	GRM1555C1H2R2CZ01D	SMD 111-8137●	10000	24.88	23.12
3.3	GRM1555C1H3R3CZ01D	SMD 111-8139●	10000	22.84	21.23
4.7	GRM1555C1H4R7CZ01D	SMD 111-8142●	10000	25.38	23.58
6.8	GRM1555C1H6R8DZ01D	SMD 111-8145●	10000	25.38	23.58
10	GRM1555C1H100JZ01D	SMD 111-8131●	10000	25.38	23.58
15	GRM1555C1H150JZ01D	SMD 111-8135●	10000	22.84	21.23
22	GRM1555C1H220JZ01D	SMD 111-8138●	10000	25.74	23.90
33	GRM1555C1H330JZ01D	SMD 111-8140●	10000	25.38	23.58
47	GRM1555C1H470JZ01D	SMD 111-8143●	10000	22.84	21.23
68	GRM1555C1H680JD01D	SMD 111-8129●	10000	24.78	23.01
100	GRM1555C1H101JZ01D	SMD 111-8132●	10000	25.38	23.58

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pF	Mfts. List No.	Order Code	Reel Qty	Price Per Reel 1+	3+
50 Volt d.c. COG, 0402 Case Size					
150	GRM1555C1H151JA01D	SMD 111-8136●	10000	31.48	29.24
220	GRM1555C1H221JA01D	SMD 111-8133●	10000	33.83	31.45
330	GRM1555C1H331JA01D	SMD 111-8141●	10000	42.31	39.31
470	GRM1555C1H471JA01D	SMD 111-8144●	10000	43.49	40.41
680	GRM1555C1H681JA01D	SMD 111-8147●	10000	43.42	40.34
1000	GRM1555C1H102JA01D	SMD 111-8130●	10000	62.72	58.27

0603 Case Size

pF	Mfts. List No.	Order Code	Reel Qty	Price Per Reel 1+	3+
50 Volt d.c. COG, 0603 Case Size					
1	GRM1885C1H1R0CZ01D	SMD 111-8152●	4000	13.72	12.75
1.5	GRM1885C1H1R5CZ01D	SMD 111-8153●	4000	13.72	12.75
2.2	GRM1885C1H2R2CZ01D	SMD 111-8154●	4000	13.72	12.75
3.3	GRM1885C1H3R3CZ01D	SMD 111-8155●	4000	12.35	11.48
4.7	GRM1885C1H4R7CZ01D	SMD 111-8156●	4000	13.72	12.75
6.8	GRM1885C1H6R8DZ01D	SMD 111-8157●	4000	13.72	12.75
10	GRM1885C1H100JA01D	SMD 111-8159●	4000	13.72	12.75
15	GRM1885C1H150JA01D	SMD 111-8161●	4000	13.72	12.75
150	GRM1885C1H151JA01D	SMD 111-8166●	4000	16.07	14.92
22	GRM1885C1H220JA01D	SMD 111-8162●	4000	13.72	12.75
47	GRM1885C1H470JA01D	SMD 111-8163●	4000	13.72	12.75
68	GRM1885C1H680JA01D	SMD 111-8164●	4000	13.72	12.75
220	GRM1885C1H221JA01D	SMD 111-8167●	4000	17.51	16.27
330	GRM1885C1H331JA01D	SMD 111-8168●	4000	19.39	18.01
470	GRM1885C1H471JA01D	SMD 111-8169●	4000	20.80	19.32
1.5	GRM1885C1H152JA01D	SMD 111-8173●	4000	35.97	33.42
680	GRM1885C1H681JA01D	SMD 111-8170●	4000	25.05	23.28
1000	GRM1885C1H102JA01D	SMD 111-8172●	4000	27.92	25.94
2200	GRM1885C1H222JA01D	SMD 111-8174●	4000	37.84	35.16
25 Volt d.c. X7R, 0603 Case Size					
47000	GRM188R71E473KA01D	SMD 111-8180●	4000	21.31	19.81
50 Volt d.c. X7R, 0603 Case Size					
1000	GRM188R71H102KA01D	SMD 111-8175●	4000	12.32	11.46
2200	GRM188R71H222KA01D	SMD 111-8176●	4000	12.32	11.46
4700	GRM188R71H472KA01D	SMD 111-8177●	4000	12.32	11.46
10000	GRM188R71H103KA01D	SMD 111-8178●	4000	12.32	11.46
22000	GRM188R71H223KA01D	SMD 111-8179●	4000	18.44	17.14
47000	GRM188R71H473KA61D	SMD 111-8181●	4000	24.37	22.63
100000	GRM188R71H104KA93D	SMD 111-8182●	4000	23.40	21.74

0805 Case Size

pF	Mfts. List No.	Order Code	Reel Qty	Price Per Reel 1+	3+
50 Volt d.c. COG, 0805 Case Size					
2200	GRM2165C1H222JA01D	SMD 111-8184●	4000	49.17	45.70
3300	GRM2165C1H332JA01D	SMD 111-8185●	4000	62.90	58.45
4700	GRM2195C1H472JA01D	SMD 111-8186●	4000	68.19	63.35
6800	GRM2195C1H682JA01D	SMD 111-8187●	4000	99.36	92.31
10000	GRM2195C1H103JA01D	SMD 111-8188●	4000	149.51	138.92
50 Volt d.c. X7R, 0805 Case Size					
10000	GRM216R71H103JA01D	SMD 111-8190●	4000	19.30	17.93
22000	GRM216R71H223KA01D	SMD 111-8191●	4000	21.23	19.72
47000	GRM21BR71H473KA01L	SMD 111-8192●	3000	22.35	20.76
100000	GRM21BR71H104KA01L	SMD 111-8193●	3000	27.98	25.99
220000	GRM21BR71H224KA01L	SMD 111-8194●	3000	63.17	58.69

1206 Case Size

423554

pF	Mfts. List No.	Order Code	Reel Qty	Price Per Reel 1+	3+
50 Volt d.c. COG, 1206 Case Size					
6800	GRM3195C1H682JA01D	SMD 111-8196●	4000	152.73	141.91
10000	GRM3195C1H103JA01D	SMD 111-8197●	4000	190.14	176.66
15000	GRM3195C1H153JA01D	SMD 111-8198●	4000	212.28	197.24
18000	GRM3195C1H183JA01D	SMD 111-8199●	4000	210.00	195.12
22000	GRM3195C1H223JA01D	SMD 111-8200●	4000	216.77	201.42
33000	GRM3195C1H333JA01D	SMD 111-8202●	4000	194.66	180.86
47000	GRM31M5C1H473JA01D	SMD 111-8203●	3000	178.79	166.12
25 Volt d.c. COG, 1206 Case Size					
100000	GRM31C5C1E104JA01L	SMD 111-8204●	2000	131.88	122.52

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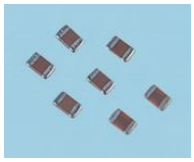
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Surface Mount – Nickel Barrier

CG, 2R Series

Phycomp YAGEO



- Multilayer ceramic chip capacitors
- High performance and reliability
- 0201, 0402, 0603, 0805, 1206 and 1210 case sizes
- Nickel barrier terminations
- Conform to **IEC 384-10**

SMD

0201 case size L=0.6±0.03, W=0.30±0.03, H=0.23±0.03
0402 case size L=1.0±0.05, W=0.5±0.05, H=0.45 to 0.55, P=0.15 to 0.3
0603 case size L=1.6±0.1, W=0.8±0.1, H=0.7 to 0.9, P=0.25 to 0.65
0805 case size L=2.0±0.15, W=1.25±0.15, H=0.51 to 1.27, P=0.25 to 0.75
1206 case size L=3.2±0.15, W=1.60±0.15, H=0.51 to 1.60, P=0.25 to 0.75
1210 case size L=3.2±0.2, W=2.5±0.2, H=0.50 to 1.80

Performance Characteristics

	NPO	X7R	X5R	Y5V
Operating Temperature	-55°C to +125°C	-55°C to +125°C	-25°C to +85°C	-25°C to +85°C
Tolerance	±5%	±10%	±10%	-20% +80%

Insulation resistance 100,000MΩ Dielectric strength 2.5VR for 1 minute

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**

0201 Case Size

Order Multiple=50
25 Volt d.c. NPO, 0201 Case Size

pF	nF	Order Code	Price Each 50+	100+	1K+	10K+
33	0.033	SMD 145-8847●	0.037	0.027	0.019	0.012
47	0.047	SMD 145-8848●	0.037	0.027	0.019	0.012
68	0.068	SMD 145-8849●	0.037	0.027	0.019	0.012
100	0.1	SMD 145-8850●	0.057	0.020	0.014	0.009

Order Multiple=50
50 Volt d.c. NPO, 0201 Case Size

pF	nF	Order Code	Price Each 50+	100+	1K+	10K+
1	0.001	SMD 145-8837●	0.037	0.027	0.019	0.012
2.2	0.0022	SMD 145-8839●	0.037	0.027	0.019	0.012
3.3	0.0033	SMD 145-8841●	0.037	0.027	0.019	0.012
4.7	0.0047	SMD 145-8842●	0.037	0.027	0.019	0.012
6.8	0.0068	SMD 145-8843●	0.037	0.027	0.019	0.012
10	0.01	SMD 145-8844●	0.037	0.027	0.019	0.012
15	0.015	SMD 145-8845●	0.037	0.027	0.019	0.012
22	0.022	SMD 145-8846●	0.037	0.027	0.019	0.012

Order Multiple=50
50 Volt d.c. X7R, 0201 Case Size

pF	nF	Order Code	Price Each 50+	100+	1K+	10K+
150	0.15	SMD 145-8852●	0.033	0.025	0.016	0.011
220	0.22	SMD 145-8853●	0.033	0.025	0.016	0.011
330	0.33	SMD 145-8854●	0.033	0.025	0.016	0.011
470	0.47	SMD 145-8855●	0.033	0.025	0.016	0.011

Order Multiple=50
25 Volt d.c. X7R, 0201 Case Size

pF	nF	Order Code	Price Each 50+	100+	1K+	10K+
680	0.68	SMD 145-8856●	0.033	0.025	0.016	0.011
1000	1	SMD 145-8857●	0.033	0.025	0.016	0.011

Order Multiple=50
16 Volt d.c. X7R, 0201 Case Size

pF	nF	Order Code	Price Each 50+	100+	1K+	10K+
1500	1.5	SMD 145-8858●	0.033	0.025	0.016	0.011
2200	2.2	SMD 145-8859●	0.033	0.025	0.016	0.011
3300	3.3	SMD 145-8860●	0.033	0.025	0.016	0.011

0402 Case Size

Tolerance <4.7pF ±0.25pF, 5.8pF to 8.2pF ±0.5pF, >10pF ±5%

Order Multiple=10
50 Volt d.c. NPO, 0402 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
0.47	0.00047	SMD 301-9081● RL	0.029	0.023	0.015	0.013
0.56	0.00056	SMD 301-9093● RL	0.022	0.017	0.012	0.010
1	0.001	SMD 301-9100● RL	0.027	0.021	0.015	0.013
1.5	0.0015	SMD 301-9111● RL	0.029	0.023	0.015	0.013
2.2	0.0022	SMD 301-9123● RL	0.029	0.023	0.015	0.013
3.3	0.0033	SMD 301-9135● RL	0.028	0.022	0.015	0.013
4.7	0.0047	SMD 301-9147● RL	0.029	0.023	0.016	0.013
6.8	0.0068	SMD 301-9159● RL	0.027	0.021	0.015	0.013
10	0.01	SMD 301-9160● RL	0.024	0.018	0.011	0.010
15	0.015	SMD 301-9172● RL	0.024	0.018	0.011	0.010
22	0.022	SMD 301-9184● RL	0.024	0.018	0.011	0.010
33	0.033	SMD 301-9196● RL	0.024	0.018	0.011	0.010
47	0.047	SMD 301-9202● RL	0.024	0.018	0.011	0.010
68	0.068	SMD 301-9214● RL	0.024	0.018	0.011	0.010
100	0.1	SMD 301-9226● RL	0.024	0.018	0.011	0.010
150	0.15	SMD 301-9238● RL	0.022	0.017	0.012	0.010
220	0.22	SMD 301-9240● RL	0.028	0.022	0.015	0.013

Order Multiple=10
10 Volt d.c. X5R, 0402 Case Size

nF	µF	Order Code	Price Each 10+	100+	1K+	10K+
1000	1	SMD 145-8896●	0.076	0.060	0.047	0.038

Order Multiple=10
50 Volt d.c. X7R, 0402 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
100	0.1	SMD 301-9329● RL	0.037	0.028	0.020	0.018
150	0.15	SMD 301-9330● RL	0.043	0.032	0.024	0.022
220	0.22	SMD 301-9342● RL	0.027	0.021	0.015	0.013
330	0.33	SMD 301-9354● RL	0.029	0.023	0.015	0.013
470	0.47	SMD 301-9366● RL	0.020	0.016	0.011	0.010
680	0.68	SMD 301-9378● RL	0.027	0.021	0.015	0.013
1000	1	SMD 301-9380● RL	0.029	0.023	0.016	0.013
1500	1.5	SMD 301-9391● RL	0.028	0.022	0.015	0.013
2200	2.2	SMD 301-9408● RL	0.028	0.022	0.015	0.013
3300	3.3	SMD 301-9410● RL	0.029	0.023	0.015	0.013

RL Re-reeling available

Farnell

Multilayer Ceramic - continued

0201 Case Size - continued

CG, 2R Series - continued

Order Multiple=10
25 Volt d.c. X7R, 0402 Case Size

pF	nF	Order Code	10+	100+	1K+	10K+
3300	3.3	SMD 301-9305● RL	0.039	0.030	0.023	0.020
4700	4.7	SMD 301-9317● RL	0.029	0.022	0.017	0.015

Order Multiple=10
16 Volt d.c. X7R, 0402 Case Size

pF	nF	Order Code	10+	100+	1K+	10K+
4700	4.7	SMD 301-9251● RL	0.033	0.026	0.019	0.015
6800	6.8	SMD 301-9263● RL	0.035	0.027	0.019	0.015
10000	10	SMD 301-9275● RL	0.035	0.027	0.020	0.015
15000	15	SMD 301-9287● RL	0.035	0.027	0.019	0.015
22000	22	SMD 301-9299● RL	0.035	0.027	0.019	0.015

Order Multiple=10
16 Volt d.c. Y5V, 0402 Case Size

pF	nF	Order Code	10+	100+	1K+	10K+
10000	10	SMD 301-9421● RL	0.033	0.026	0.019	0.015
15000	15	SMD 301-9433● RL	0.024	0.019	0.014	0.011
22000	22	SMD 301-9445● RL	0.026	0.020	0.015	0.012
33000	33	SMD 301-9457● RL	0.033	0.026	0.019	0.015
47000	47	SMD 301-9469● RL	0.033	0.026	0.020	0.015
68000	68	SMD 301-9470● RL	0.033	0.026	0.019	0.015
100000	100	SMD 301-9482● RL	0.033	0.026	0.019	0.015

0603 Case Size

Tolerance <4.7pF ±0.25pF, 5.8pF to 8.2pF ±0.5pF, >10pF ±5%

Order Multiple=10
50 Volt d.c. NPO, 0603 Case Size

pF	nF	Order Code	10+	100+	1K+	10K+
0.47	0.00047	SMD 721-803● RL	0.033	0.026	0.020	0.015
0.56	0.00056	SMD 721-815● RL	0.033	0.026	0.020	0.015
0.68	0.00068	SMD 721-827● RL	0.033	0.026	0.020	0.015
0.82	0.00082	SMD 721-839● RL	0.024	0.018	0.012	0.010
1	0.001	SMD 721-840● RL	0.033	0.026	0.020	0.015
1.2	0.0012	SMD 721-852● RL	0.033	0.026	0.020	0.015
1.5	0.0015	SMD 721-864● RL	0.033	0.026	0.020	0.015
1.8	0.0018	SMD 721-876● RL	0.024	0.018	0.012	0.010
2.2	0.0022	SMD 721-888● RL	0.033	0.026	0.020	0.015
2.7	0.0027	SMD 721-890● RL	0.033	0.026	0.020	0.015
3.3	0.0033	SMD 721-906● RL	0.033	0.026	0.020	0.015
3.9	0.0039	SMD 721-918● RL	0.033	0.026	0.020	0.015
4.7	0.0047	SMD 721-920● RL	0.033	0.026	0.020	0.015
5.6	0.0056	SMD 721-931● RL	0.033	0.026	0.020	0.015
6.8	0.0068	SMD 721-943● RL	0.033	0.026	0.020	0.015
8.2	0.0082	SMD 721-955● RL	0.036	0.028	0.021	0.016
10	0.01	SMD 721-967● RL	0.033	0.026	0.020	0.015
12	0.012	SMD 721-979● RL	0.033	0.026	0.020	0.015
15	0.015	SMD 721-980● RL	0.033	0.026	0.020	0.015
18	0.018	SMD 721-992● RL	0.033	0.026	0.020	0.015
22	0.022	SMD 722-005● RL	0.033	0.026	0.020	0.015
27	0.027	SMD 722-017● RL	0.035	0.027	0.020	0.015
33	0.033	SMD 722-029● RL	0.035	0.027	0.020	0.015
39	0.039	SMD 722-030● RL	0.035	0.027	0.020	0.015
47	0.047	SMD 722-042● RL	0.035	0.027	0.020	0.015
56	0.056	SMD 722-054● RL	0.035	0.027	0.020	0.015
68	0.068	SMD 722-066● RL	0.038	0.028	0.022	0.016
82	0.082	SMD 722-078● RL	0.036	0.028	0.021	0.016
100	0.1	SMD 722-080● RL	0.037	0.028	0.021	0.016
120	0.12	SMD 722-091● RL	0.038	0.029	0.023	0.016
150	0.15	SMD 722-108● RL	0.041	0.031	0.024	0.020
180	0.18	SMD 301-9494● RL	0.038	0.028	0.022	0.016
220	0.22	SMD 430-948● RL	0.033	0.025	0.020	0.015
270	0.27	SMD 301-9500● RL	0.036	0.027	0.019	0.015
330	0.33	SMD 430-973● RL	0.035	0.027	0.020	0.015
390	0.39	SMD 301-9512● RL	0.031	0.025	0.016	0.014
470	0.47	SMD 430-985● RL	0.035	0.027	0.020	0.015
560	0.56	SMD 301-9524● RL	0.037	0.028	0.021	0.016
680	0.68	SMD 430-997● RL	0.038	0.029	0.023	0.016

Order Multiple=10
16 Volt d.c. X5R, 0603 Case Size

nF	µF	Order Code	10+	100+	1K+	10K+
2200	2.2	SMD 145-8897●	0.158	0.118	0.088	0.065

Order Multiple=10
10 Volt d.c. X5R, 0603 Case Size

nF	µF	Order Code	10+	100+	1K+	10K+
4700	4.7	SMD 145-8898●	0.260	0.200	0.146	0.105

Order Multiple=10
6.3 Volt d.c. X5R, 0603 Case Size

nF	µF	Order Code	10+	100+	1K+	10K+
10000	10	SMD 145-8902●	0.66	0.49	0.37	0.27

Order Multiple=10
10 Volt d.c. X7R, 0603 Case Size

pF	nF	Order Code	10+	100+	1K+	10K+
150000	150	SMD 335-2006● RL	0.037	0.028	0.022	0.019
180000	180	SMD 335-2018● RL	0.076	0.060	0.042	0.039
220000	220	SMD 335-2020● RL	0.116	0.091	0.066	0.059

Order Multiple=10
16 Volt d.c. X7R, 0603 Case Size

pF	nF	Order Code	10+	100+	1K+	10K+
33000	33	SMD 432-015● RL	0.035	0.027	0.020	0.015
39000	39	SMD 301-9536● RL	0.036	0.028	0.020	0.016
47000	47	SMD 432-027● RL	0.035	0.027	0.020	0.015
56000	56	SMD 301-9548● RL	0.036	0.028	0.020	0.016
68000	68	SMD 432-192● RL	0.036	0.028	0.020	0.016
82000	82	SMD 301-9550● RL	0.040	0.031	0.023	0.020
100000	100	SMD 432-210● RL	0.038	0.029	0.023	0.016
1000000	1000	SMD 145-8900●	0.072	0.055	0.041	0.032

Order Multiple=10
25 Volt d.c. X7R, 0603 Case Size

pF	nF	Order Code	10+	100+	1K+	10K+
10000	10	SMD 301-9561● RL	0.024	0.018	0.012	0.010
12000	12	SMD 301-9573● RL	0.024	0.018	0.012	0.010
15000	15	SMD 722-248● RL	0.039	0.030	0.023	0.020
18000	18	SMD 301-9585● RL	0.027	0.020	0.014	0.012
22000	22	SMD 722-250● RL	0.045	0.033	0.026	0.023
27000	27	SMD 301-9597● RL	0.031	0.024	0.016	0.013

Order Multiple=10
50 Volt d.c. X7R, 0603 Case Size

pF	nF	Order Code	10+	100+	1K+	10K+
100	0.1	SMD 722-110● RL	0.033	0.026	0.020	0.015
120	0.12	SMD 301-9603● RL	0.029	0.023	0.015	0.013
150	0.15	SMD 722-121● RL	0.033	0.026	0.020	0.015
180	0.18	SMD 301-9615● RL	0.029	0.023	0.015	0.013
220	0.22	SMD 722-133● RL	0.033	0.026	0.020	0.015
270	0.27	SMD 301-9627● RL	0.029	0.023	0.015	0.013
330	0.33	SMD 722-145● RL	0.032	0.025	0.019	0.015
390	0.39	SMD 301-9639● RL	0.029	0.023	0.015	0.013
470	0.47	SMD 722-157● RL	0.023	0.016	0.011	0.009
560	0.56	SMD 301-9640● RL	0.029	0.023	0.015	0.013
680	0.68	SMD 722-169● RL	0.033	0.026	0.019	0.015
820	0.82	SMD 301-9652● RL	0.029	0.023	0.016	0.013
1000	1	SMD 722-170● RL	0.033	0.026	0.020	0.015
1200	1.2	SMD 301-9664● RL	0.029	0.023	0.015	0.013
1500	1.5	SMD 722-182● RL	0.035	0.027	0.020	0.015
1800	1.8	SMD 301-9676● RL	0.029	0.023	0.015	0.013
2200	2.2	SMD 722-194● RL	0.029	0.022	0.017	0.013
2700	2.7	SMD 301-9688● RL	0.029	0.023	0.016	0.013
3300	3.3	SMD 722-200● RL	0.037	0.028	0.021	0.016
3900	3.9	SMD 301-9690● RL	0.029	0.023	0.015	0.013
4700	4.7	SMD 722-212● RL	0.037	0.029	0.021	0.016
5600	5.6	SMD 301-9706● RL	0.029	0.023	0.016	0.013
6800	6.8	SMD 722-224● RL	0.037	0.029	0.021	0.016
8200	8.2	SMD 301-9718● RL	0.029	0.023	0.015	0.013
10000	10	SMD 722-236● RL	0.023	0.016	0.012	0.009
12000	12	SMD 301-9720● RL	0.028	0.022	0.015	0.013
15000	15	SMD 301-9731● RL	0.029	0.023	0.015	0.013
18000	18	SMD 301-9743● RL	0.029	0.023	0.016	0.013
22000	22	SMD 301-9755● RL	0.029	0.023	0.016	0.013
100000	100	NEW SMD 136-2556●	0.026	0.024	0.023	0.022

Order Multiple=10
10 Volt d.c. Y5V, 0603 Case Size

nF	µF	Order Code	10+	100+	1K+	10K+
1000	1	SMD 318-8840● RL	0.059	0.046	0.032	0.029

Order Multiple=10
16 Volt d.c. Y5V, 0603 Case Size

pF	nF	Order Code	10+	100+	1K+	10K+
150000	150	SMD 431-151● RL	0.039	0.030	0.023	0.020
220000	220	SMD 431-199● RL	0.042	0.032	0.025	0.023
470000	470	SMD 318-8851● RL	0.059	0.046	0.035	0.030
2200000	2200	NEW SMD 145-8901●	0.068	0.053	0.038	0.031

Order Multiple=10
50 Volt d.c. Y5V, 0603 Case Size

pF	nF	Order Code	10+	100+	1K+	10K+
10000	10	SMD 431-590● RL	0.038	0.029	0.022	0.016
15000	15	SMD 431-930● RL	0.029	0.022	0.018	0.013
22000	22	SMD 431-941● RL	0.037	0.028	0.022	0.016
33000	33	SMD 431-953● RL	0.037	0.028	0.022	0.016
47000	47	SMD 431-965● RL	0.038	0.029	0.022	0.016
68000	68	SMD 431-977● RL	0.037	0.028	0.022	0.016
100000	100	SMD 431-989● RL	0.036	0.028	0.021	0.016

0805 Case Size

Order Multiple=10
50 Volt d.c. NPO, 0805 Case Size

pF	nF	Order Code	10+	100+	1K+	10K+
22	0.022	SMD 136-2555●	0.021	0.020	0.019	0.018
33	0.033	SMD 136-2559●	0.021	0.020	0.019	0.018
47	0.047	SMD 136-2560●	0.021	0.020	0.019	0.018
100	0.1	SMD 360-6028● RL	0.054	0.042	0.029	0.026
180	0.18	SMD 718-476● RL	0.054	0.042	0.029	0.026
220	0.22	SMD 718-488● RL	0.054	0.042	0.031	0.027
270	0.27	SMD 718-490● RL	0.054	0.042	0.029	0.026
330	0.33	SMD 718-506● RL	0.059	0.046	0.035	0.030
390	0.39	SMD 718-518● RL	0.058	0.044	0.033	0.030
470	0.47	SMD 718-520● RL	0.059	0.046	0.035	0.030
560	0.56	SMD 718-531● RL	0.058	0.044	0.033	0.030
680	0.68	SMD 718-543● RL	0.062	0.047	0.036	0.032
820	0.82	SMD 718-555● RL	0.062	0.047	0.036	0.032
1000	1	SMD 718-567● RL	0.073	0.056	0.041	0.037

RL Re-reeling available

Farnell

Order Multiple=10
10 Volt d.c. X7R, 0805 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
330000	330	SMD 335-2031● RL	0.110	0.085	0.062	0.056
470000	470	SMD 335-2043● RL	0.150	0.116	0.084	0.075
680000	680	SMD 335-2055● RL	0.175	0.135	0.099	0.086
1000000	1000	SMD 335-2067● RL	0.230	0.174	0.128	0.114

Order Multiple=10
16 Volt d.c. X7R, 0805 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
47000	47	SMD 644-146● RL	0.059	0.045	0.033	0.030
68000	68	SMD 644-158● RL	0.061	0.047	0.035	0.032
100000	100	SMD 644-160● RL	0.073	0.056	0.041	0.037
150000	150	SMD 644-171● RL	0.108	0.084	0.061	0.055
220000	220	SMD 644-183● RL	0.164	0.126	0.092	0.081
330000	330	SMD 318-8875● RL	0.121	0.094	0.069	0.062
470000	470	SMD 318-8887● RL	0.170	0.131	0.096	0.084

Order Multiple=10
25 Volt d.c. X7R, 0805 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
10000	10	SMD 301-9767● RL	0.054	0.042	0.031	0.027
12000	12	SMD 301-9779● RL	0.053	0.041	0.029	0.026
15000	15	SMD 301-9780● RL	0.042	0.032	0.023	0.021
18000	18	SMD 301-9792● RL	0.053	0.041	0.029	0.026
22000	22	SMD 301-9809● RL	0.053	0.041	0.029	0.026
27000	27	SMD 301-9810● RL	0.053	0.041	0.029	0.026
33000	33	SMD 301-9822● RL	0.042	0.033	0.023	0.021
39000	39	SMD 644-195● RL	0.057	0.045	0.031	0.029
47000	47	SMD 644-201● RL	0.048	0.038	0.026	0.025
56000	56	SMD 644-213● RL	0.063	0.049	0.036	0.032
68000	68	SMD 644-225● RL	0.053	0.042	0.030	0.027
82000	82	SMD 644-237● RL	0.080	0.061	0.046	0.040
100000	100	SMD 644-249● RL	0.082	0.062	0.047	0.041
1000000	1000	SMD 145-8903●	0.065	0.049	0.037	0.027
2200000	2200	SMD 145-8904●	0.210	0.157	0.117	0.085

Order Multiple=10
50 Volt d.c. X7R, 0805 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
220	0.22	SMD 301-9834● RL	0.040	0.031	0.023	0.020
330	0.33	SMD 301-9846● RL	0.039	0.030	0.023	0.020
470	0.47	SMD 301-9858● RL	0.040	0.031	0.023	0.020
680	0.68	SMD 301-9860● RL	0.040	0.031	0.023	0.020
1000	1	SMD 301-9871● RL	0.040	0.031	0.023	0.020
1500	1.5	SMD 301-9883● RL	0.040	0.031	0.023	0.020
2200	2.2	SMD 301-9895● RL	0.040	0.031	0.023	0.020
3300	3.3	SMD 301-9901● RL	0.040	0.031	0.023	0.020
4700	4.7	SMD 301-9913● RL	0.040	0.031	0.023	0.020
6800	6.8	SMD 301-9925● RL	0.054	0.042	0.029	0.026
10000	10	SMD 301-9937● RL	0.054	0.042	0.031	0.027
15000	15	SMD 718-658● RL	0.042	0.032	0.025	0.023
22000	22	SMD 718-660● RL	0.046	0.035	0.027	0.023
33000	33	SMD 718-671● RL	0.058	0.044	0.031	0.029
47000	47	SMD 718-683● RL	0.057	0.044	0.032	0.028
100000	100	SMD 301-9949● RL	0.111	0.085	0.062	0.056

Order Multiple=10
100 Volt d.c. X7R, 0805 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
1000	1	SMD 136-2553●	0.027	0.025	0.024	0.023
10000	10	SMD 136-2561●	0.027	0.025	0.024	0.023

Order Multiple=10
10 Volt d.c. Y5V, 0805 Case Size

nF	µF	Order Code	Price Each 10+	100+	1K+	10K+
3300	3.3	SMD 318-8863● RL	0.150	0.116	0.085	0.076

Order Multiple=10
16 Volt d.c. Y5V, 0805 Case Size

nF	µF	Order Code	Price Each 10+	100+	1K+	10K+
1500	1.5	SMD 318-8905● RL	0.168	0.130	0.095	0.085
2200	2.2	SMD 318-8917● RL	0.168	0.130	0.095	0.085
4700	4.7	SMD 145-8908●	0.158	0.118	0.088	0.065
1000	1	SMD 145-8906●	0.240	0.182	0.136	0.099

Order Multiple=10
50 Volt d.c. Y5V, 0805 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
100000	100	SMD 136-2552●	0.022	0.021	0.020	0.019
1000000	1000	SMD 145-8907●	0.141	0.106	0.078	0.058

1206 Case Size

Order Multiple=10
50 Volt d.c. NPO, 1206 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
10	0.01	SMD 360-6030● RL	0.067	0.051	0.038	0.035
22	0.022	SMD 360-6041● RL	0.070	0.055	0.040	0.037
33	0.033	SMD 360-6053● RL	0.070	0.055	0.040	0.037
47	0.047	SMD 360-6065● RL	0.070	0.055	0.040	0.037
100	0.1	SMD 360-6077● RL	0.070	0.055	0.040	0.037
220	0.22	SMD 360-6089● RL	0.093	0.071	0.054	0.046
330	0.33	SMD 360-6090● RL	0.093	0.071	0.054	0.046
470	0.47	SMD 360-6107● RL	0.093	0.071	0.054	0.046
1000	1	SMD 360-6119● RL	0.093	0.071	0.054	0.046
1200	1.2	SMD 718-579● RL	0.100	0.078	0.057	0.050

Order Multiple=10
50 Volt d.c. NPO, 1206 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
1500	1.5	SMD 718-580● RL	0.110	0.085	0.062	0.056
1800	1.8	SMD 718-592● RL	0.121	0.094	0.068	0.062
2200	2.2	SMD 718-609● RL	0.134	0.104	0.076	0.068
2700	2.7	SMD 718-610● RL	0.143	0.110	0.081	0.072
3300	3.3	SMD 718-622● RL	0.170	0.131	0.096	0.084

Order Multiple=10
200 Volt d.c. NPO, 1206 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
10	0.01	SMD 491-160● RL	0.137	0.106	0.077	0.069
100	0.1	SMD 491-172● RL	0.100	0.078	0.058	0.051
470	0.47	SMD 491-184● RL	0.150	0.116	0.084	0.075

Order Multiple=10
500 Volt d.c. NPO, 1206 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
10	0.01	SMD 491-226● RL	0.064	0.049	0.036	0.032
100	0.1	SMD 491-238● RL	0.166	0.127	0.094	0.081

Order Multiple=10
6.3 Volt d.c. X5R, 1206 Case Size

nF	µF	Order Code	Price Each 10+	100+	1K+	10K+
22000	22	SMD 145-8914●	0.54	0.40	0.29	0.22

Order Multiple=10
10 Volt d.c. X7R, 1206 Case Size

nF	µF	Order Code	Price Each 10+	100+	1K+	10K+
1500	1.5	SMD 335-2080● RL	0.210	0.158	0.117	0.103
2200	2.2	SMD 335-2092● RL	0.260	0.193	0.142	0.126

Order Multiple=10
16 Volt d.c. X7R, 1206 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
220000	220	SMD 644-250● RL	0.149	0.115	0.084	0.075
330000	330	SMD 644-262● RL	0.230	0.171	0.126	0.111
470000	470	SMD 644-274● RL	0.330	0.250	0.184	0.162
680000	680	SMD 644-286● RL	0.410	0.320	0.240	0.210
1000000	1000	SMD 318-8966● RL	0.186	0.143	0.106	0.093
10000000	10000	SMD 145-8910●	0.480	0.360	0.270	0.199

Order Multiple=10
25 Volt d.c. X7R, 1206 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
100000	100	SMD 644-316● RL	0.059	0.046	0.035	0.030
120000	120	SMD 644-328● RL	0.107	0.082	0.061	0.054
150000	150	SMD 644-330● RL	0.101	0.078	0.058	0.051
180000	180	SMD 644-341● RL	0.109	0.084	0.062	0.055
220000	220	SMD 644-353● RL	0.174	0.135	0.098	0.086
2200000	2200	SMD 145-8911●	0.260	0.200	0.146	0.105
4700000	4700	SMD 145-8912●	0.310	0.230	0.172	0.126

Order Multiple=10
50 Volt d.c. X7R, 1206 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
1000	1	SMD 136-2558●	0.040	0.038	0.035	0.033
2200	2.2	SMD 360-6120● RL	0.074	0.055	0.041	0.037
3300	3.3	SMD 360-6132● RL	0.072	0.054	0.040	0.036
4700	4.7	SMD 360-6144● RL	0.074	0.055	0.041	0.037
10000	10	SMD 360-6156● RL	0.075	0.057	0.042	0.037
22000	22	SMD 360-6168● RL	0.058	0.043	0.032	0.029
33000	33	SMD 360-6170● RL	0.070	0.055	0.039	0.036
47000	47	SMD 360-6181● RL	0.066	0.051	0.036	0.033
68000	68	SMD 718-634● RL	0.079	0.060	0.044	0.039
100000	100	SMD 718-646● RL	0.138	0.107	0.077	0.069
220000	220	SMD 136-2557●	0.075	0.071	0.066	0.063
1000000	1000	SMD 145-8913●	0.179	0.135	0.100	0.073

Order Multiple=10
100 Volt d.c. X7R, 1206 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
100000	100	SMD 136-2554●	0.081	0.077	0.072	0.069

Order Multiple=10
200 Volt d.c. X7R, 1206 Case Size

pF	nF	Order Code	Price Each 10+	100+	1K+	10K+
1000	1	SMD 491-196● RL	0.096	0.074	0.055	0.047
10000	10	SMD 491-202● RL	0.107	0.081	0.060	0.054
22000	22	SMD 491-214● RL	0.135	0.105	0.076	0.068

Order Multiple=10
10 Volt d.c. Y5V, 1206 Case Size

nF	µF	Order Code	Price Each 10+	100+	1K+	10K+
10000	10	SMD 318-8954● RL	0.330	0.260	0.185	0.163

Order Multiple=10
16 Volt d.c. Y5V, 1206 Case Size

nF	µF	Order Code	Price Each 10+	100+	1K+	10K+
1000	1	SMD 318-8978● RL	0.129	0.099	0.073	0.065
1500	1.5	SMD 318-8991● RL	0.168	0.130	0.095	0.084
2200	2.2	SMD 318-9016● RL	0.179	0.138	0.103	0.091
3300	3.3	SMD 318-9030● RL	0.220	0.162	0.120	0.106
4700	4.7	SMD 318-9053● RL	0.240	0.179	0.133	0.116
22000	22	NEW SMD 145-8916●	0.410	0.310	0.230	0.167

RL Re-reeling available

Multilayer Ceramic - continued

0201 Case Size - continued

CG, 2R Series - continued

Order Multiple=10
25 Volt d.c. Y5V, 1206 Case Size

nF	µF	Order Code	Price Each 10+	100+	1K+	10K+
2200	2.2	SMD 145-8918●	0.220	0.162	0.121	0.089
10000	10	SMD 145-8919●	0.350	0.260	0.199	0.142

Order Multiple=10
50 Volt d.c. Y5V, 1206 Case Size

nF	µF	Order Code	Price Each 10+	100+	1K+	10K+
1000	1	SMD 145-8915●	0.141	0.106	0.078	0.058

1210 Case Size

Order Multiple=10
16 Volt d.c. X5R, 1210 Case Size

nF	µF	Order Code	Price Each 10+	100+	1K+	10K+
22000	22	SMD 145-8921●	1.26	0.94	0.70	0.52

Order Multiple=10
16 Volt d.c. Y5V, 1210 Case Size

nF	µF	Order Code	Price Each 10+	100+	1K+	10K+
22000	22	SMD 145-8923●	0.460	0.350	0.260	0.188

208448

Order Multiple=10
25 Volt d.c. Y5V, 1210 Case Size

nF	µF	Order Code	Price Each 10+	100+	1K+	10K+
10000	10	SMD 145-8922●	0.340	0.250	0.188	0.136

Surface Mount – Nickel Barrier

CG, 2R Series

Phycomp YAGEO

FULL REELS SMD

- Multilayer ceramic chip capacitors supplied on full reels

0402 Case Size

Tolerance <4.7pF ±0.25pF, 5.8pF to 8.2pF ±0.5pF, >10pF ±5%

50 Volt d.c. NPO, 0402 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
1	0.001	10000	SMD 136-2479●	52.99	48.52
1.5	0.0015	10000	SMD 136-2516●	52.99	48.52
10	0.01	10000	SMD 136-2438●	37.13	33.99
15	0.015	10000	SMD 136-2444●	37.13	33.99
22	0.022	10000	SMD 136-2481●	37.13	33.99
33	0.033	10000	SMD 136-2482●	42.09	38.53
47	0.047	10000	SMD 136-2456●	42.09	38.53
68	0.068	10000	SMD 136-2457●	41.47	37.96
100	0.1	10000	SMD 136-2433●	37.13	33.99
220	0.22	10000	SMD 136-2497●	52.99	48.52

16 Volt d.c. X7R, 0402 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
10000	10	10000	SMD 136-2419●	56.30	51.54
15000	15	10000	SMD 136-2498●	63.77	58.39
22000	22	10000	SMD 136-2459●	62.83	57.53

50 Volt d.c. X7R, 0402 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
100	0.1	10000	SMD 136-2499●	84.22	77.11
470	0.47	10000	SMD 136-2453●	52.99	48.52
1000	1	10000	SMD 136-2424●	46.70	42.75
2200	2.2	10000	SMD 136-2484●	52.99	48.52
3300	3.3	10000	SMD 136-2517●	52.99	48.52
100000	100	10000	SMD 136-2420●	63.77	59.68

6.3 Volt d.c. X5R, 0402 Case Size

nF	µF	Reel Qty	Order Code	Price Per Reel 1+	3+
1000	1	10000	SMD 136-2485●	165.24	151.28

16 Volt d.c. Y5V, 0402 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
10000	10	10000	SMD 136-2518●	61.13	55.98
47000	47	10000	SMD 136-2445●	53.87	49.32
68000	68	10000	SMD 136-2519●	61.13	55.98
100000	100	10000	SMD 136-2417●	63.45	58.09

0603 Case Size

Tolerance <4.7pF ±0.25pF, 5.8pF to 8.2pF ±0.5pF, >10pF ±5%

50 Volt d.c. NPO, 0603 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
1	0.001	4000	SMD 136-2491●	36.47	35.53
2.2	0.0022	4000	SMD 136-2500●	21.55	19.73
3.3	0.0033	4000	SMD 136-2486●	21.55	19.73
4.7	0.0047	4000	SMD 136-2461●	21.55	19.73
5.6	0.0056	4000	SMD 136-2464●	21.55	19.73
6.8	0.0068	4000	SMD 136-2439●	21.55	19.73
8.2	0.0082	4000	SMD 136-2492●	23.49	21.51
10	0.01	4000	SMD 136-2462●	21.55	19.73
12	0.012	4000	SMD 136-2449●	21.55	19.73
15	0.015	4000	SMD 136-2431●	21.55	19.73
18	0.018	4000	SMD 136-2502●	21.55	19.73
22	0.022	4000	SMD 136-2450●	21.55	19.73
27	0.027	4000	SMD 136-2435●	22.04	20.17
33	0.033	4000	SMD 136-2494●	22.04	20.17
39	0.039	4000	SMD 136-2470●	22.04	20.17
47	0.047	4000	SMD 136-2541●	22.04	20.17
56	0.056	4000	SMD 136-2527●	22.47	20.57
68	0.068	4000	SMD 136-2436●	23.00	21.05
82	0.082	4000	SMD 136-2472●	23.49	21.51
100	0.1	4000	SMD 136-2465●	23.97	21.95
120	0.12	4000	SMD 136-2493●	28.09	25.71
150	0.15	4000	SMD 136-2469●	24.96	22.84
180	0.18	4000	SMD 136-2466●	23.00	21.05
390	0.39	4000	SMD 136-2504●	23.37	21.38

10 Volt d.c. X7R, 0603 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
220000	220	4000	SMD 136-2467●	86.28	78.99

16 Volt d.c. X7R, 0603 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
47000	47	4000	SMD 136-2523●	22.52	20.62
100000	100	4000	SMD 136-2415●	24.45	22.39

25 Volt d.c. X7R, 0603 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
10000	10	4000	SMD 136-2425●	15.34	14.40

50 Volt d.c. X7R, 0603 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
100	0.1	4000	SMD 136-2511●	21.55	19.73
120	0.12	4000	SMD 136-2505●	21.19	19.41
150	0.15	4000	SMD 136-2473●	21.55	19.73
470	0.47	4000	SMD 136-2487●	15.72	14.39
1000	1	4000	SMD 136-2437●	21.55	19.73
1500	1.5	4000	SMD 136-2455●	22.52	20.62
1800	1.8	4000	SMD 136-2543●	21.19	19.41
2200	2.2	4000	SMD 136-2428●	23.97	21.95
3900	3.9	4000	SMD 136-2535●	21.19	19.41
5600	5.6	4000	SMD 136-2506●	18.68	17.09
6800	6.8	4000	SMD 136-2488●	23.97	21.95
10000	10	4000	SMD 136-2418●	13.89	12.72
15000	15	4000	SMD 136-2542●	21.19	19.76
22000	22	4000	SMD 136-2474●	18.68	17.09

6.3 Volt d.c. X5R, 0603 Case Size

nF	µF	Reel Qty	Order Code	Price Per Reel 1+	3+
4700	4.7	4000	SMD 136-2503●	176.26	161.36

10 Volt d.c. X5R, 0603 Case Size

nF	µF	Reel Qty	Order Code	Price Per Reel 1+	3+
1000	1	4000	SMD 136-2430●	66.10	60.51

6.3 Volt d.c. Y5V, 0603 Case Size

nF	µF	Reel Qty	Order Code	Price Per Reel 1+	3+
4700	4.7	4000	SMD 136-2548●	110.08	100.77

10 Volt d.c. Y5V, 0603 Case Size

nF	µF	Reel Qty	Order Code	Price Per Reel 1+	3+
1000	1	4000	SMD 136-2447●	43.15	40.34

16 Volt d.c. Y5V, 0603 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
220000	220	4000	SMD 136-2397●	26.31	24.13
470000	470	4000	SMD 136-2426●	37.37	34.21

50 Volt d.c. Y5V, 0603 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
100000	100	4000	SMD 136-2414●	23.49	21.82

0612 Case Size

50 Volt d.c. NPO, 0612 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
100	0.1	4000	SMD 136-2546●	186.25	170.50
220	0.22	4000	SMD 136-2547●	196.04	179.46

16 Volt d.c. X7R, 0612 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
100000	100	4000	SMD 136-2538●	269.35	246.59

25 Volt d.c. X7R, 0612 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
47000	47	4000	SMD 136-2515●	224.72	205.73

RL Re-reeling available

0805 Case Size

50 Volt d.c. NPO, 0805 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
100	0.1	4000	SMD-136-2475●	38.02	34.82
180	0.18	4000	SMD-136-2544●	37.46	34.30
270	0.27	4000	SMD-136-2512●	44.36	40.61
330	0.33	4000	SMD-136-2514●	37.37	34.21
390	0.39	4000	SMD-136-2476●	42.35	38.77
470	0.47	4000	SMD-136-2507●	37.37	34.21
560	0.56	4000	SMD-136-2528●	42.35	38.77
680	0.68	4000	SMD-136-2477●	40.28	36.87
820	0.82	4000	SMD-136-2508●	45.60	41.76

10 Volt d.c. X7R, 0805 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
1000	1	3000	SMD-136-2443●	29.74	27.79
2200	2.2	3000	SMD-136-2490●	95.37	89.22

16 Volt d.c. X7R, 0805 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
100000	100	4000	SMD-136-2427●	36.35	33.29
220000	220	4000	SMD-136-2521●	103.98	95.20
330000	330	3000	SMD-145-6308●	66.79	61.15
470000	470	3000	SMD-145-6309●	81.59	74.69

25 Volt d.c. X7R, 0805 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
100000	100	4000	SMD-136-2421●	38.56	35.29

50 Volt d.c. X7R, 0805 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
220	0.22	4000	SMD-136-2468●	29.87	27.98
1000	1	4000	SMD-136-2509●	29.87	27.35
1500	1.5	4000	SMD-136-2536●	29.87	27.35
2200	2.2	4000	SMD-136-2510●	29.87	27.98
3300	3.3	4000	SMD-136-2531●	33.79	30.93
4700	4.7	4000	SMD-136-2489●	29.87	27.35
10000	10	4000	SMD-136-2440●	33.54	31.28
22000	22	4000	SMD-136-2524●	29.69	27.18
100000	100	4000	SMD-136-2416●	40.76	37.32

10 Volt d.c. X5R, 0805 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
4700	4.7	3000	SMD-136-2526●	110.05	100.75
10000	10	3000	SMD-136-2429●	163.90	150.06

10 Volt d.c. Y5V, 0805 Case Size

nF	uF	Reel Qty	Order Code	Price Per Reel 1+	3+
10000	10	3000	SMD-136-2539●	112.36	102.86

16 Volt d.c. Y5V, 0805 Case Size

nF	µF	Reel Qty	Order Code	Price Per Reel 1+	3+
1000	1	4000	SMD-145-6307●	86.27	80.68

1206 Case Size

50 Volt d.c. NPO, 1206 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
100	0.1	4000	SMD-136-2532●	52.13	47.73
470	0.47	4000	SMD-136-2522●	67.90	62.16
1000	1	4000	SMD-136-2533●	67.90	62.16
2700	2.7	4000	SMD-136-2545●	109.72	100.44

500 Volt d.c. NPO, 1206 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
100	0.1	4000	SMD-136-2442●	120.85	110.63

16 Volt d.c. X7R, 1206 Case Size

nF	µF	Reel Qty	Order Code	Price Per Reel 1+	3+
1000	1	3000	SMD-136-2478●	94.15	86.18

25 Volt d.c. X7R, 1206 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
100000	100	4000	SMD-136-2432●†	37.37	34.21

50 Volt d.c. X7R, 1206 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
10000	10	4000	SMD-136-2520●	53.94	49.38
22000	22	4000	SMD-136-2534●	53.24	48.74
100000	100	4000	SMD-136-2423●	59.49	54.46

200 Volt d.c. X7R, 1206 Case Size

pF	nF	Reel Qty	Order Code	Price Per Reel 1+	3+
1000	1	4000	SMD-136-2448●	71.38	65.36
10000	10	4000	SMD-136-2452●	79.05	73.67
22000	22	3000	SMD-136-2496●	75.13	68.77

25 Volt d.c. X5R, 1210 Case Size

nF	µF	Reel Qty	Order Code	Price Per Reel 1+	3+
10000	10	2000	SMD-145-6311●	337.37	308.85

475228

10 Volt d.c. Y5V, 1206 Case Size

nF	µF	Reel Qty	Order Code	Price Per Reel 1+	3+
10000	10	2500	SMD-136-2454●	225.82	220.03
22000	22	2000	SMD-145-6310●	145.40	133.12

FREE Re-reeling service



Only buy what you need and improve assembly efficiency. Look for the RL logo or find out more: **www.farnell.co.uk / 08447 11 11 11**

0402 – Nickel Barrier Kit

Phycomp YAGEO



- 0402 case size multilayer ceramic capacitor kit
- 3 dielectrics
- Sturdy A4 binder

SMD

Kit contains 95 each of the following:

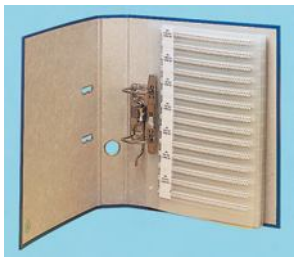
NPO 50V	0.47pF, 0.68pF, 1.0pF, 1.5pF, 2.2pF, 3.3pF, 4.7pF, 6.8pF, 10pF, 15pF, 22pF, 33pF, 47pF, 68pF, 100pF, 150pF, 220pF
X7R 16V	6.8nF, 10nF, 15nF, 22nF
X7R 25V	4.7nF
X7R 50V	100pF, 150pF, 220pF, 330pF, 470pF, 680pF, 1.0nF, 1.5nF, 2.2nF, 3.3nF
Y5V 16V	10nF, 15nF, 22nF, 33nF, 47nF, 68nF, 100nF

208565

	Order Code	Price Each 1+	5+	10+
0402 Kit	SMD-302-0150●	330.36	277.51	263.06

0603 – Nickel Barrier Kit

Phycomp YAGEO





- 0603 case size multilayer ceramic
- capacitor kit
- 3 dielectrics
- Sturdy A4 binder

Kit contains 48 each of the following:

NPO 50V	0.47pF, 0.68pF, 1.0pF, 1.5pF, 2.2pF, 3.3pF, 4.7pF, 6.8pF, 10pF, 15pF, 22pF, 33pF, 47pF, 68pF, 100pF, 150pF, 220pF, 330pF, 470pF, 680pF
X7R 50V	100pF, 150pF, 220pF, 330pF, 470pF, 680pF, 1nF, 1.5nF, 2.2nF, 3.3nF, 4.7nF, 6.8nF, 10nF, 33nF, 47nF, 68nF, 100nF
X7R 25V	15nF, 22nF
Y5V 16V	150nF, 220nF
Y5V 50V	10nF, 15nF, 22nF, 33nF, 47nF, 68nF, 100nF

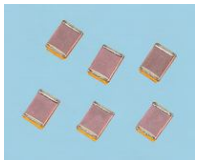
208510

	Order Code	Price Each 1+	5+	10+
0603 Kit	SMC-157-922●	330.36	277.51	263.06

Surface Mount – Nickel Barrier

High Voltage - CG Series

Phycomp YAGEO



- High voltage multilayer ceramic chip capacitors
- High capacitance per unit volume
- 1206, 1808 and 1812 case sizes
- Nickel barrier terminations
- Conform to **IEC 384-10**

1206 Case Size L=3.2 ± 0.15, W=1.6 ± 0.15, H=1.3 max, P=0.75 max
1808 Case Size L=4.5 ± 0.2, W=2.0 ± 0.2, H=1.3 max, P=0.75 max
1812 Case Size L=4.5 ± 0.2, W=3.2 ± 0.2, H=0.51 to 1.3, P=0.25 to 0.75

Performance characteristics	**NPO**
Operating temperature	-55°C to +125°C
Tolerance	±5%
Insulance resistance	100000MΩ
Dielectric strength for 1 minute	2VR (1000V), 1.2VR (3000V)

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**

RL Re-reeling available

Farnell

Multilayer Ceramic - continued

Surface Mount – Nickel Barrier - continued

High Voltage - CG Series - continued

1206 Case Size

pF	nF	Reel Qty	Order Code	Price Each 1+	100+	1K+	10K+
1000 Volt d.c. NPO, 1206 Case Size							
120	0.12	3000	SMD 335-1828● RL	0.340	0.260	0.220	0.181
180	0.18	3000	SMD 335-1830● RL	0.420	0.340	0.280	0.250
220	0.22	3000	SMD 335-1841● RL	0.330	0.260	0.210	0.188
330	0.33	3000	SMD 335-1853● RL	0.570	0.450	0.360	0.320

1808 Case Size

pF	nF	Reel Qty	Order Code	Price Each 1+	100+	1K+	10K+
3000 Volt d.c. NPO, 1808 Case Size							
10	0.01	1000	SMD 301-9950● RL	2.00	1.76	1.59	1.40
15	0.015	1000	SMD 301-9962● RL	2.50	2.20	1.99	1.75
22	0.022	1000	SMD 301-9974● RL	2.05	1.80	1.64	1.44
33	0.033	1000	SMD 301-9986● RL	2.43	2.13	1.90	1.69
47	0.047	1000	SMD 301-9998● RL	1.54	1.35	1.22	1.08

1812 Case Size

pF	nF	Reel Qty	Order Code	Price Each 1+	100+	1K+	10K+
1000 Volt d.c. NPO, 1812 Case Size							
100	0.1	2000	SMD 302-0009● RL	1.59	1.39	1.28	1.10
150	0.15	2000	SMD 302-0010● RL	1.63	1.45	1.31	1.14
220	0.22	2000	SMD 302-0022● RL	1.79	1.56	1.41	1.23
330	0.33	2000	SMD 302-0034● RL	1.84	1.60	1.44	1.27
470	0.47	2000	SMD 302-0046● RL	1.93	1.68	1.50	1.33
680	0.68	2000	SMD 302-0058● RL	1.84	1.60	1.44	1.27
1000	1	1500	SMD 302-0060● RL	1.94	1.68	1.50	1.33
1500	1.5	1500	SMD 302-0071● RL	3.00	2.66	2.39	2.07

208563

pF	nF	Reel Qty	Order Code	Price Each 1+	100+	1K+	10K+
3000 Volt d.c. NPO, 1812 Case Size							
10	0.01	1000	SMD 302-0083● RL	3.09	2.75	2.44	2.18
15	0.015	1000	SMD 302-0095● RL	2.58	2.29	2.04	1.83
22	0.022	1000	SMD 302-0101● RL	3.23	2.87	2.55	2.28
33	0.033	1000	SMD 302-0113● RL	4.06	3.57	3.21	2.81
47	0.047	1000	SMD 302-0125● RL	4.07	3.58	3.23	2.84
68	0.068	1000	SMD 302-0137● RL	4.86	4.29	3.87	3.39
100	0.1	1000	SMD 302-0149● RL	5.12	4.48	4.06	3.53

Range Extension of High Voltage MLCCs from Phycomp

0603 Case Size

pF	nF	Order Code	Price Each 1+	100+	1K+	4K+
200 Volt d.c. NP0, 0603 Case Size						
10	0.01	NEW SMD 128-4110● RL	0.022	0.021	0.019	0.016
22	0.022	NEW SMD 128-4112● RL	0.022	0.021	0.019	0.016
47	0.047	NEW SMD 128-4116● RL	0.022	0.021	0.019	0.016
100	0.1	NEW SMD 128-4111● RL	0.022	0.021	0.019	0.016
220	0.22	NEW SMD 128-4114● RL	0.026	0.024	0.022	0.020
470	0.47	NEW SMD 128-4117● RL	0.030	0.027	0.025	0.023
100 Volt d.c. X7R, 0603 Case Size						
1000	1	NEW SMD 128-4118● RL	0.026	0.024	0.022	0.020
2200	2.2	NEW SMD 128-4120● RL	0.026	0.024	0.022	0.020
4700	4.7	NEW SMD 128-4121● RL	0.026	0.024	0.022	0.020
10000	10	NEW SMD 128-4119● RL	0.026	0.024	0.022	0.020

0805 Case Size

pF	nF	Order Code	Price Each 1+	100+	1K+	4K+
500 Volt d.c. NP0, 0805 Case Size						
10	0.01	NEW SMD 128-4123● RL	0.080	0.074	0.066	0.060
22	0.022	NEW SMD 128-4126● RL	0.080	0.074	0.066	0.060
47	0.047	NEW SMD 128-4128● RL	0.080	0.074	0.066	0.060
100	0.1	NEW SMD 128-4124● RL	0.080	0.074	0.066	0.060
220	0.22	NEW SMD 128-4127● RL	0.095	0.085	0.078	0.071
470	0.47	NEW SMD 128-4129● RL	0.104	0.095	0.085	0.076
1000	1	NEW SMD 128-4122● RL	0.116	0.106	0.095	0.085
500 Volt d.c. X7R, 0805 Case Size						
2200	2.2	NEW SMD 128-4131● RL	0.086	0.078	0.071	0.065
4700	4.7	NEW SMD 128-4132● RL	0.107	0.098	0.088	0.079
10000	10	NEW SMD 128-4130● RL	0.137	0.127	0.114	0.103

1206 Case Size

pF	nF	Order Code	Price Each 1+	100+	1K+	4K+
200 Volt d.c. NP0, 1206 Case Size						
22	0.022	NEW SMD 128-4138● RL	0.185	0.170	0.152	0.137
47	0.047	NEW SMD 128-4140● RL	0.180	0.165	0.148	0.134
220	0.22	NEW SMD 128-4139● RL	0.180	0.165	0.148	0.134
500 Volt d.c. NP0, 1206 Case Size						
22	0.022	NEW SMD 128-4141● RL	0.179	0.164	0.148	0.134
220	0.22	NEW SMD 128-4142● RL	0.200	0.186	0.168	0.151

pF	nF	Order Code	Price Each 1+	100+	1K+	4K+
2000 Volt d.c. NP0, 1206 Case Size						
47	0.047	NEW SMD 128-4136● RL	0.500	0.460	0.420	0.380
100	0.1	NEW SMD 128-4133● RL	0.560	0.520	0.460	0.420
220	0.22	NEW SMD 128-4135● RL	0.640	0.580	0.530	0.470
200 Volt d.c. X7R, 1206 Case Size						
2200	2.2	NEW SMD 128-4151● RL	0.116	0.106	0.094	0.083
47000	47	NEW SMD 128-4144● RL	0.191	0.176	0.159	0.142
1000 Volt d.c. X7R, 1206 Case Size						
1000	1	NEW SMD 128-4145● RL	0.310	0.280	0.260	0.230
2200	2.2	NEW SMD 128-4147● RL	0.320	0.290	0.260	0.240
4700	4.7	NEW SMD 128-4148● RL	0.320	0.290	0.260	0.240
10000	10	NEW SMD 128-4146● RL	0.310	0.280	0.260	0.230

1210 Case Size

pF	nF	Order Code	Price Each 1+	100+	1K+	3K+
1000 Volt d.c. NP0, 1210 Case Size						
1000	1	NEW SMD 128-4153● RL	1.19	1.10	0.99	0.89
2000 Volt d.c. NP0, 1210 Case Size						
470	0.47	NEW SMD 128-4156● RL	0.76	0.70	0.63	0.57
200 Volt d.c. X7R, 1210 Case Size						
100000	100	NEW SMD 128-4158● RL	0.43	0.39	0.36	0.33
1000 Volt d.c. X7R, 1210 Case Size						
1000	1	NEW SMD 128-4159● RL	0.38	0.35	0.32	0.28
22000	22	NEW SMD 128-4160● RL	0.47	0.44	0.40	0.36

1808 Case Size

pF	nF	Order Code	Price Each 1+	100+	1K+	1K5+
3000 Volt d.c. NP0, 1808 Case Size						
220	0.22	NEW SMD 128-4164● RL	1.49	1.37	1.24	1.11
1000 Volt d.c. X7R, 1808 Case Size						
10000	10	NEW SMD 128-4165● RL	0.96	0.88	0.79	0.71
3000 Volt d.c. X7R, 1808 Case Size						
1000	1	NEW SMD 128-4166● RL	0.83	0.77	0.69	0.62

1812 Case Size

425191

pF	nF	Order Code	Price Each 1+	100+	1K+	2K+
2000 Volt d.c. NP0, 1812 Case Size						
1000	1	NEW SMD 128-4167● RL	1.59	1.45	1.32	1.18
3000 Volt d.c. NP0, 1812 Case Size						
220	0.22	NEW SMD 128-4168● RL	2.29	2.10	1.89	1.71
470	0.47	NEW SMD 128-4169● RL	1.96	1.80	1.62	1.46
4000 Volt d.c. NP0, 1812 Case Size						
10	0.01	NEW SMD 128-4170● RL	1.97	1.80	1.63	1.46
200 Volt d.c. X7R, 1812 Case Size						
220000	220	NEW SMD 128-4173● RL	0.64	0.59	0.53	0.47
500 Volt d.c. X7R, 1812 Case Size						
100000	100	NEW SMD 128-4175● RL	0.66	0.60	0.54	0.48
2000 Volt d.c. X7R, 1812 Case Size						
1000	1	NEW SMD 128-4176● RL	0.83	0.76	0.68	0.62
2200	2.2	NEW SMD 128-4178● RL	1.25	1.15	1.04	0.92
4700	4.7	NEW SMD 128-4179● RL	1.25	1.15	1.04	0.92
10000	10	NEW SMD 128-4177● RL	1.25	1.15	1.04	0.92

FOR MORE INFORMATION & CHOICE

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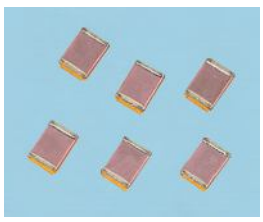
Capacitor arrays

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Ceramic Chip Capacitors

KEMET CHARGED.



- Multilayer ceramic chip capacitors
- 0402, 0603, 0805, 1206 and 1210
- Standard end metalization: Tin-plate over nickel barrier

SMD

	NPO	X7R
Operating Temperature	-55°C to +125°C	-55°C to +125°C
Temperature coefficient	±30%	±15%
Tolerance	±5%	±10%

RL Re-reeling available

Farnell

0402 Case Size

Order Multiple=10
16 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	2K+
15000	15	NEW SMD 157-2612●	0.037	0.019	0.012	0.009	0.007
33000	33	SMD 141-4591●	0.038	0.019	0.012	0.009	0.007
68000	68	NEW SMD 157-2613●	0.042	0.022	0.014	0.010	0.008

Order Multiple=10
25 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	2K+
47000	47	SMD 141-4595●	0.024	0.012	0.008	0.006	0.005

Order Multiple=10
50 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	2K+
470	0.47	SMD 141-4593●	0.011	0.006	0.004	0.003	0.002
1000	1	SMD 141-4573●	0.010	0.005	0.004	0.003	0.002
1500	1.5	SMD 141-4579●	0.018	0.008	0.006	0.004	0.003
2200	2.2	SMD 141-4582●	0.012	0.006	0.004	0.003	0.002
2700	2.7	SMD 141-4587●	0.020	0.010	0.006	0.005	0.004
3300	3.3	SMD 141-4590●	0.018	0.008	0.006	0.004	0.003
4700	4.7	SMD 141-4594●	0.012	0.006	0.004	0.003	0.002
6800	6.8	SMD 141-4597●	0.035	0.018	0.011	0.008	0.007
10000	10	SMD 141-4575●	0.012	0.006	0.004	0.003	0.002
22000	22	SMD 141-4583●	0.024	0.011	0.008	0.006	0.005

Order Multiple=10
25 Volt d.c. NPO

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	2K+
470	0.47	SMD 145-7724●	0.100	0.049	0.033	0.025	0.020
1000	1	SMD 145-7725●	0.100	0.049	0.033	0.025	0.020

Order Multiple=10
50 Volt d.c. NPO

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	2K+
10	0.01	SMD 141-4571●	0.012	0.006	0.004	0.003	0.002
12	0.012	SMD 141-4576●	0.020	0.010	0.006	0.005	0.004
15	0.015	SMD 141-4577●	0.012	0.006	0.004	0.003	0.002
18	0.018	NEW SMD 157-2614●	0.018	0.009	0.006	0.004	0.003
22	0.022	SMD 141-4580●	0.012	0.006	0.004	0.003	0.002
27	0.027	SMD 141-4584●	0.012	0.006	0.004	0.003	0.002
33	0.033	SMD 141-4588●	0.012	0.006	0.004	0.003	0.002
39	0.039	NEW SMD 157-2615●	0.018	0.009	0.006	0.004	0.003
47	0.047	SMD 141-4592●	0.012	0.006	0.004	0.003	0.002
56	0.056	NEW SMD 157-2616●	0.018	0.009	0.006	0.004	0.003
68	0.068	SMD 141-4596●	0.020	0.010	0.006	0.005	0.004
82	0.082	NEW SMD 157-2617●	0.029	0.014	0.009	0.007	0.006
100	0.1	SMD 141-4572●	0.012	0.006	0.004	0.003	0.002
120	0.12	NEW SMD 157-2618●	0.014	0.007	0.005	0.004	0.003
150	0.15	SMD 141-4578●	0.014	0.007	0.005	0.004	0.003
180	0.18	NEW SMD 157-2619●	0.020	0.009	0.006	0.005	0.004
220	0.22	SMD 141-4581●	0.019	0.008	0.006	0.004	0.003
270	0.27	SMD 141-4585●	0.019	0.009	0.006	0.005	0.004
330	0.33	SMD 141-4589●	0.019	0.009	0.006	0.005	0.004
560	0.56	NEW SMD 157-2620●	0.030	0.014	0.010	0.007	0.006

0603 Case Size

Order Multiple=10
16 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
100000	100	SMD 141-4610●	0.014	0.007	0.005	0.004	0.003
330000	330	SMD 141-4637●	0.157	0.078	0.053	0.039	0.031
470000	470	SMD 141-4644●	0.171	0.085	0.057	0.042	0.034

Order Multiple=10
25 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
220000	220	SMD 141-4626●	0.049	0.025	0.016	0.012	0.010

Order Multiple=10
50 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
1000	1	SMD 141-4608●	0.013	0.007	0.005	0.004	0.003
1500	1.5	SMD 141-4617●	0.020	0.010	0.006	0.005	0.004
2200	2.2	SMD 141-4624●	0.016	0.008	0.005	0.004	0.003
2700	2.7	SMD 141-4631●	0.020	0.010	0.006	0.005	0.004
3300	3.3	SMD 141-4635●	0.020	0.010	0.006	0.005	0.004
4700	4.7	SMD 141-4642●	0.016	0.008	0.005	0.004	0.003
6800	6.8	SMD 141-4649●	0.019	0.009	0.006	0.005	0.004
10000	10	SMD 141-4609●	0.013	0.007	0.005	0.004	0.003
15000	15	SMD 141-4618●	0.024	0.012	0.008	0.006	0.005
22000	22	SMD 141-4625●	0.027	0.013	0.009	0.007	0.005
27000	27	SMD 141-4632●	0.049	0.025	0.016	0.012	0.010
33000	33	SMD 141-4636●	0.031	0.015	0.010	0.008	0.006
47000	47	SMD 141-4643●	0.034	0.018	0.011	0.008	0.007
68000	68	SMD 141-4650●	0.034	0.018	0.011	0.008	0.007
150000	150	SMD 141-4619●	0.048	0.024	0.016	0.012	0.009

Order Multiple=10
100 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
1000	1	SMD 141-4606●	0.030	0.014	0.010	0.007	0.006

Order Multiple=10
200 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
1000	1	SMD 141-4607●	0.034	0.018	0.011	0.008	0.007

Order Multiple=10
25 Volt d.c. NPO

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	2K+
2200	2.2	SMD 145-7726●	0.165	0.082	0.055	0.041	0.033
4700	4.7	SMD 145-7727●	0.170	0.084	0.057	0.042	0.034
10000	10	SMD 145-7729●	0.191	0.095	0.064	0.047	0.038

Order Multiple=10
50 Volt d.c. NPO

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
1	0.001	*SMD 141-4611●	0.033	0.016	0.011	0.008	0.006
4.7	0.0047	*SMD 141-4645●	0.033	0.016	0.011	0.008	0.006
6.8	0.0068	*SMD 141-4651●	0.053	0.027	0.018	0.013	0.010
10	0.01	*SMD 141-4599●	0.029	0.014	0.009	0.007	0.006
10	0.01	SMD 141-4601●	0.016	0.008	0.005	0.004	0.003
12	0.012	SMD 141-4612●	0.020	0.010	0.006	0.005	0.004
15	0.015	SMD 141-4614●	0.020	0.010	0.006	0.005	0.004
18	0.018	SMD 141-4620●	0.020	0.010	0.006	0.005	0.004
22	0.022	SMD 141-4622●	0.020	0.010	0.006	0.005	0.004
27	0.027	SMD 141-4627●	0.020	0.010	0.006	0.005	0.004
33	0.033	SMD 141-4633●	0.019	0.009	0.006	0.005	0.004
39	0.039	NEW SMD 157-2626●	0.027	0.013	0.009	0.007	0.005
47	0.047	SMD 141-4639●	0.019	0.009	0.006	0.005	0.004
56	0.056	NEW SMD 157-2627●	0.027	0.013	0.009	0.007	0.005
68	0.068	SMD 141-4647●	0.020	0.010	0.006	0.005	0.004
120	0.12	SMD 141-4613●	0.022	0.010	0.007	0.005	0.004
150	0.15	SMD 141-4615●	0.024	0.011	0.008	0.006	0.005
180	0.18	SMD 141-4621●	0.031	0.015	0.010	0.007	0.006
100	0.1	SMD 141-4603●	0.014	0.007	0.005	0.004	0.003
220	0.22	SMD 141-4623●	0.027	0.013	0.009	0.006	0.005
270	0.27	SMD 141-4629●	0.026	0.012	0.008	0.006	0.005
330	0.33	SMD 141-4634●	0.030	0.014	0.009	0.007	0.006
390	0.39	SMD 141-4638●	0.033	0.016	0.011	0.008	0.006
470	0.47	SMD 141-4640●	0.030	0.014	0.010	0.007	0.006
560	0.56	SMD 141-4646●	0.037	0.019	0.012	0.009	0.007
680	0.68	SMD 141-4648●	0.032	0.016	0.010	0.008	0.006
1000	1	SMD 141-4605●	0.031	0.015	0.010	0.008	0.006

* Tolerance = ±0.25%

Order Multiple=10
100 Volt d.c. NPO

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
10	0.01	SMD 141-4600●	0.026	0.012	0.008	0.006	0.005
100	0.1	SMD 141-4602●	0.020	0.010	0.006	0.005	0.004

0805 Case Size

Order Multiple=10
25 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	2K5+
330000	330	SMD 141-4691●	0.157	0.078	0.053	0.039	0.031

Order Multiple=10
50 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
220	0.22	SMD 141-4680●	0.027	0.013	0.009	0.007	0.005
1000	1	SMD 141-4660●	0.020	0.009	0.006	0.005	0.004
1500	1.5	SMD 141-4670●	0.030	0.014	0.010	0.007	0.006
2200	2.2	SMD 141-4681●	0.021	0.010	0.007	0.005	0.004
3300	3.3	SMD 141-4687●	0.023	0.011	0.007	0.006	0.004
4700	4.7	SMD 141-4696●	0.023	0.011	0.007	0.006	0.004
6800	6.8	SMD 141-4700●	0.029	0.014	0.009	0.007	0.006
10000	10	SMD 141-4662●	0.019	0.009	0.006	0.005	0.004
15000	15	SMD 141-4671●	0.025	0.012	0.008	0.006	0.005
22000	22	SMD 141-4682●	0.031	0.015	0.010	0.007	0.006
33000	33	SMD 141-4688●	0.032	0.016	0.010	0.008	0.006
47000	47	SMD 141-4697●	0.032	0.016	0.010	0.008	0.006
68000	68	SMD 141-4701●	0.078	0.039	0.026	0.020	0.015
100000	100	*SMD 141-4663●	0.061	0.030	0.021	0.015	0.012
100000	100	SMD 141-4664●	0.025	0.012	0.008	0.006	0.005
150000	150	SMD 141-4672●	0.100	0.049	0.033	0.025	0.020
680000	680	SMD 141-4702●	0.121	0.061	0.040	0.030	0.024

* Tolerance = ±5%

Order Multiple=10
100 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
10000	10	SMD 141-4661●	0.024	0.012	0.008	0.006	0.005

Order Multiple=10
200 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
1000	1	SMD 141-4659●	0.039	0.020	0.013	0.009	0.008
4700	4.7	SMD 141-4695●	0.044	0.022	0.014	0.011	0.009

Order Multiple=10
25 Volt d.c. NPO

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	2K+
4700	4.7	SMD 145-7733●	0.370	0.190	0.127	0.095	0.076
10000	10	SMD 145-7736●	0.370	0.190	0.127	0.095	0.076
22000	22	SMD 145-7738●	0.430	0.220	0.147	0.110	0.089

RL Re-reeling available

Farnell

Multilayer Ceramic - continued

Ceramic Chip Capacitors - continued

1210 Case Size - continued

Order Multiple=10
50 Volt d.c. NPO

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
10	0.01	SMD 141-4654●	0.025	0.012	0.008	0.006	0.005
12	0.012	SMD 141-4666●	0.021	0.010	0.007	0.005	0.004
15	0.015	SMD 141-4668●	0.025	0.012	0.008	0.006	0.005
18	0.018	SMD 141-4673●	0.025	0.012	0.008	0.006	0.005
22	0.022	SMD 141-4678●	0.025	0.012	0.008	0.006	0.005
27	0.027	SMD 141-4683●	0.025	0.012	0.008	0.006	0.005
33	0.033	SMD 141-4685●	0.024	0.012	0.008	0.006	0.005
47	0.047	SMD 141-4692●	0.025	0.012	0.008	0.006	0.005
68	0.068	SMD 141-4698●	0.025	0.012	0.008	0.006	0.005
100	0.1	SMD 141-4656●	0.025	0.012	0.008	0.006	0.005
120	0.12	SMD 141-4667●	0.027	0.013	0.009	0.007	0.005
150	0.15	SMD 141-4669●	0.027	0.013	0.009	0.007	0.005
180	0.18	SMD 141-4674●	0.031	0.015	0.010	0.008	0.006
220	0.22	SMD 141-4679●	0.027	0.013	0.009	0.007	0.005
270	0.27	SMD 141-4684●	0.039	0.020	0.013	0.009	0.008
330	0.33	SMD 141-4686●	0.030	0.014	0.010	0.007	0.006
470	0.47	SMD 141-4694●	0.035	0.018	0.011	0.009	0.007
680	0.68	SMD 141-4699●	0.059	0.029	0.020	0.014	0.011
1000	1	SMD 141-4658●	0.042	0.022	0.014	0.010	0.008
1800	1.8	SMD 141-4675●	0.135	0.068	0.045	0.034	0.027

Order Multiple=10
100 Volt d.c. NPO

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
10	0.01	SMD 141-4652●	0.033	0.016	0.011	0.008	0.006
22	0.022	SMD 141-4676●	0.033	0.016	0.011	0.008	0.006
100	0.1	SMD 141-4655●	0.033	0.016	0.011	0.008	0.006
470	0.47	SMD 141-4693●	0.057	0.029	0.019	0.014	0.011
1000	1	SMD 141-4657●	0.093	0.046	0.031	0.023	0.019

1206 Case Size

Order Multiple=10
50 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
1000	1	SMD 141-4710●	0.053	0.027	0.018	0.013	0.010
3300	3.3	SMD 141-4730●	0.056	0.028	0.019	0.013	0.011
4700	4.7	SMD 141-4738●	0.053	0.027	0.018	0.013	0.010
10000	10	SMD 141-4713●	0.054	0.027	0.018	0.013	0.010
22000	22	SMD 141-4723●	0.053	0.027	0.018	0.013	0.010
33000	33	SMD 141-4731●	0.065	0.032	0.022	0.016	0.013
47000	47	SMD 141-4740●	0.056	0.028	0.019	0.014	0.011
68000	68	SMD 141-4742●	0.096	0.048	0.032	0.024	0.020
100000	100	SMD 141-4715●	0.042	0.022	0.014	0.010	0.008
220000	220	SMD 141-4725●	0.089	0.044	0.030	0.023	0.018
330000	330	SMD 141-4733●	0.260	0.132	0.088	0.066	0.053
470000	470	SMD 141-4741●	0.157	0.078	0.053	0.039	0.031

Order Multiple=10
100 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
22000	22	SMD 141-4722●	0.089	0.044	0.030	0.023	0.018
47000	47	SMD 141-4739●	0.081	0.042	0.029	0.022	0.018
100000	100	SMD 141-4714●	0.100	0.049	0.033	0.025	0.020
220000	220	SMD 141-4724●	0.125	0.062	0.041	0.031	0.025

Order Multiple=10
200 Volt d.c. X7R

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
10000	10	SMD 141-4712●	0.078	0.039	0.026	0.020	0.015

Order Multiple=10
25 Volt d.c. NPO

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	2K5+
10000	10	SMD 141-4711●	0.580	0.290	0.195	0.145	0.116
100000	100	SMD 145-7748●	1.660	0.810	0.550	0.400	0.330

Order Multiple=10
50 Volt d.c. NPO

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
10	0.01	SMD 141-4703●	0.053	0.027	0.018	0.013	0.010
22	0.022	SMD 141-4717●	0.054	0.027	0.018	0.013	0.010
33	0.033	SMD 141-4727●	0.053	0.027	0.018	0.013	0.010
47	0.047	SMD 141-4734●	0.053	0.027	0.018	0.013	0.010
100	0.1	SMD 141-4705●	0.053	0.027	0.018	0.013	0.010
220	0.22	SMD 141-4718●	0.054	0.027	0.018	0.013	0.010
330	0.33	SMD 141-4728●	0.053	0.027	0.018	0.013	0.010
470	0.47	SMD 141-4736●	0.085	0.042	0.029	0.022	0.018
1000	1	SMD 141-4709●	0.089	0.044	0.030	0.023	0.018
1500	1.5	SMD 141-4716●	0.135	0.068	0.045	0.034	0.027
2200	2.2	SMD 141-4721●	0.132	0.066	0.044	0.033	0.027
2700	2.7	SMD 141-4726●	0.230	0.113	0.076	0.057	0.045
3300	3.3	SMD 141-4729●	0.164	0.081	0.055	0.041	0.033
4700	4.7	SMD 141-4737●	0.260	0.128	0.085	0.064	0.052

Order Multiple=10
100 Volt d.c. NPO

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
100	0.1	SMD 141-4704●	0.068	0.034	0.023	0.016	0.013
1000	1	SMD 141-4706●	0.188	0.094	0.063	0.047	0.038

Order Multiple=10
200 Volt d.c. NPO

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
470	0.47	SMD 141-4735●	0.096	0.048	0.032	0.024	0.020
1000	1	SMD 141-4708●	0.196	0.098	0.065	0.048	0.039

1210 Case Size

477535

Order Multiple=10
25 Volt d.c. NPO

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	2K+
220000	220	SMD 145-7760●	5.13	2.55	1.72	1.29	1.01

AVX MLCC Designer Kits



A range of 7 MLCC designer kits giving the user maximum range choice with enough samples to be useful during test and development. Once used, each product in the kits can be replenished through Farnell. Also included with the kit is a full range card and a data CD Rom. 5 of each capacitance value (within the stated range) is supplied in each kit.

Description	No. of Values	Capacitance Values	Mftrs List No.	Order Code
X8R	30 Values	470 pF to 47 nF	MLCCX8R001	130-1769
Arrays	30 Values	10 pF to 100 nF	MLCCARRAY001	130-1737
High Voltage	29 Values	10 pF to 100 nF	MLCCHIVOLT001	130-1824
High Voltage	30 Values	10 pF to 3.3 nF	MLCCHIVOLT002	130-1853
Flexiterm	30 Values	470 pF to 47 µF	MLCCFLEXITERM001	130-1887
Automotive AECQ200	24 Values	56 pF to 10 µF	MLCCAUT0001	130-1709
High CV	15 Values	10 nF to 10 µF	MLCCHICV001	130-1803

452078

Order Code	Price Each 1+	3+
130-1769●	46.39	39.26
130-1737●	41.42	35.06
130-1824●	46.39	39.26
130-1853●	41.42	35.06
130-1887●	46.39	39.26
130-1709●	46.39	39.26
130-1803●	46.39	39.26

Surface Mount – Nickel Barrier



- Multilayer ceramic chip capacitors
- Nickel barrier terminations
- High performance and reliability
- 0402, 0603, 0805, 1206, 1210 and 1812 case size

Case Size	L	W	H	Tape Width	Qty per reel
0402	1 ± 0.05	0.5 ± 0.05	1 to 0.55	8	10000
0603	1.6 ± 0.15	0.8 ± 0.15	0.8 to 0.98	8	3000
0805	2 ± 0.2	1.25 ± 0.2	0.95 to 1.4	8	3000
1206	3.2 ± 0.2	1.6 ± 0.2	1.05 to 1.6	8	3000
1210	3.2 ± 0.3	2.5 ± 0.2	1.6 max	8	2500
1812	4.5 ± 0.3	3.2 ± 0.25	1.4 to 2.0	12	1000

	X8R	NPO	X7R	Y5V
Operating temperature	-55°C à +150°C	-55°C to +125°C	-55°C to +125°C	-25°C to +85°C
Tolerance	±10%	±5%	±10%	+80% -20%

N.B. For ease of selection capacitance value is listed in both **pF** and **nF**, or **uF** and **nF**.
Note AVX reserve the right to change maximum voltage ratings as technology improves.

0201 Case Size

Order Multiple=10

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	3K+	5K+
25 Volt d.c. C0G								
3.3	0.0033	NEW SMD 165-8856● RL	0.121	0.108	0.093	0.082	0.073	0.062
47	0.047	NEW SMD 165-7909● RL	0.048	0.041	0.036	0.030	0.024	0.011
4.7	0.0047	NEW SMD 165-8857● RL	0.121	0.108	0.093	0.082	0.073	0.062
6.8	0.0068	NEW SMD 165-7912● RL	0.048	0.041	0.036	0.030	0.024	0.011
33	0.033	NEW SMD 165-8855● RL	0.134	0.119	0.103	0.091	0.081	0.068
56	0.056	NEW SMD 165-7910● RL	0.048	0.041	0.036	0.030	0.024	0.011
68	0.068	NEW SMD 165-7911● RL	0.048	0.041	0.036	0.030	0.024	0.011
10 Volt d.c. X7R								
1.5	0.0015	NEW SMD 165-7920● RL	0.048	0.041	0.036	0.030	0.024	0.011
2.2	0.0022	NEW SMD 165-7921● RL	0.048	0.041	0.036	0.030	0.024	0.011
3.3	0.0033	NEW SMD 165-7922● RL	0.048	0.041	0.036	0.030	0.024	0.011
4.7	0.0047	NEW SMD 165-7923● RL	0.048	0.041	0.036	0.030	0.024	0.011
6.8	0.0068	NEW SMD 165-7924● RL	0.048	0.041	0.036	0.030	0.024	0.011
10	0.01	NEW SMD 165-7919● RL	0.048	0.041	0.036	0.030	0.024	0.011

RL Re-reeling available

Order Multiple=10

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	3K+	5K+
16 Volt d.c. X7R								
150	0.15	NEW SMD 165-7918● RL	0.059	0.054	0.048	0.036	0.024	0.011
470	0.47	NEW SMD 165-8858● RL	0.125	0.112	0.096	0.085	0.075	0.066
680	0.68	NEW SMD 165-8859● RL	0.121	0.108	0.093	0.082	0.073	0.062
6.3 Volt d.c. X5R								
22	0.022	NEW SMD 165-7915● RL	0.059	0.054	0.048	0.036	0.024	0.011
33	0.033	NEW SMD 165-7916● RL	0.059	0.054	0.048	0.036	0.024	0.011
47	0.047	NEW SMD 165-7917● RL	0.059	0.054	0.048	0.036	0.024	0.011
100	0.1	NEW SMD 165-7913● RL	0.059	0.054	0.048	0.036	0.024	0.011

0402 Case Size

Order Multiple=10

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	3K+	5K+
16 Volt d.c. C0G								
330	0.33	SMD 121-6532●	0.049	0.040	0.038	0.030	0.027	0.024
50 Volt d.c. C0G								
22	0.022	SMD 121-6541●	0.063	0.036	0.032	0.027	0.025	0.021
56	0.056	NEW SMD 165-8861● RL	0.084	0.073	0.064	0.057	0.052	0.044
68	0.068	NEW SMD 165-8862● RL	0.174	0.153	0.132	0.118	0.104	0.091
100	0.1	SMD 121-6543●	0.127	0.071	0.064	0.053	0.049	0.044
220	0.22	NEW SMD 165-8860● RL	0.084	0.073	0.064	0.057	0.052	0.044
330	0.33	NEW SMD 165-7925● RL	0.071	0.059	0.048	0.036	0.024	0.011
470	0.47	NEW SMD 165-7927● RL	0.071	0.059	0.048	0.036	0.024	0.011
16 Volt d.c. X7R								
10000	10	SMD 121-6548●	0.121	0.066	0.064	0.053	0.049	0.044
22000	22	SMD 121-6534●	0.035	0.032	0.031	0.024	0.022	0.018
25 Volt d.c. X7R								
4700	4.7	SMD 121-6547●	0.054	0.030	0.029	0.024	0.022	0.019
50 Volt d.c. X7R								
1000	1	SMD 121-6544●	0.127	0.071	0.064	0.053	0.049	0.044
2200	2.2	SMD 121-6546●	0.063	0.036	0.032	0.027	0.025	0.021
16 Volt d.c. Y5V								
100000	100	SMD 121-6535●	0.031	0.029	0.025	0.021	0.019	0.017

0603 Case Size

Order Multiple=10

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	3K+	5K+
10 Volt d.c. C0G								
10	0.01	NEW SMD 165-8863● RL	0.054	0.048	0.040	0.036	0.032	0.027
50 Volt d.c. C0G								
10	0.01	SMD 499-110● RL	0.039	0.035	0.031	0.027	0.021	0.019
22	0.022	SMD 498-543● RL	0.050	0.043	0.035	0.029	0.020	0.012
33	0.033	SMD 498-555● RL	0.050	0.044	0.038	0.029	0.027	0.026
47	0.047	SMD 498-567● RL	0.050	0.043	0.035	0.029	0.020	0.012
100	0.1	SMD 499-122● RL	0.078	0.052	0.045	0.038	0.035	0.029
220	0.22	SMD 498-579● RL	0.062	0.052	0.050	0.038	0.037	0.035
330	0.33	SMD 316-660● RL	0.078	0.069	0.057	0.039	0.038	0.036
470	0.47	SMD 316-672● RL	0.078	0.045	0.038	0.029	0.020	0.012
1000	1	SMD 317-202● RL	0.144	0.133	0.129	0.110	0.099	0.081

Order Multiple=5

µF	nF	Order Code	Price Each 5+	100+	500+	1K+	3K+	5K+
50 Volt d.c. X8R								
0.033	33	SMD 130-1801●	0.151	0.124	0.111	0.082	0.067	0.055

Order Multiple=10

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	3K+	5K+
6.3 Volt d.c. X7R								
2200	2.2	NEW SMD 165-7930● RL	0.210	0.179	0.149	0.119	0.089	0.059
16 Volt d.c. X7R								
100000	100	SMD 121-6538●	0.123	0.068	0.066	0.059	0.053	0.044
25 Volt d.c. X7R								
22000	22	SMD 578-174● RL	0.048	0.041	0.036	0.030	0.025	0.018
47000	47	SMD 121-6549●	0.121	0.067	0.065	0.059	0.052	0.043
1000000	1000	NEW SMD 165-8870● RL	0.133	0.119	0.102	0.091	0.081	0.068
50 Volt d.c. X7R								
470	0.47	SMD 498-580● RL	0.045	0.041	0.037	0.035	0.034	0.031
1000	1	SMD 499-134● RL	0.045	0.038	0.032	0.027	0.020	0.013
2200	2.2	SMD 498-592● RL	0.045	0.039	0.035	0.029	0.022	0.018
3300	3.3	SMD 317-251● RL	0.046	0.041	0.038	0.036	0.035	0.031
4700	4.7	SMD 317-263● RL	0.046	0.041	0.038	0.036	0.035	0.031
22000	22	NEW SMD 165-8869● RL	0.045	0.039	0.035	0.030	0.027	0.022
47000	47	NEW SMD 165-7929● RL	0.059	0.054	0.048	0.036	0.024	0.011
100000	100	SMD 130-1804●	0.067	0.055	0.049	0.038	– –	– –
100 Volt d.c. X7R								
1200	1.2	NEW SMD 165-8865● RL	0.054	0.048	0.040	0.036	0.032	0.027
2200	2.2	NEW SMD 165-8866● RL	0.032	0.027	0.024	0.021	0.019	0.017
3300	3.3	NEW SMD 165-8867● RL	0.032	0.027	0.024	0.021	0.019	0.017
4 Volt d.c. X5R								
10000	10	NEW SMD 165-7928● RL	0.820	0.580	0.370	0.290	0.240	0.200
16 Volt d.c. X5R								
2200	2.2	NEW SMD 165-8871● RL	0.340	0.310	0.270	0.240	0.210	0.183
25 Volt d.c. X5R								
1000	1	NEW SMD 165-8868● RL	0.220	0.196	0.171	0.151	0.134	0.114
10 Volt d.c. Y5V								
470000	470	SMD 317-275● RL	0.087	0.070	0.062	0.054	0.047	0.041
16 Volt d.c. Y5V								
1000	1	NEW SMD 165-8872● RL	0.290	0.250	0.210	0.189	0.166	0.143

Order Multiple=10

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	3K+	5K+
25 Volt d.c. Y5V								
100000	100	SMD 317-287● RL	0.056	0.034	0.027	0.024	0.018	0.012
50 Volt d.c. Y5V								
10000	10	SMD 317-433● RL	0.063	0.053	0.031	0.024	0.018	0.011
47000	47	SMD 317-445● RL	0.063	0.053	0.031	0.024	0.018	0.011

0805 Case Size

Order Multiple=10

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	3K+	5K+
10 Volt d.c. C0G								
15	0.015	NEW SMD 165-8873● RL	0.035	0.031	0.027	0.024	0.021	0.018
50 Volt d.c. C0G								
1000	1	SMD 317-457● RL	0.120	0.063	0.039	0.027	0.026	0.024
2200	2.2	SMD 121-6556●	0.195	0.134	0.124	0.102	0.090	0.068
100 Volt d.c. C0G								
10	0.01	SMD 499-158● RL	0.082	0.053	0.046	0.038	0.037	0.035
22	0.022	SMD 317-500● RL	0.083	0.054	0.048	0.039	0.038	0.036
33	0.033	SMD 317-603● RL	0.083	0.054	0.048	0.040	0.038	0.037
47	0.047	SMD 499-160● RL	0.082	0.053	0.046	0.038	0.037	0.035
100	0.1	SMD 499-171● RL	0.095	0.049	0.046	0.038	0.037	0.035
220	0.22	SMD 498-609● RL	0.108	0.058	0.057	0.050	0.048	0.045
330	0.33	SMD 499-183● RL	0.095	0.052	0.050	0.038	0.037	0.035
470	0.47	SMD 499-195● RL	0.119	0.076	0.057	0.038	0.037	0.035

Order Multiple=5

µF	nF	Order Code	Price Each 5+	100+	500+	1K+	3K+	5K+
50 Volt d.c. X8R								
0.001	1	SMD 130-1788●	0.178	0.137	0.124	0.095	0.082	0.067
0.0015	1.5	SMD 130-1773●	0.178	0.137	0.124	0.095	0.082	0.067
0.0022	2.2	SMD 130-1778●	0.127	0.099	0.090	0.067	0.058	0.048
0.0047	4.7	SMD 130-1781●	0.127	0.099	0.090	0.067	0.058	0.048
0.0068	6.8	SMD 130-1782●	0.127	0.099	0.090	0.067	0.058	0.048
0.01	10	SMD 130-1791●	0.178	0.137	0.124	0.095	0.082	0.067
0.015	15	SMD 130-1783●	0.179	0.138	0.124	0.096	0.082	0.067
0.047	47	SMD 130-1785●	0.192	0.171	0.149	0.125	0.103	0.082
0.1	100	SMD 130-1790●	0.210	0.165	0.153	0.111	0.096	0.082

Order Multiple=10

nF	µF	Order Code	Price Each 10+	100+	500+	1K+	3K+	5K+
6.3 Volt d.c. X7R								
10000	10	NEW SMD 165-7936● RL	0.380	0.270	0.166	0.130	0.106	0.095
16 Volt d.c. X7R								
220	0.22	SMD 121-6539● RL	0.210	0.176	0.166	0.138	0.129	0.119
330	0.33	SMD 121-6551●	0.420	0.260	0.250	0.193	0.175	0.151
470	0.47	SMD 121-6552●	0.540	0.370	0.340	0.290	0.240	0.192
4700	4.7	NEW SMD 165-7937● RL	0.330	0.280	0.230	0.183	0.133	0.083
20 Volt d.c. X7R								
220	0.22	NEW SMD 165-8878● RL	0.118	0.103	0.091	0.080	0.071	0.062
25 Volt d.c. X7R								
1000	1	NEW SMD 165-8877● RL	0.860	0.740	0.650	0.570	0.510	0.440
2200	2.2	NEW SMD 165-7931● RL	0.270	0.189	0.119	0.095	0.083	0.071
50 Volt d.c. X7R								
pF	nF							
1000	1	SMD 499-201● RL	0.064	0.043	0.039	0.030	0.027	0.021
2200	2.2	SMD 498-610● RL	0.081	0.067	0.054	0.041	0.027	0.013
4700	4.7	SMD 499-213● RL	0.081	0.067	0.054	0.041	0.027	0.013
10000	10	SMD 499-225● RL	0.081	0.067	0.054	0.041	0.027	0.013
22000	22	SMD 578-198● RL	0.096	0.081	0.065	0.049	0.034	0.018
47000	47	SMD 121-6550●	0.144	0.096	0.090	0.066	0.057	0.050
56000	56	NEW SMD 165-8879● RL	0.066	0.059	0.052	0.045	0.040	0.035
100000	100	SMD 499-687● RL	0.096	0.081	0.065	0.049	0.034	0.018
330000	330	NEW SMD 165-7934● RL	0.310	0.210	0.143	0.106	0.083	0.071
470000	470	NEW SMD 165-7935● RL	0.340	0.240	0.155	0.119	0.095	0.083
100 Volt d.c. X7R								
3300	3.3	NEW SMD 165-8875● RL	0.034	0.030	0.026	0.022	0.020	0.017
10000	10	NEW SMD 165-8874● RL	0.034	0.030	0.026	0.022	0.020	0.017

Order Multiple=10

µF	nF	Order Code	Price Each 10+	100+	500+	1K+	3K+	5K+
4 Volt d.c. X5R								
22	22000	NEW SMD 165-7933● RL	0.790	0.560	0.350	0.270	0.230	0.189
6.3 Volt d.c. X5R								
10	10000	SMD 130-1818●	0.480	0.390	0.230	0.161	– –	– –
10 Volt d.c. X5R								
3.3	3300	SMD 130-1817●	0.570	0.300	0.171	0.119	– –	– –
10 Volt d.c. X5R								
10	10000	NEW SMD 165-8880● RL	0.890	0.800	0.690	0.610	0.550	0.470
25 Volt d.c. X5R								
4.7	4700	NEW SMD 165-7932● RL	0.300	0.210	0.130	0.106	0.083	0.071
10 Volt d.c. Y5V								
4.7	4700	NEW SMD 165-8881● RL	0.330	0.300	0.260	0.230	0.200	0.176
25 Volt d.c. Y5V								
1	1000	SMD 121-6536●	0.161	0.148	0.140	0.119	0.108	0.087
50 Volt d.c. Y5V								
0.1	100	SMD 317-676● RL	0.124	0.068	0.066	0.059	0.053	0.043

RL Re-reeling available

Farnell

Multilayer Ceramic - continued

2220 Case Size - continued

1206 Case Size

Order Multiple=10

pF	nF	Order Code	Price Each 10+	100+	500+	1K+	3K+	5K+
25 Volt d.c. C0G								
4700	4.7	SMD 121-6559● RL	0.650	0.440	0.410	0.340	0.310	0.230
10000	10	SMD 121-6560● RL	1.140	0.800	0.730	0.610	0.530	0.410
10000	10	NEW SMD 165-8883● RL	0.190	0.169	0.148	0.129	0.116	0.097
100 Volt d.c. C0G								
10	0.01	SMD 499-237● RL	0.160	0.090	0.083	0.071	0.067	0.065
22	0.022	SMD 499-249● RL	0.160	0.090	0.083	0.071	0.067	0.065
33	0.033	SMD 499-250● RL	0.160	0.090	0.083	0.071	0.067	0.065
47	0.047	SMD 499-262● RL	0.140	0.078	0.069	0.062	0.054	0.045
100	0.1	SMD 499-274● RL	0.174	0.097	0.090	0.076	0.073	0.068
220	0.22	SMD 499-286● RL	0.160	0.090	0.083	0.071	0.067	0.065
330	0.33	SMD 499-298● RL	0.160	0.090	0.083	0.071	0.067	0.065
470	0.47	SMD 499-304● RL	0.210	0.114	0.110	0.094	0.090	0.084
1000	1	SMD 499-316● RL	0.210	0.115	0.110	0.094	0.090	0.084

Order Multiple=10

µF	nF	Order Code	Price Each 10+	100+	500+	1K+	3K+	5K+
6.3 Volt d.c. X7R								
22	22000	NEW SMD 165-7942● RL	1.200	0.860	0.550	0.410	0.340	0.300
10 Volt d.c. X7R								
2.2	2200	SMD 121-6537●	0.380	0.350	0.340	0.290	0.270	0.220
16 Volt d.c. X7R								
0.47	470	SMD 121-6540●	0.370	0.320	0.300	0.260	0.240	0.210
1	1000	SMD 499-717● RL	0.530	0.420	0.410	0.340	0.310	0.290
10	10000	NEW SMD 165-7943● RL	0.470	0.330	0.210	0.155	0.130	0.119
25 Volt d.c. X7R								
0.33	330	SMD 121-6554●	0.490	0.330	0.310	0.250	0.220	0.176
2.2	2200	NEW SMD 165-8884● RL	0.320	0.290	0.250	0.230	0.200	0.171
4.7	4700	NEW SMD 165-7941● RL	0.410	0.300	0.189	0.143	0.119	0.106
50 Volt d.c. X7R								
0.001	1	SMD 499-328● RL	0.138	0.078	0.069	0.054	0.052	0.049
0.0022	2.2	SMD 499-330● RL	0.123	0.070	0.062	0.048	0.046	0.044
0.0033	3.3	SMD 498-622● RL	0.138	0.078	0.069	0.054	0.052	0.049
0.0047	4.7	SMD 499-341● RL	0.138	0.078	0.069	0.065	0.062	0.059
0.01	10	SMD 499-353● RL	0.138	0.078	0.069	0.054	0.052	0.049
0.022	22	SMD 499-365● RL	0.164	0.092	0.081	0.057	0.054	0.052
0.033	33	SMD 498-634● RL	0.164	0.092	0.081	0.057	0.054	0.052
0.047	47	SMD 499-377● RL	0.164	0.092	0.081	0.057	0.054	0.052
0.1	100	SMD 499-389● RL	0.190	0.102	0.100	0.080	0.074	0.058
0.22	220	SMD 121-6553●	0.220	0.156	0.141	0.116	0.099	0.078
0.33	330	NEW SMD 165-8885● RL	0.166	0.147	0.125	0.112	0.100	0.084
1	1000	SMD 130-1811●	0.630	0.510	0.440	0.340	– –	– –
100 Volt d.c. X7R								
1	1000	NEW SMD 165-7939● RL	0.670	0.480	0.310	0.230	0.189	0.166
200 Volt d.c. X7R								
0.033	33	NEW SMD 165-8882● RL	0.118	0.103	0.091	0.080	0.071	0.062

Order Multiple=5

µF	nF	Order Code	Price Each 10+	100+	500+	1K+	3K+	5K+
6.3 Volt d.c. X5R								
47	47000	NEW SMD 165-8886● RL	1.040	0.930	0.810	0.710	0.630	0.550
50 Volt d.c. X5R								
22	22000	SMD 130-1816●	0.730	0.580	0.510	0.400	– –	– –
10	10000	SMD 130-1815●	0.540	0.370	0.250	0.176	– –	– –

Order Multiple=5

µF	nF	Order Code	Price Each 5+	100+	500+	1K+	3K+	5K+
16 Volt d.c. Y5V								
2.2	2200	SMD 578-265● RL	0.610	0.430	0.390	0.330	0.290	0.220
4.7	4700	SMD 578-277● RL	0.700	0.370	0.200	0.139	0.132	0.125
50 Volt d.c. Y5V								
0.1	100	SMD 499-390● RL	0.250	0.148	0.084	0.057	0.054	0.052
0.22	220	SMD 499-407● RL	0.250	0.171	0.155	0.099	0.094	0.090

1210 Case Size

Order Multiple=5

µF	nF	Order Code	Price Each 5+	100+	500+	1K+	3K+	5K+
16 Volt d.c. X7R								
22	22000	NEW SMD 165-7948● RL	4.03	2.88	1.84	1.39	1.15	1.01
25 Volt d.c. X7R								
10	10000	NEW SMD 165-7945● RL	1.27	0.90	0.58	0.44	0.37	0.32
50 Volt d.c. X7R								
4.7	4700	NEW SMD 165-8891● RL	1.12	0.98	0.86	0.74	0.67	0.58
3.3	3300	NEW SMD 165-7947● RL	1.53	1.10	0.69	0.53	0.44	0.38
2.2	2200	NEW SMD 165-8889● RL	0.89	0.80	0.69	0.61	0.55	0.47
100 Volt d.c. X7R								
0.68	680	NEW SMD 165-8887● RL	0.50	0.44	0.38	0.34	0.31	0.26
1	1000	SMD 130-1814●	1.26	0.66	0.37	0.34	– –	– –
2.2	2200	NEW SMD 165-7944● RL	1.43	1.01	0.64	0.49	0.40	0.35
			1+	50+	100+	500+	2K+	4K+

Order Multiple=5

µF	nF	Order Code	Price Each 5+	100+	500+	1K+	3K+	5K+
4 Volt d.c. Y5V								
100	100000	NEW SMD 165-7946● RL	3.90	2.78	1.77	1.34	1.12	0.97
6.3 Volt d.c. Y5V								
47	47000	NEW SMD 165-8892● RL	2.69	2.38	2.06	1.82	1.62	1.41
16 Volt d.c. Y5V								
10	10000	SMD 121-6555● RL	1.57	1.36	1.14	0.91	0.73	0.55

1812 Case Size

Order Multiple=10

µF	nF	Order Code	Price Each 10+	100+	500+	1K+	3K+	5K+
50 Volt d.c. X7R								
0.22	220	SMD 499-419● RL	0.69	0.55	0.53	0.44	0.38	0.30
0.33	330	SMD 540-481● RL	0.81	0.65	0.62	0.51	0.46	0.34
0.47	470	SMD 540-493● RL	0.93	0.73	0.69	0.58	0.50	0.40
100 Volt d.c. X7R								
0.68	680	SMD 130-1821●	2.42	1.92	1.70	1.33	– –	– –

2220 Case Size

208437

Order Multiple=10

µF	nF	Order Code	Price Each 5+	100+	500+	1K+	3K+	5K+
100 Volt d.c. X7R								
10	10000	NEW SMD 165-7949● RL	5.92	4.23	2.70	2.05	1.69	1.49

FREE Re-reeling service



Only buy what you need and improve assembly efficiency. Look for the RL logo or find out more: **www.farnell.co.uk / 08447 11 11 11**

Surface Mount – Nickel Barrier Full Reel

AVX A KYOCERA GROUP COMPANY

- Multilayer ceramic chip capacitors supplied on full reels

SMD

FULL REELS

0603 Case Size

50 Volt d.c. NPO

pF	Mfts. List No.	Order Code	Reel Quantity	Price Per Reel 1+	3+
100	06035A101JAT2A	SMD 476-6040●	4000	31.36	30.64
1000	06035A102JAT2A	SMD 476-5850●	4000	148.53	145.21

16 Volt d.c. X7R

µF	Mfts. List No.	Order Code	Reel Quantity	Price Per Reel 1+	3+
0.1	CM105X7R104K16AT	SMD 476-5837●	4000	47.98	46.91

pF	Mfts. List No.	Order Code	Reel Quantity	Price Per Reel 1+	3+
25 Volt d.c. Y5V					
100000	06033G104ZAT2A	SMD 476-5849●	4000	27.82	27.20

0805 Case Size

pF	Mfts. List No.	Order Code	Reel Quantity	Price Per Reel 1+	3+
100 Volt d.c. NPO					
470	08051A471JAT2A	SMD 476-6167●	4000	47.98	46.91

50 Volt d.c. X7R

pF	Mfts. List No.	Order Code	Reel Quantity	Price Per Reel 1+	3+
1000	08055C102KAT2A	SMD 476-5941●	4000	31.36	30.64
47000	CM21X7R473K50AT	SMD 476-6118●	3000	52.73	51.55
100000	08055C104KAT2A	SMD 476-5801●	4000	61.64	60.24

1206 Case Size

pF	Mfts. List No.	Order Code	Reel Quantity	Price Per Reel 1+	3+
50 Volt d.c. X7R					
10000	12065C103KAT2A	SMD 476-5898●	4000	67.71	66.17

423670

µF	Mfts. List No.	Order Code	Reel Quantity	Price Per Reel 1+	3+
50 Volt d.c. Y5V					
0.1	12065G104ZAT2A	SMD 476-5904●	4000	89.94	87.93

RL Re-reeling available

Farnell

LLL Series - Reversed Geometry Low ESL Type

Chip Monolithic Ceramic Capacitors



- Low ESL, good for noise reduction for high frequency
- Small case size, high capacitance
- Please note, terminations are on the long side of the component

Performance Characteristics

Dielectric	X7R
Tolerance	20%
Operating Temperature	-55°C to125°C

0603 Case Size

Order Multiple=5 nF	Order Code	5+	50+	250+	1K+	3K+
6.3 Volt d.c.						
220	SMD 129-4638●	0.082	0.071	0.061	0.051	0.041
10 Volt d.c.						
100	SMD 129-4639●	0.112	0.097	0.082	0.066	0.051
16 Volt d.c.						
22	SMD 129-4640●	0.194	0.143	0.133	0.112	0.092
47	SMD 129-4641●	0.161	0.122	0.115	0.100	0.076

0805 Case Size

Order Multiple=5 nF	Order Code	5+	50+	250+	1K+	3K+
4 Volt d.c.						
1500	SMD 129-4663●*	0.380	0.290	0.270	0.220	0.177
6.3 Volt d.c.						
1000	SMD 129-4649●	0.280	0.171	0.094	0.078	0.065
10 Volt d.c.						
220	SMD 129-4642●	0.200	0.153	0.146	0.122	0.100
470	SMD 129-4650●	0.200	0.153	0.146	0.122	0.100
16 Volt d.c.						
47	SMD 129-4644●	0.200	0.153	0.146	0.122	0.100
100	SMD 129-4643●	0.168	0.131	0.122	0.100	0.076
220	SMD 129-4651●	0.176	0.138	0.122	0.107	0.085
25 Volt d.c.						
22	SMD 129-4645●	0.176	0.131	0.122	0.107	0.085
47	SMD 129-4648●	0.200	0.153	0.146	0.122	0.100
100	SMD 129-4646●	0.260	0.159	0.088	0.072	0.058

* X7S Dielectric

1206 Case Size

452090

Order Multiple=5 nF	Order Code	5+	50+	250+	1K+
4 Volt d.c.					
10000	SMD 129-4657●	0.400	0.300	0.290	0.240
10 Volt d.c.					
470	SMD 129-4652●	0.122	0.092	0.085	0.076
2200	SMD 129-4664●	0.900	0.670	0.630	0.540
16 Volt d.c.					
100	SMD 129-4653●	0.210	0.163	0.147	0.131
220	SMD 129-4654●	0.280	0.200	0.192	0.168
1000	SMD 129-4658●	0.320	0.200	0.111	0.098
25 Volt d.c.					
15	SMD 129-4655●	0.143	0.112	0.102	0.082
47	SMD 129-4656●	0.192	0.146	0.131	0.115
220	SMD 129-4661●	0.210	0.155	0.147	0.122
470	SMD 129-4662●	0.260	0.192	0.176	0.153

LLA Series - Eight Terminals Low ESL Type

- Low ESL (100pH) , suitable to decoupling capacitor for 1GHz clock speed IC
- Small case size, large capacitance

0805 Case Size

Order Multiple=5 nF	Order Code	5+	50+	250+	1K+	3K+
4 Volt d.c.						
2200	SMD 129-4629●*	0.159	0.122	0.110	0.098	0.073
6.3 Volt d.c.						
470	SMD 129-4624●	0.184	0.138	0.131	0.115	0.085
680	SMD 129-4625●	0.176	0.131	0.122	0.107	0.085
1000	SMD 129-4630●	0.199	0.146	0.138	0.115	0.092
1500	SMD 129-4631●	0.192	0.146	0.131	0.115	0.092
10 Volt d.c.						
330	SMD 129-4626●	0.240	0.168	0.161	0.138	0.107
16 Volt d.c.						
100	SMD 129-4627●	0.168	0.122	0.115	0.100	0.076
25 Volt d.c.						
10	SMD 129-4628●	0.188	0.139	0.131	0.114	0.090

* X7S Dielectric

LLM Series - Ten Terminals Low ESL Type

- Low ESL (45pH), suitable to decoupling capacitor for 2GHz clock speed IC
- Small case size, large capacitance

1206 Case Size

Order Multiple=5 nF	Order Code	5+	50+	250+	1K+	3K+
10 Volt d.c.						
470	SMD 129-4632●	0.330	0.240	0.220	0.192	0.153
1000	SMD 129-4634●	0.350	0.270	0.240	0.200	0.161
2200	SMD 129-4637●	0.410	0.310	0.290	0.240	0.193
16 Volt d.c.						
220	SMD 129-4633●	0.320	0.240	0.220	0.192	0.146
470	SMD 129-4636●	0.340	0.260	0.240	0.200	0.161

XR7 MLSC – Surface Mount



The MLSC series was designed for applications directly linked to a power source or voltage source (e.g. battery) and safety relevant application without (integrated) current limitation.

Due to the special design the probability of a short circuit is much reduced:

- in case of a bending crack
- in many cases of an assembling crack
- in many cases of a solder shock crack

Also:

- A selected capacitance range in case size 0805 (rated voltage 50 V and 100 V).
- Nickel barrier termination

Operating temperature: Tolerance -55°C to +125°C ±10%

Capacitance (nF)	Case Size	Reel Quantity	Mftrs. List No.	Order Code
50 Volts				
33	0805	4000	B37941X5333K060	108-6788
47	0805	4000	B37941X5473K060	108-6791
68	0805	3000	B37941X5683K062	108-6792
100	0805	3000	B37941X5104K062	108-6793
100 Volts				
4.7	0805	4000	B37941X1472K060	108-6794
10	0805	4000	B37941X1103K060	108-6795
22	0805	4000	B37941X1223K060	108-6796

419473

Order Multiple=10 nF	Order Code	10+	100+	500+	1K+	4K+
50 Volts						
33	SMD 108-6788● RL	0.043	0.033	0.028	0.024	0.018
47	SMD 108-6791● RL	0.040	0.032	0.027	0.023	0.017
68	SMD 108-6792● RL	0.059	0.046	0.039	0.033	0.027
100	SMD 108-6793● RL	0.057	0.044	0.036	0.035	0.029
100 Volts						
4.7	SMD 108-6794● RL	0.029	0.022	0.019	0.017	0.013
10	SMD 108-6795● RL	0.036	0.030	0.026	0.021	0.015
22	SMD 108-6796● RL	0.044	0.035	0.030	0.027	0.020

Latest Additions

Capacitance (nF)	Case Size	Reel Quantity	Mftrs. List No.	Order Code
100 Volts				
1	0805	4000	B37941X1102K60	151-1746
2.2	0805	4000	B37941X1222K60	151-1747

495861

Order Multiple=10 nF	Order Code	10+	100+	1K+	4K+
100 Volts					
1	NEW SMD 151-1746●	0.033	0.027	0.022	0.019
2.2	NEW SMD 151-1747●	0.033	0.027	0.022	0.019

MLCC with Flexible Termination

X8R & X7R dielectric



- Flexible termination system
- High mechanical performance able to withstand, 5mm bend test guaranteed
- Open circuit failure mode is apparent when products are overstressed by 5mm
- Increased temperature cycling performance, 3000 cycle and beyond
- Reduction in circuit board flex failures
- Base metal electrode system

The soft termination is designed to enhance the mechanical flexure and temperature cycling performance of a standard ceramic capacitor with an X7R dielectric. The industry standard for flexure is 2mm minimum, with Soft Termination AVX guarantee a minimum flexure of 5mm, without any internal cracks. Beyond 5mm, Open Circuit Failure Mode. The industry standard for temperature cycling is 1000 cycles, AVX guarantee 3000 cycles. As well as for automotive applications the Soft Termination will provide Design Engineers with a satisfactory solution when designing PCBs which may be subject to high levels of board flexure.

0603 Case Size

RL Re-reeling available

Multilayer Ceramic - continued

MLCC with Flexible Termination - continued

1210 Case Size - continued

Order Multiple = 5			Price Each				
nF	Mftrs. List No.	Order Code	5+	100+	500+	1K+	3K+
50 Volt d.c. X8R							
0.47	06035F471KAZ2A	SMD 130-1796	0.102	0.083	0.074	0.055	0.047
2.2	06035F222KAZ2A	SMD 130-1797	0.153	0.124	0.112	0.082	0.068
6.8	06035F682KAZ2A	SMD 130-1800	0.153	0.124	0.112	0.082	0.068
47	06035F473KAZ2A	SMD 130-1802	0.179	0.151	0.124	0.096	0.082
16 Volt d.c. X7R							
68	0603YC683KAZ2A	SMD 130-1893	0.082	0.067	0.059	0.046	0.041
100	0603YC104KAZ2A	SMD 756-9556 RL	0.074	0.058	0.050	0.037	0.030
50 Volt d.c. X7R							
1	06035C102KAZ2A	SMD 756-9513 RL	0.041	0.032	0.027	0.020	0.017
2.2	06035C222KAZ2A	SMD 756-9521 RL	0.037	0.029	0.024	0.018	0.015
4.7	06035C472KAZ2A	SMD 756-9530 RL	0.041	0.032	0.027	0.020	0.017
10	06035C103KAZ2A	SMD 756-9548 RL	0.041	0.032	0.027	0.020	0.017
22	06035C223KAZ2A	SMD 130-1890	0.082	0.054	0.053	0.043	0.041
33	06035C333KAZ2A	SMD 130-1891	0.082	0.054	0.053	0.043	0.041
47	06035C473KAZ2A	SMD 130-1892	0.067	0.055	0.049	0.038	0.027
100	06035C104KAZ2A	SMD 130-1894	0.111	0.082	0.071	0.057	0.041
100 Volt d.c. X7R							
0.47	06031C471KAZ2A	SMD 130-1888	0.082	0.067	0.057	0.044	0.041
4.7	06031C472KAZ2A	SMD 130-1889	0.082	0.067	0.057	0.044	0.041

0805 Case Size

Order Multiple = 5			Price Each				
nF	Mftrs. List No.	Order Code	5+	100+	500+	1K+	3K+
50 Volt d.c. X8R							
0.68	08055F681KAZ2A	SMD 130-1770	0.152	0.115	0.105	0.085	0.066
1	08055F102KAZ2A	SMD 130-1794	0.157	0.118	0.108	0.088	0.068
1.5	08055F152KAZ2A	SMD 130-1774	0.147	0.111	0.102	0.082	0.064
1.8	08055F182KAZ2A	SMD 130-1795	0.157	0.118	0.108	0.088	0.068
2.2	08055F222KAZ2A	SMD 130-1776	0.157	0.118	0.108	0.088	0.068
6.8	08055F682KAZ2A	SMD 130-1897	0.220	0.165	0.150	0.118	0.096
10	08055F103KAZ2A	SMD 130-1789	0.220	0.165	0.151	0.123	0.096
15	08055F153KAZ2A	SMD 130-1784	0.158	0.128	0.108	0.088	0.068
47	08055F473KAZ2A	SMD 130-1899	0.240	0.193	0.164	0.128	0.111
10 Volt d.c. X7R							
680	0805ZC684KAZ1A	SMD 130-1900	0.250	0.210	0.177	0.138	0.111
1000	0805ZC105KAZ1A	SMD 130-1902	0.165	0.138	0.118	0.092	0.067
16 Volt d.c. X7R							
470	0805YC474KAZ1A	SMD 756-9580 RL	0.084	0.065	0.056	0.044	0.033
25 Volt d.c. X7R							
220	08053C224KAZ1A	SMD 756-9572 RL	0.084	0.065	0.056	0.044	0.033
1000	08053C105KAZ2A	SMD 130-1807	0.350	0.290	0.250	0.190	– –
50 Volt d.c. X7R							
470	08055C474KAZ2A	SMD 130-1806	0.400	0.330	0.290	0.220	– –
100	08055C104KAZ2A	SMD 756-9564 RL	0.074	0.058	0.050	0.037	0.030
50 Volt d.c. X7R							
4.7	08051C472KAZ2A	SMD 130-1896	0.112	0.082	0.075	0.059	0.055
10	08051C103KAZ2A	SMD 130-1898	0.097	0.082	0.067	0.054	0.041
100	08051C104KAZ2A	SMD 130-1805	0.330	0.260	0.240	0.178	– –

1206 Case Size

Order Multiple = 5			Price Each				
nF	Mftrs. List No.	Order Code	5+	50+	100+	500+	1K+
16 Volt d.c. X7R							
1000	1206YC105KAZ1A	SMD 756-9599 RL	0.112	0.090	0.073	0.058	0.045
25 Volt d.c. X7R							
2200	12063C225KAZ2A	SMD 130-1808	0.530	0.410	0.350	0.290	– –
50 Volt d.c. X7R							
100	12065C104KAZ2A	SMD 130-1906	0.153	0.112	0.102	0.080	0.067
220	12065C224KAZ1A	SMD 130-1907	0.240	0.193	0.164	0.128	0.111
100 Volt d.c. X7R							
1	12061C102KAZ2A	SMD 130-1903	0.220	0.165	0.150	0.118	0.096
5.6	12061C562KAZ2A	SMD 130-1904	0.240	0.193	0.164	0.128	0.111
330	12061C334KAZ2A	SMD 130-1812	1.100	0.870	0.790	0.610	– –
47	12061C473KAZ1A	SMD 130-1905	0.250	0.210	0.177	0.138	0.111

1210 Case Size

Order Multiple = 5			Price Each				
nF	Mftrs. List No.	Order Code	5+	50+	100+	500+	1K+
16 Volt d.c. X7R							
4.7	1210YC475KAZ2A	SMD 138-0918	1.19	0.90	0.82	0.63	0.50
50 Volt d.c. X7R							
100	12105C104KAZ2A	SMD 130-1908	0.46	0.35	0.32	0.25	0.21
470	12105C474KAZ1A	SMD 130-1909	0.63	0.51	0.44	0.35	0.29
100 Volt d.c. X7R							
470	12101C474KAZ2A	SMD 130-1813	1.14	0.93	0.81	0.62	– –
1000	12101C105KAZ2A	SMD 130-1910	1.71	1.38	1.21	0.94	0.78

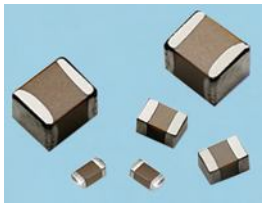
1812 Case Size

339481

Order Multiple = 5			Price Each				
nF	Mftrs. List No.	Order Code	5+	50+	100+	500+	1K+
50 Volt d.c. X7R							
680	18125C684KAZ1A	SMD 130-1912	1.63	1.30	1.15	0.89	0.73
1000	18125C105KAZ1A	SMD 756-9602 RL	0.84	0.65	0.56	0.43	0.33
4700	18125C475KAZ2A	SMD 130-1819	4.79	3.83	3.35	2.62	– –
100 Volt d.c. X7R							
330	18121C334KAZ1A	SMD 130-1911	1.75	1.39	1.22	0.95	0.78
1000	18121C105KAZ2A	SMD 130-1820	2.59	2.07	1.82	1.42	– –
2200	18121C225KAZ2A	SMD 130-1914	4.68	3.74	3.29	2.56	2.09

MLCC with Conductive Epoxy Terminations

X8R Dielectric



AVX have developed a range of multi-layer ceramic capacitors designed for use in applications up to 150C. These capacitors are manufactured with an X8R dielectric material which has a capacitance variation of ±15% between -55C and +150C.
The need for X8R performance has been driven by customer requirements for parts that operate at elevated temperatures. They provide a highly reliable capacitor with low loss and stable capacitance over temperature.
These capacitors come with conductive epoxy terminations for hybrid applications.

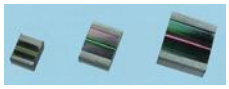
Operating temperature	-55 to 150°C	Case size	0805
Volt d.c.	50V	Tolerance	10%
Dielectric	X8R		

452053

Order Multiple=5			Price Each					
nF	Mftrs. List No.	Order Code	5+	100+	500+	1K+	3K+	5K+
0.68	08055F681KAU2A	SMD 130-1771	1.77	1.42	1.25	0.96	0.80	0.70
1.5	08055F152KAU2A	SMD 130-1772	1.19	0.95	0.83	0.64	0.54	0.47
1.8	08055F182KAU2A	SMD 130-1775	1.19	0.95	0.83	0.64	0.54	0.47
2.2	08055F222KAU2A	SMD 130-1777	1.19	0.95	0.83	0.64	0.54	0.47
47	08055F473KAU2A	SMD 130-1786	1.19	0.96	0.85	0.65	0.54	0.48
15	08055F153KAU2A	SMD 130-1787	1.77	1.43	1.25	0.97	0.80	0.69
1	08055F102KAU2A	SMD 130-1793	1.19	0.95	0.83	0.64	0.54	0.47
3.3	06035F332KAU2A	SMD 130-1798	1.21	0.98	0.86	0.66	0.55	0.48
4.7	06035F472KAU2A	SMD 130-1799	1.14	0.91	0.81	0.63	0.51	0.46

Polymer Multilayer Capacitors

ST Series



- Dielectric of thin polymer layer ensures superior performance at high temperature
- No characteristic change by piezoelectricity
- Small and lighter than conventional film capacitors

Tolerance ±20% Operating Temperature -55°C to +125°C

3216 Case Size

Order Multiple=10			Price Each			
µF	Mftrs. List No.	Order Code	1+	25+	100+	250+
16 Volt d.c.						
1		SMD 168-8445	2.98	2.70	2.35	2.18
1.5		SMD 168-8436	2.98	2.70	2.35	2.18
25 Volt d.c.						
0.68		SMD 168-8447	2.98	2.70	2.35	2.18
1		SMD 168-8438	2.98	2.70	2.35	2.18
35 Volt d.c.						
0.47		SMD 168-8449	2.98	2.70	2.35	2.18
0.68		SMD 168-8450	2.98	2.70	2.35	2.18
50 Volt d.c.						
0.22		SMD 168-8442	2.98	2.70	2.35	2.18
0.33		SMD 168-8451	2.98	2.70	2.35	2.18

3225 Case Size

528776

Order Multiple=10			Price Each			
µF	Mftrs. List No.	Order Code	1+	25+	100+	250+
16 Volt d.c.						
2.2		SMD 168-8446	3.53	3.21	2.78	2.58
3.3		SMD 168-8437	3.53	3.21	2.78	2.58
25 Volt d.c.						
1.5		SMD 168-8448	3.53	3.21	2.78	2.58
2.2		SMD 168-8439	3.53	3.21	2.78	2.58
35 Volt d.c.						
1		SMD 168-8440	3.53	3.21	2.78	2.58
1.5		SMD 168-8441	3.53	3.21	2.78	2.58
50 Volt d.c.						
0.47		SMD 168-8444	3.53	3.21	2.78	2.58
0.68		SMD 168-8452	3.53	3.21	2.78	2.58

RL Re-reeling available

Open Mode Ceramic Capacitors

KEMET CHARGED.



SMD

Open Mode ceramic surface mount capacitors are designed to significantly minimise the probability of a low IR or short cicuit condition when forced to failure in a board flex situation. This reduces the potential for causing catastrophic failures.

Applications:

- Input side filtering
- High current applications
- Circuits that cannot be fused to open when short circuits occur due to flex cracks

Performance characteristics	X7R	Performance characteristics	X7R
Operating Temperature	-55°C to +125°C	Tolerance	±10%

N.B. For ease of selection, capacitance value is listed in both **nF** and **µF**.

451531

Order Multiple=10

nF	µF	Order Code	Price Each 10+	50+	100+	1K+	4K+
16 Volt d.c. 0805 Case Size							
680	0.68	NEW SMD-135-8502●	0.162	0.108	0.080	0.072	0.062
25 Volt d.c. 0805 Case Size							
470	0.47	SMD-128-8274● RL	0.115	0.099	0.087	0.069	0.062
50 Volt d.c. 0805 Case Size							
1	0.001	SMD-157-2640●	0.195	0.098	0.065	0.048	0.039
10	0.01	SMD-128-8268● RL	0.063	0.055	0.046	0.038	0.032
47	0.047	SMD-128-8270● RL	0.060	0.051	0.046	0.036	0.033
100	0.1	SMD-128-8272● RL	0.113	0.097	0.085	0.068	0.064
220	0.22	SMD-128-8273● RL	0.118	0.101	0.089	0.071	0.064
100 Volt d.c. 0805 Case Size							
22	0.022	SMD-128-8269● RL	0.073	0.064	0.056	0.043	0.041
68	0.068	NEW SMD-135-8501●	0.129	0.084	0.063	0.056	0.052
16 Volt d.c. 1206 Case Size							
4700	4.7	NEW SMD-135-8506●	0.330	0.220	0.163	0.144	0.124
25 Volt d.c. 1206 Case Size							
2200	2.2	NEW SMD-135-8505●	0.220	0.144	0.108	0.096	0.088
50 Volt d.c. 1206 Case Size							
470	0.47	NEW SMD-135-8504●	0.195	0.129	0.097	0.087	0.077
220	0.22	SMD-128-8276● RL	0.196	0.170	0.149	0.119	0.106
1000	1	SMD-128-8277● RL	0.190	0.163	0.143	0.113	0.106
100 Volt d.c. 1206 Case Size							
100	0.1	SMD-128-8275● RL	0.143	0.123	0.107	0.085	0.074
330	0.33	NEW SMD-135-8503●	0.270	0.177	0.136	0.121	0.103
25 Volt d.c. 1210 Case Size							
4700	4.7	NEW SMD-135-8508●	0.400	0.270	0.199	0.177	0.165
50 Volt d.c. 1210 Case Size							
1000	1	SMD-128-8278● RL	0.350	0.300	0.270	0.220	0.191
2200	2.2	NEW SMD-135-8507●	0.370	0.250	0.185	0.165	0.144
100 Volt d.c. 1210 Case Size							
470	0.47	SMD-157-2641●	1.320	0.660	0.440	0.330	0.260
100 Volt d.c. 1812 Case Size							
1000	1	SMD-157-2642●	3.550	1.770	1.190	0.890	0.710
680	0.68	SMD-157-2643●	2.830	1.410	0.950	0.700	0.570

Capacitor Engineering Kits

KEMET CHARGED.



A range of three ceramic capacitor engineering kits from Kemet ideal for use during test and development. Each kit contains 20 pieces of each value as well as complete data books.

Kit	Number of Values	Order Code
Hi CV Ceramic Capacitors Engineering Kit	20	128-8251
Open Mode Cermic Chip Engineering Kit	10	128-8267
High Voltage Commercial Ceramic Capacitors Engineering Kit	20	128-8228

451551

Order Code	Price Each 1+
All Kits ●	34.77

FT-CAP Flexible Terminations

KEMET CHARGED.



SMD

- Multi-layer ceramic capacitor, with unique, flexible termination system
- Conductive epoxy utilized between the conductive metallization and nickel barrier establishes pliability while maintaining terminal strength, solderability and electrical preformance
- Board flex stress is directed away from the ceramic body into the termination area
- This termination system mitigates the risk of low-IR or short-circuit failues associated with board flex

Operating and storage temperature	-55°C to +125°C	Dielectric characteristic	X7R
Tolerance	±10%		

0603 Case Size

Order Multiple=10

nF	Mftrs. List No.	Order Code	Price Each 10+	100+	500+	1K+	4K+
16 Volt d.c.							
100	C0603X104K4RAC	SMD-141-4027●	0.044	0.022	0.014	0.011	0.009
220	C0603X224K4RAC	SMD-141-4032●	0.081	0.041	0.027	0.021	0.016
470	C0603X474K4RAC	SMD-141-4037●	0.096	0.048	0.032	0.024	0.020
50 Volt d.c.							
0.22	C0603X221K5RAC	SMD-141-4029●	0.040	0.020	0.013	0.010	0.008
1	C0603X102K5RAC	SMD-141-4025●	0.040	0.020	0.013	0.010	0.008
2.2	C0603X222K5RAC	SMD-141-4030●	0.045	0.023	0.015	0.011	0.009
4.7	C0603X472K5RAC	SMD-141-4035●	0.045	0.023	0.015	0.011	0.009
10	C0603X103K5RAC	SMD-141-4026●	0.040	0.020	0.013	0.010	0.008
22	C0603X223K5RAC	SMD-141-4031●	0.048	0.024	0.016	0.012	0.009
33	C0603X333K5RAC	SMD-141-4034●	0.047	0.024	0.015	0.011	0.009
47	C0603X473K5RAC	SMD-141-4036●	0.048	0.024	0.016	0.012	0.009
100	C0603X104K5RAC	SMD-141-4028●	0.052	0.026	0.018	0.012	0.010
100 Volt d.c.							
1	C0603X102K1RAC	SMD-141-4023●	0.047	0.024	0.015	0.011	0.009
200 Volt d.c.							
1	C0603X102K2RAC	SMD-141-4024●	0.078	0.039	0.026	0.020	0.015

0805 Case Size

Order Multiple=10

nF	Mftrs. List No.	Order Code	Price Each 10+	100+	500+	1K+	4K+
16 Volt d.c.							
1000	C0805X105K4RAC	SMD-141-4042●	0.110	0.055	0.037	0.028	0.022
2200	C0805X225K4RAC	SMD-141-4047●	0.132	0.066	0.044	0.033	0.027
20 Volt d.c.							
47	C0805X473K5RAC	SMD-141-4048●	0.061	0.031	0.021	0.015	0.012
25 Volt d.c.							
220	C0805X224K3RAC	SMD-141-4046●	0.089	0.044	0.030	0.023	0.018
470	C0805X474K3RAC	SMD-141-4049●	0.117	0.059	0.039	0.029	0.024
50 Volt d.c.							
1	C0805X102K5RAC	SMD-141-4038●	0.045	0.023	0.015	0.011	0.009
10	C0805X103K5RAC	SMD-141-4040●	0.045	0.023	0.015	0.011	0.009
22	C0805X223K5RAC	SMD-141-4044●	0.057	0.029	0.019	0.014	0.011
100	C0805X104K5RAC	SMD-141-4041●	0.068	0.034	0.023	0.018	0.013
100 Volt d.c.							
10	C0805X103K1RAC	SMD-141-4039●	0.054	0.027	0.018	0.013	0.010
22	C0805X223K1RAC	SMD-141-4043●	0.068	0.034	0.023	0.018	0.013

1206 Case Size

Order Multiple=10

nF	Mftrs. List No.	Order Code	Price Each 10+	100+	500+	1K+	2K+
25 Volt d.c.							
1000	C1206X105K3RAC	SMD-141-4054●	0.210	0.105	0.070	0.053	0.042
4700	C1206X475K3RAC	SMD-141-4061●	0.390	0.200	0.134	0.101	0.080
50 Volt d.c.							
10	C1206X103K5RAC	SMD-141-4051●	0.138	0.069	0.046	0.035	0.028
47	C1206X473K5RAC	SMD-141-4059●	0.128	0.064	0.042	0.032	0.026
100	C1206X104K5RAC	SMD-141-4053●	0.128	0.064	0.042	0.032	0.026
220	C1206X224K5RAC	SMD-141-4056●	0.164	0.081	0.055	0.041	0.033
470	C1206X474K5RAC	SMD-141-4060●	0.200	0.101	0.068	0.050	0.040
1000	C1206X105K5RAC	SMD-141-4055●	0.340	0.174	0.116	0.087	0.070
2200	C1206X225K5RAC	SMD-141-4058●	0.470	0.240	0.159	0.119	0.095
25 Volt d.c.							
10	C1206X103K1RAC	SMD-141-4050●	0.174	0.087	0.058	0.043	0.035
100	C1206X104K1RAC	SMD-141-4052●	0.149	0.074	0.049	0.037	0.030

1210 Case Size

476164

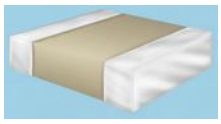
Order Multiple=10

µF	Mftrs. List No.	Order Code	Price Each 10+	100+	500+	1K+	4K+
25 Volt d.c.							
10	C1210X106K3RAC	SMD-141-4064●	0.920	0.450	0.300	0.230	– –
50 Volt d.c.							
0.22	C1210X224K5RAC	SMD-141-4065●	0.410	0.210	0.137	0.103	0.082
1	C1210X105K5RAC	SMD-141-4063●	0.350	0.177	0.118	0.089	0.071
2.2	C1210X225K5RAC	SMD-141-4066●	0.450	0.230	0.151	0.113	0.091
4.7	C1210X475K5RAC	SMD-141-4067●	0.810	0.400	0.270	0.200	– –
100 Volt d.c.							
100	C1210X104K1RAC	SMD-141-4062●	0.240	0.117	0.078	0.059	0.047

Floating Electrode MLCC

KEMET CHARGED.

FE Series



Performance characteristics	X7R	
Operating Temperature	-55°C to +125°C	SMD
Tolerance	±±10%	

- A SMD MLCC which utilises a floating internal electrode design - the electrodes are configured to form multiple capacitors in series within a single MLCC package
- This not only yields inproved voltage and ESD performance over standard designs, but also mitigates the risk of low-IR or short-circuit failures that can occur due to board flex

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**.

RL Re-reeling available

Farnell

Multilayer Ceramic - continued

Floating Electrode MLCC - continued

FE Series - continued

495406

Order Multiple=10 pF	nF	Order Code	Price Each 10+	100+	500+	1K+	10K+
50 Volt d.c. 0402 Case Size X7R							
220	0.22	SMD-152-0249●	0.048	0.024	0.016	0.012	0.009
470	0.47	SMD-152-0250●	0.047	0.024	0.015	0.011	0.009
1000	1	SMD-152-0248●	0.030	0.014	0.010	0.007	0.006
50 Volt d.c. 0603 Case Size X7R							
1000	1	SMD-152-0252●	0.032	0.016	0.010	0.008	0.006
10000	10	SMD-152-0253●	0.032	0.016	0.010	0.008	0.006
1500	1.5	SMD-152-0254●	0.064	0.032	0.022	0.016	0.012
220	0.22	SMD-152-0255●	0.034	0.018	0.011	0.008	0.007
2200	2.2	SMD-152-0256●	0.032	0.016	0.010	0.008	0.006
22000	22	SMD-152-0257●	0.040	0.020	0.013	0.010	0.008
2700	2.7	SMD-152-0259●	0.064	0.032	0.022	0.016	0.012
330	0.33	SMD-152-0261●	0.064	0.032	0.022	0.016	0.012
3300	3.3	SMD-152-0262●	0.064	0.032	0.022	0.016	0.012
470	0.47	SMD-152-0263●	0.052	0.026	0.018	0.012	0.010
4700	4.7	SMD-152-0264●	0.056	0.028	0.019	0.013	0.011
680	0.68	SMD-152-0265●	0.056	0.028	0.019	0.013	0.011
6800	6.8	SMD-152-0266●	0.056	0.028	0.019	0.013	0.011
200 Volt d.c. 0603 Case Size X7R							
1000	1	SMD-152-0251●	0.081	0.041	0.027	0.021	0.016
50 Volt d.c. 0805 Case Size X7R							
470	0.47	SMD-152-0274●	0.052	0.026	0.018	0.012	0.010
1000	1	SMD-152-0267●	0.032	0.016	0.010	0.008	0.006
2200	2.2	SMD-152-0269●	0.038	0.020	0.012	0.009	0.007
3300	3.3	SMD-152-0272●	0.036	0.019	0.012	0.009	0.007
4700	4.7	SMD-152-0275●	0.034	0.018	0.011	0.008	0.007
10000	10	SMD-152-0268●	0.031	0.015	0.010	0.008	0.006
22000	22	SMD-152-0270●	0.045	0.023	0.015	0.011	0.009
33000	33	SMD-152-0273●	0.057	0.029	0.019	0.014	0.011
47000	47	SMD-152-0276●	0.057	0.029	0.019	0.014	0.011
50 Volt d.c. 1206 Case Size X7R							
4700	4.7	SMD-152-0282●	0.085	0.042	0.029	0.022	0.018
1000	1	SMD-152-0277●	0.089	0.044	0.030	0.023	0.018
10000	10	SMD-152-0279●	0.064	0.032	0.022	0.016	0.012
22000	22	SMD-152-0281●	0.111	0.056	0.037	0.028	0.023
47000	47	SMD-152-0284●	0.078	0.039	0.026	0.020	0.015
100000	100	SMD-152-0280●	0.063	0.032	0.021	0.015	0.012
200 Volt d.c. 1206 Case Size X7R							
10000	10	SMD-152-0278●	0.138	0.072	0.046	0.035	0.028
50 Volt d.c. 1210 Case Size X7R							
220000	220	SMD-152-0285●	0.250	0.124	0.082	0.062	0.049

Floating Electrode MLCC with Flexible Termination

KEMET CHARGED.

FF Series



Performance characteristics X7R
Operating Temperature -55°C to +125°C
Tolerance ±10%

SMD

- The floating electrode component of these capacitors yields improved voltage and ESD performance over standard designs, and also mitigates the risk of low IR or short circuit failures associated with mechanical flex cracks
- The flexible termination component incorporates a measure of flexibility to the capacitor, shifting stress away from the ceramic body and into the termination area

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**.

495405

Order Multiple=10 pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
50 Volt d.c. 0603 Case Size X7R							
220	0.22	SMD-152-0286●	0.037	0.019	0.012	0.009	0.007
470	0.47	SMD-152-0287●	0.045	0.023	0.015	0.011	0.009
1000	1	SMD-152-0288●	0.027	0.013	0.009	0.007	0.005
2200	2.2	SMD-152-0289●	0.033	0.016	0.011	0.008	0.006
4700	4.7	SMD-152-0290●	0.033	0.016	0.011	0.008	0.006
10000	10	SMD-152-0291●	0.027	0.013	0.009	0.007	0.005
22000	22	SMD-152-0292●	0.054	0.027	0.018	0.013	0.010
50 Volt d.c. 0805 Case Size X7R							
220	0.22	SMD-152-0293●	0.054	0.027	0.018	0.013	0.010
470	0.47	SMD-152-0294●	0.065	0.033	0.022	0.016	0.013
1000	1	SMD-152-0296●	0.038	0.020	0.012	0.009	0.007
2200	2.2	SMD-152-0297●	0.041	0.021	0.013	0.010	0.008
4700	4.7	SMD-152-0298●	0.045	0.023	0.015	0.011	0.009
10000	10	SMD-152-0299●	0.037	0.019	0.012	0.009	0.007
22000	22	SMD-152-0302●	0.061	0.031	0.021	0.015	0.012
47000	47	SMD-152-0303●	0.064	0.032	0.022	0.016	0.012
200 Volt d.c. 0805 Case Size X7R							
10000	10	SMD-152-0300●	0.067	0.033	0.023	0.016	0.013
50 Volt d.c. 1206 Case Size X7R							
1000	1	SMD-152-0304●	0.074	0.037	0.025	0.019	0.014
2200	2.2	SMD-152-0305●	0.081	0.041	0.027	0.021	0.016
4.7	0.0047	SMD-152-0306●	0.085	0.042	0.029	0.022	0.018
10000	10	SMD-152-0307●	0.089	0.044	0.030	0.023	0.018
47000	47	SMD-152-0310●	0.113	0.057	0.038	0.029	0.023
100000	100	SMD-152-0311●	0.078	0.039	0.026	0.020	0.015
100 Volt d.c. 1206 Case Size X7R							
22000	22	SMD-152-0309●	0.113	0.057	0.038	0.029	0.023

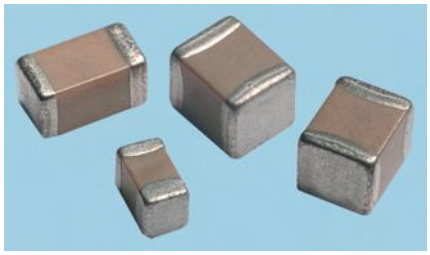
Order Multiple=10 pF	nF	Order Code	Price Each 10+	100+	500+	1K+	4K+
200 Volt d.c. 1206 Case Size X7R							
10000	10	SMD-152-0308●	0.106	0.054	0.035	0.027	0.022
100 Volt d.c. 1210 Case Size X7R							
2200	2.2	SMD-152-0312●	0.340	0.174	0.116	0.087	0.070
4700	4.7	SMD-152-0314●	0.340	0.174	0.116	0.087	0.070
47000	47	SMD-152-0316●	0.340	0.174	0.116	0.087	0.070
100000	100	SMD-152-0317●	0.270	0.137	0.092	0.068	0.055
200 Volt d.c. 1210 Case Size X7R							
10000	10	SMD-152-0315●	0.300	0.152	0.102	0.076	0.061

High Voltage MLCC

AVX

For 500V to 3000V applications

SMD



AVX special high voltage MLCC capacitors have high value, low leakage and small size and are designed for applications such as snubbers in high frequency power converters, resonators in SMPS, and high voltage coupling/DC blocking. These high voltage chip designs exhibit low ESRs at high frequencies.

These larger size capacitors require that special precautions be taken in applying them in surface mount assemblies. Apply heat at less than 4°C per second during the preheat (temperature must be within 50°C of the peak temperature reached by the ceramic bodies through the soldering process). Capacitors of case size 1808 and larger should always be used in a reflow solder process.

Operating and storage temperature	-55°C to +125°C
Temperature coefficient	0 ±30ppm/°C dielectric code J
Capacitance measurement	1MHz, 1Vrms
Insulation resistance	$\geq 10^{10}$
Proof voltage	2.5 U_R for 5 secs
Aging characterisitic	Zero
Dielectric absorbtion	0.01%
Dimensions (LxWxH)	1206: 3.2 x 1.6 x 1.52mm, 1210: 3.2 x 2.5 x 1.70mm 1808: 4.57 x 2.03 x 2.03mm, 1812: 4.50 x 3.20 x 2.54mm 2220: 5.7 x 5.0 x 3.3mm

1206 Case Size

Order Multiple=5 pF	Mftrs. List No.	Order Code	Price Each 5+	50+	250+	500+
500 Volt d.c. C0G						
47	12067A470JAT2A	SMD-121-6452● RL	0.144	0.131	0.108	0.087
100	12067A101JAT2A	SMD-121-6449● RL	0.130	0.118	0.094	0.075
220	12067A221JAT2A	SMD-121-6450● RL	0.129	0.117	0.096	0.078
330	12067A331JAT2A	SMD-121-6451● RL	0.157	0.146	0.121	0.100
470	12067A471JAT1A	SMD-121-6453● RL	0.169	0.158	0.132	0.100
1000 Volt d.c. C0G						
100	1206AA101JAT2A	SMD-121-6460● RL	0.130	0.118	0.108	0.075
220	1206AA221JAT2A	SMD-121-6461● RL	0.169	0.158	0.132	0.100
470	1206AA471JAT1A	SMD-121-6462● RL	0.250	0.240	0.184	0.143
2000 Volt d.c. C0G						
10	1206GA100JAT2A	SMD-130-1841●	0.440	0.350	0.310	0.250
15	1206GA150JAT2A	SMD-130-1842●	0.480	0.380	0.340	0.260
22	1206GA220JAT2A	SMD-130-1843●	0.480	0.380	0.340	0.260
33	1206GA330JAT1A	SMD-130-1844●	0.530	0.420	0.370	0.290
56	1206GA560JAT1A	SMD-130-1845●	0.530	0.420	0.370	0.290
68	1206GA680KAT1A	SMD-130-1847●	0.620	0.500	0.420	0.340

Order Multiple=5 pF	Mftrs. List No.	Order Code	Price Each 5+	50+	250+	500+
500 Volt d.c. X7R						
1000	12067C102KAT2A	SMD-121-6455● RL	0.105	0.094	0.071	0.056
1500	12067C152KAT2A	SMD-121-6457● RL	0.118	0.105	0.080	0.063
2200	12067C222KAT2A	SMD-121-6458● RL	0.118	0.105	0.080	0.063
4700	12067C472KAT2A	SMD-121-6459● RL	0.118	0.105	0.080	0.063
10000	12067C103KAT1A	SMD-121-6456● RL	0.144	0.131	0.108	0.087
600 Volt d.c. X7R						
10000	1206CC103KAT1A	SMD-121-6465● RL	0.196	0.183	0.152	0.128
10000	1206CC103MAT1A	SMD-130-1825●	0.320	0.260	0.220	0.180
15000	1206CC153KAT1A	SMD-130-1826●	0.530	0.420	0.370	0.290
1000 Volt d.c. X7R						
4700	1206AC472KAT1A	SMD-121-6464● RL	0.210	0.198	0.168	0.128
1000	1206AC102KAT2A	SMD-121-6463● RL	0.130	0.118	0.094	0.075
2000 Volt d.c. X7R						
100	1206GC101KAT2A	SMD-130-1848●	0.400	0.320	0.270	0.220
150	1206GC151KAT2A	SMD-130-1849●	0.440	0.350	0.310	0.250
270	1206GC271KAT1A	SMD-130-1850●	0.470	0.370	0.330	0.250
330	1206GC331KAT1A	SMD-130-1851●	0.500	0.410	0.350	0.270
470	1206GC471KAT1A	SMD-130-1852●	0.570	0.300	0.171	0.119
1000	1206GC102KAT2A	SMD-121-6467● RL	0.157	0.131	0.121	0.087

RL Re-reeling available

Farnell

1210 Case Size

pF	Mftrs. List No.	Order Code	5+	50+	250+	500+
Order Multiple=5			Price Each			
1000 Volt d.c. C0G						
47	1210AA470KAT1A	SMD 130-1831●	0.57	0.44	0.39	0.30
2000 Volt d.c. C0G						
100	1210GA101KAT1A	SMD 130-1854●	0.85	0.65	0.58	0.46

pF	Mftrs. List No.	Order Code	5+	50+	250+	500+
Order Multiple=5			Price Each			
500 Volt d.c. X7R						
1000	12107C102KAT2A	SMD 121-6469● RL	0.169	0.158	0.132	0.100
10000	12107C103KAT1A	SMD 121-6470● RL	0.220	0.196	0.174	0.137
600 Volt d.c. X7R						
27000	1210CC273KAT1A	SMD 130-1827●	0.970	0.790	0.660	0.540
1000 Volt d.c. X7R						
3300	1210AC332MAT1A	SMD 130-1832●	0.690	0.570	0.490	0.380
4700	1210AC472KAT1A	SMD 121-6472● RL	0.210	0.185	0.159	0.125
10000	1210AC103KAT1A	SMD 121-6471● RL	0.340	0.310	0.250	0.210
2000 Volt d.c. X7R						
220	1210GC221KAT1A	SMD 130-1855●	0.640	0.530	0.460	0.350
560	1210GC561KAT1A	SMD 130-1856●	0.830	0.650	0.580	0.460
1000	1210GC102KAT1A..	SMD 121-6473● RL	0.240	0.210	0.189	0.140

1808 Case Size

pF	Mftrs. List No.	Order Code	5+	50+	250+	500+
Order Multiple=5			Price Each			
2000 Volt d.c. C0G						
68	1808GA680JAT1A	SMD 130-1861●	0.81	0.64	0.57	0.44
100	1808GA101JAT1A	SMD 130-1857●	1.21	0.96	0.85	0.65
220	1808GA221JAT1A	SMD 130-1859●	1.25	0.99	0.87	0.66
3000 Volt d.c. C0G						
10	1808HA100JAT1A	SMD 130-1867●	0.97	0.79	0.66	0.54
12	1808HA120KAT1A	SMD 130-1868●	1.02	0.82	0.72	0.57
15	1808HA150JAT1A	SMD 130-1869●	0.73	0.58	0.51	0.40
18	1808HA180JAT1A	SMD 130-1870●	1.10	0.87	0.79	0.61
22	1808HA220JAT1A	SMD 130-1872●	1.10	0.87	0.79	0.61
33	1808HA330JAT1A	SMD 130-1873●	1.15	0.93	0.81	0.63
39	1808HA390JAT1A	SMD 130-1874●	1.21	0.96	0.85	0.65
47	1808HA470JAT1A	SMD 130-1875●	1.21	0.96	0.85	0.65
56	1808HA560JAT1A	SMD 130-1876●	0.83	0.67	0.58	0.45
82	1808HA820KAT1A	SMD 130-1877●	1.10	0.88	0.58	0.41

pF	Mftrs. List No.	Order Code	5+	50+	250+	500+
Order Multiple=5			Price Each			
1000 Volt d.c. X7R						
10000	1808AC103MAT1A	SMD 130-1833●	1.33	1.07	0.94	0.73
15000	1808AC153MAT1A	SMD 130-1835●	1.42	1.14	0.99	0.78
2000 Volt d.c. X7R						
1000	1808GC102KAT1A	SMD 121-6474● RL	0.48	0.42	0.37	0.29
1500	1808GC152KAT1A	SMD 130-1862●	1.06	0.85	0.58	0.41
3000 Volt d.c. X7R						
330	1808HC331KAT1A	SMD 130-1879●	0.78	0.62	0.55	0.41
470	1808HC471KAT1A	SMD 130-1880●	1.11	0.89	0.79	0.61
680	1808HC681KAT1A	SMD 130-1881●	1.15	0.93	0.81	0.63
1000	1808HC102KAT1A	SMD 130-1878●	1.57	1.26	0.83	0.59

1812 Case Size

pF	Mftrs. List No.	Order Code	5+	50+	250+	500+
Order Multiple=5			Price Each			
1000 Volt d.c. C0G						
1000	1812AA102KAT1A	SMD 121-6475●	1.63	1.47	1.25	0.97
2000 Volt d.c. C0G						
270	1812GA271KAT1A	SMD 130-1863●	2.80	2.23	1.95	1.52
3000 Volt d.c. C0G						
10	1812HA100JAT1A	SMD 130-1882●	4.18	3.34	2.92	2.26
22	1812HA220KAT1A	SMD 130-1886●	2.80	2.23	1.95	1.52
100	1812HA101JAT1A	SMD 130-1884●	4.18	3.34	2.92	2.26
150	1812HA151KAT1A	SMD 130-1885●	4.18	3.34	2.92	2.26

pF	Mftrs. List No.	Order Code	5+	50+	250+	500+
Order Multiple=5			Price Each			
600 Volt d.c. X7R						
100000	1812CC104KAT1A	SMD 130-1828●	4.18	3.34	2.92	2.26
1000 Volt d.c. X7R						
4700	1812AC472KAT1A	SMD 121-6477●	1.86	1.44	0.80	0.76
10000	1812AC103KAT1A	SMD 130-1836●	3.11	1.66	0.91	0.87
15000	1812AC153KAT1A	SMD 130-1837●	8.34	6.68	5.85	4.55
22000	1812AC223KAT1A	SMD 121-6476● RL	3.11	1.61	0.91	0.87
2000 Volt d.c. X7R						
1500	1812GC152KAT1A	SMD 121-6479● RL	1.04	0.94	0.80	0.62
2200	1812GC222KAT1A	SMD 121-6481●	1.63	1.47	1.25	0.97
2700	1812GC272KAT1A	SMD 130-1864●	2.17	1.17	0.64	0.61
3300	1812GC332MAT1A	SMD 130-1865●	8.34	6.68	5.85	4.55
4700	1812GC472KAT1A	SMD 121-6482● RL	3.11	1.61	0.91	0.87
3000 Volt d.c. X7R						
1000	1812HC102KAT1A	SMD 121-6483● RL	2.09	1.61	0.89	0.85

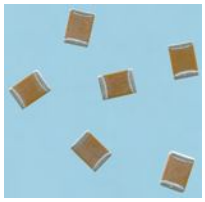
2220 Case Size

339441

nF	Mftrs. List No.	Order Code	5+	50+	250+	500+
Order Multiple=5			Price Each			
600 Volt d.c. X7R						
100	2220CC104MAT1A	SMD 130-1829●	5.29	4.24	3.70	2.89
120	2220CC124KAT1A	SMD 130-1830●	7.41	5.94	5.19	4.04
1000	22201C105KAT1A	SMD 756-9459● RL	3.71	3.26	2.69	2.44
1000 Volt d.c. X7R						
22	2220AC223KAT1A	SMD 130-1838●	8.34	6.68	5.85	4.55
47	2220AC473KAT1A	SMD 130-1839●	10.44	8.35	7.32	5.71
1500 Volt d.c. X7R						
10	2220SC103MAT1A	SMD 130-1840●	6.06	4.84	4.25	3.30

High Voltage SMD Capacitors

KEMET CHARGED.



- High voltage multilayer ceramic chip capacitors
- Standard end metalization: Tin plate over nickel barrier
- 0805, 1206, 1210, 1808, 1812 and 2225 case sizes

Operating Temperature	-55°C to +125°C
Temperature Coefficient	NP0 - ±30ppm/°C X7R - ±15%

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**.

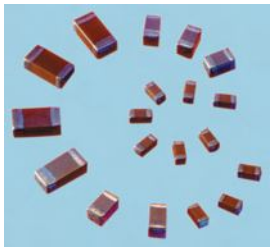
451530

pF	nF	Order Code	5+	50+	250+	500+	1K+
Order Multiple=5			Price Each				
500 Volt d.c. NP0, 0805 Case Size							
100	0.1	SMD 128-8239● RL	0.093	0.062	0.052	0.041	0.031
500 Volt d.c. NP0, 1206 Case Size							
10	0.01	NEW! SMD 157-2649●	0.940	0.470	0.310	0.240	0.185
330	0.33	SMD 128-8243● RL	0.280	0.196	0.165	0.144	0.113
500 Volt d.c. X7R, 1206 Case Size							
1000	1	NEW! SMD 157-2650●	0.810	0.400	0.270	0.200	0.155
4700	4.7	SMD 128-8240● RL	0.290	0.200	0.169	0.148	0.116
10000	10	SMD 128-8241● RL	0.300	0.200	0.169	0.148	0.116
1000 Volt d.c. NP0, 1206 Case Size							
220	0.22	NEW! SMD 157-2652●	0.800	0.400	0.270	0.200	0.152
1500 Volt d.c. X7R, 1206 Case Size							
470	0.47	SMD 128-8242● RL	0.330	0.220	0.185	0.165	0.134
2000 Volt d.c. X7R, 1206 Case Size							
1000	1	NEW! SMD 157-2651●	0.550	0.470	0.320	0.240	0.191
500 Volt d.c. X7R, 1210 Case Size							
10000	10	NEW! SMD 157-2653●	1.260	0.630	0.410	0.310	0.250
1000 Volt d.c. X7R, 1210 Case Size							
10000	10	SMD 128-8244● RL	0.530	0.350	0.310	0.270	0.220
1000 Volt d.c. X7R, 1808 Case Size							
10000	10	NEW! SMD 157-2654●	1.750	0.880	0.590	0.440	0.430
2000 Volt d.c. X7R, 1808 Case Size							
1000	1	SMD 128-8245● RL	0.560	0.370	0.320	0.280	0.230
500 Volt d.c. X7R, 1812 Case Size							
10000	10	SMD 128-8247● RL	0.650	0.430	0.370	0.320	0.260
47000	47	SMD 128-8248● RL	0.670	0.440	0.380	0.340	0.270
1500 Volt d.c. X7R, 1812 Case Size							
100	0.1	NEW! SMD 157-2655●	3.070	1.540	1.020	0.770	0.710
2000 Volt d.c. X7R, 1812 Case Size							
1000	1	SMD 128-8249● RL	0.710	0.460	0.400	0.350	0.290
500 Volt d.c. X7R, 2225 Case Size							
100000	100	SMD 128-8250● RL	2.320	1.550	1.330	1.160	0.920

Automotive MLCC

AECQ200 Qualified

AVX SMD



- Multilayer ceramic capacitors developed and tested for the automotive market
- AECQ200 qualified
- Flexiterm terminations available
- Specific automotive part number
- Base metal electrode system

0603 Case Size

nF	Mftrs. List No.	Order Code	5+	50+	250+	1K+	2K+
Order Multiple=5			Price Each				
50 Volt d.c. NP0							
0.47	06035A471J4T2A	SMD 130-1710●	0.093	0.073	0.063	0.050	0.041
16 Volt d.c. X7R							
100	0603YC104K4Z2A	SMD 130-1716●	0.069	0.057	0.049	0.039	0.031
50 Volt d.c. X7R							
100	06035C104K4T2A	SMD 130-1713●	0.075	0.062	0.053	0.043	0.035
100 Volt d.c. X7R							
1	06031C102K4Z2A	SMD 130-1714●	0.078	0.063	0.055	0.043	0.036
10	06031C103K4Z2A	SMD 130-1715●	0.078	0.063	0.055	0.043	0.036

RL Re-reeling available

Farnell

Multilayer Ceramic - continued

Automotive MLCC - continued

1210 Case Size - continued

0805 Case Size

Order Multiple=5			Price Each				
nF	Mftrs. List No.	Order Code	5+	50+	250+	1K+	2K+
50 Volt d.c. X8R							
0.68	08055F681K4Z2A	SMD 130-1726●	0.220	0.179	0.157	0.122	0.100
1	08055F102K4Z2A	SMD 130-1727●	0.220	0.179	0.157	0.122	0.100
1.8	08055F182K4Z2A	SMD 130-1728●	0.220	0.179	0.157	0.122	0.100
10	08055F103K4T2A	SMD 130-1725●	0.176	0.141	0.124	0.096	0.080
50 Volt d.c. X7R							
100	08055C104K4Z2A	SMD 130-1717●	0.128	0.102	0.091	0.068	0.058
100 Volt d.c. NP0							
1	08051A102J4T2A	SMD 130-1711●	0.146	0.115	0.102	0.080	0.064

1206 Case Size

Order Multiple=5			Price Each				
nF	Mftrs. List No.	Order Code	5+	50+	250+	1K+	2K+
100 Volt d.c. NP0							
1	12061A102J4T2A	SMD 130-1712●	0.260	0.210	0.178	0.140	0.114
50 Volt d.c. X8R							
6.8	12065F682K4T2A	SMD 130-1724●	0.350	0.290	0.250	0.197	0.161
47	12065F473K4Z2A	SMD 130-1730●	0.310	0.250	0.220	0.170	0.137
100	12065F104K4T2A	SMD 130-1729●	3.630	2.900	2.540	1.980	1.620
50 Volt d.c. X7R							
100	12065C104K4Z2A	SMD 130-1719●	0.210	0.172	0.150	0.118	0.096
220	12065C224K4T2A	SMD 130-1721●	0.210	0.169	0.147	0.115	0.094

1210 Case Size

Order Multiple=5			Price Each				
nF	Mftrs. List No.	Order Code	5+	50+	250+	1K+	2K+
100 Volt d.c. X7R							
1000	12101C105K4Z2A	SMD 130-1722●	1.90	1.51	1.33	1.04	0.85

1812 Case Size

452060

Order Multiple=5			Price Each				
nF	Mftrs. List No.	Order Code	5+	50+	250+	1K+	2K+
50 Volt d.c. X7R							
1000	18125C105K4Z2A	SMD 130-1723●	1.30	1.04	0.91	0.71	0.58

NPV Series

AVX

NbO - Ceramic Multianode Chip Capacitors



New

SMD

The NPV series of CoreCap® capacitors offer super low ESR capacitor based on combination of safe and stable OxiCap® and MLCC anodes. The NPV series is an environmentally friendly component ready for lead-free assembly systems up to 3x reflow with 260°C peak temperature. The NPV series is suitable for wide range of V-core filtering and power supplies for processors in servers, notebooks and desktop PC applications.

Operating temperature -55°C to +105°C
Tolerance ±10%

Capacitance	Case Size	Mftrs. List No.	Order Code
2.5 Volt d.c			
560µF	V	NPVV567K002R0003	167-2696

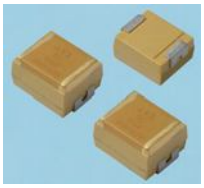
527900

		Price Each				
20 Volt d.c	**Order Code**	1+	10+	100+	250+	500+
560µF	SMD 167-2696● RL	13.07	11.92	10.38	9.00	8.11

MH Series

AVX

Stacked Parallel Ceramic Capacitors



New

SMD

In order to provide a RoHS compliant, stacked ceramic capacitor offering for the power supply industry AVX have developed the MH range of products.

- Excellent ESR and voltage immunity
- Can be a same pad size replacement for tantalum parts
- Mechanically extremely robust
- Molded case

Operating temperature -55°C to +125°C Dielectric X7R
Tolerance ±20% Case Size V

527525

			Price Each				
µF	Mftrs. List No.	Order Code	1+	10+	100+	250+	500+
25 Volt d.c							
10	MHV13C106MAT2A	SMD 167-2273● RL	6.59	5.64	4.95	4.40	3.95
22	MHV13C226MAT2A	SMD 167-2272● RL	6.64	5.69	4.97	4.42	3.98
50 Volt d.c							
1	MHV15C106MAT2A	SMD 167-2271● RL	6.59	5.64	4.95	4.40	3.95
4.7	MHV15C475MAT2A	SMD 167-2274● RL	6.47	5.54	4.84	4.31	3.87
100 Volt d.c							
1	MHV11C105MAT2A	SMD 167-2275● RL	5.67	4.86	4.25	3.78	3.41
1.5	MHV11C155MAT2A	SMD 167-2276● RL	5.91	5.06	4.43	3.94	3.54
2.2	MHV11C225MAT2A	SMD 167-2270● RL	6.27	5.37	4.71	4.18	3.76

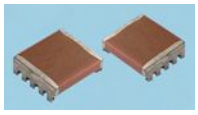
RH Series

AVX

Stacked Ceramic Capacitors in a Surface Mountable Lead Frame

New

SMD



The Stacked capacitor configuration gives a very high capacitance value whilst the surface mount leadframe provides the component with excellent resistance to mechanical damage.

- Uses high CV manufacture and stack configuration to offer very high cap values on small PCB footprint
- Low ESR / ESL
- None of the build costs associated with thru hole technology

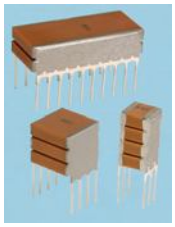
Operating temperature -55°C to +125°C Dielectric X7R
Tolerance ±20%

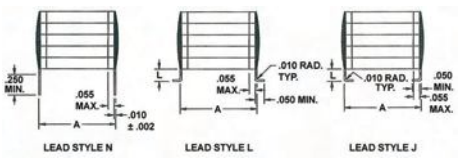
527530

			Price Each				
µF	Mftrs. List No.	Order Code	1+	10+	100+	250+	500+
50 Volt d.c							
4.7	RH215C475MAARA3	SMD 167-2281● RL	6.74	5.78	5.05	4.49	4.04
10	RH215C106MAARA3	SMD 167-2279● RL	4.71	4.03	3.53	3.14	2.82
22	RH225C226MAARA3	SMD 167-2278● RL	7.97	6.84	6.00	5.34	4.80
100 Volt d.c							
2.2	RH221C225MAARA3	SMD 167-2282● RL	4.43	3.79	3.32	2.95	2.66
4.7	RH221C475MAARA3	SMD 167-2280● RL	7.28	6.24	5.46	4.84	4.36

Ceramic Stacked Capacitors

KEMET





- Commercial versions of the MIL-PRF-49470/1 stacked MLCC
- Not RoHS compliant

New

Operating Temperature -55°C to +125°C Tolerance ±10%

Lead Type N		Dimensions			Lead	No. of Leads		
µF	nF	H	W	D	Pitch	per Side	Mftrs. List No.	Order Code
2.2	2200	27.3	12.7	6.1	11.43	10	L1QN30C225KS24	157-2365
3.9	3900	27.3	12.7	9.1	11.43	10	L1QN30C395KS36	157-2367
5.6	5600	27.3	12.7	16.5	11.43	10	L1QN30C565KS65	157-2369
8.2	8200	27.3	12.7	9.1	11.43	10	L1RN302825KS36	157-2363
33	33000	27.3	12.7	9.1	11.43	10	L1XN305336KS36	157-2370

Order Multiple=1
Lead Type N

		Price Each			
µF	Order Code	1+	10+	50+	100+
2.2	157-2365▲	164.29	150.75	136.97	114.04
3.9	157-2367▲	173.56	158.60	144.18	120.05
5.6	157-2369▲	173.56	158.60	144.18	120.05
8.2	157-2363▲	164.29	150.75	136.97	114.04
33	157-2370▲	183.86	167.50	152.27	126.72

Lead Type L		Dimensions			Lead	No. of Leads		
µF	nF	H	W	D	Pitch	per Side	Mftrs. List No.	Order Code
8.2	8200	27.3	12.7	9.1	11.43	10	L1RL302825MS36	157-2361

Order Multiple=1
Lead Type L

		Price Each			
µF	Order Code	1+	10+	50+	100+
8.2	157-2361▲	157.07	143.23	130.19	108.36

Lead Type J		Dimensions			Lead	No. of Leads		
µF	nF	H	W	D	Pitch	per Side	Mftrs. List No.	Order Code
2.2	2200	27.3	12.7	6.1	11.43	10	L1QJ30C225KS24	157-2364
3.9	3900	27.3	12.7	9.1	11.43	10	L1QJ30C395MS36	157-2366
5.6	5600	27.3	12.7	16.5	11.43	10	L1QJ30C565KS65	157-2368
27	27000	27.3	12.7	16.5	11.43	10	L1XJ301276KS65	157-2360

Order Multiple=1
Lead Type J

		Price Each			
µF	Order Code	1+	10+	50+	100+
2.2	157-2364▲	164.29	150.75	136.97	114.04
3.9	157-2366▲	164.29	150.75	136.97	114.04
5.6	157-2368▲	173.56	158.60	144.18	120.05
27	157-2360▲	202.74	187.64	174.31	145.07

RL Re-reeling available

Farnell

Lead Type N		Dimensions			Lead	No. of Leads		
µF	nF	H	W	D	Pitch	per Side	Mftrs. List No.	Order Code
1	1000	10.8	11.18	9.1	10.16	4	L1QN40C105KS36	157-2379
1.2	1200	10.8	11.18	9.1	10.16	4	L1QN40C125KS36	157-2377
4.7	4700	10.8	11.18	9.1	10.16	4	L1XN401475KS36	157-2373
10	10000	10.8	11.18	12.2	10.16	4	L1XN405106KS48	157-2371

Order Multiple=1

Lead Type N		Price Each			
µF	Order Code	1+	10+	50+	100+
1	157-2379▲	63.99	57.61	52.37	43.58
1.2	157-2377▲	70.92	64.00	58.19	48.39
4.7	157-2373▲	85.01	76.51	69.55	57.89
10	157-2371▲	76.50	68.86	62.59	52.10

Lead Type J		Dimensions			Lead	No. of Leads		
µF	nF	H	W	D	Pitch	per Side	Mftrs. List No.	Order Code
1	1000	10.8	11.18	9.1	10.16	4	L1QJ40C105KS36	157-2378
1.2	1200	10.8	11.18	9.1	10.16	4	L1QJ40C125KS36	157-2376
2.2	2200	10.8	11.18	9.1	10.16	4	L1RJ402225KS36	157-2375
4.7	4700	10.8	11.18	9.1	10.16	4	L1XJ401475KS36	157-2372

Order Multiple=1

Lead Type J		Price Each			
µF	Order Code	1+	10+	50+	100+
1	157-2378▲	70.92	64.00	58.19	48.39
1.2	157-2376▲	63.99	57.61	52.37	43.58
2.2	157-2375▲	70.92	64.00	58.19	48.39
4.7	157-2372▲	85.01	76.51	69.55	57.89

Lead Type N		Dimensions			Lead	No. of Leads		
µF	nF	H	W	D	Pitch	per Side	Mftrs. List No.	Order Code
1	1000	6.98	7.62	6.1	6.35	3	L1XN501105KS24	157-2383
2.2	2200	6.98	7.62	6.1	6.35	3	L1XN505225KS24	157-2381

Order Multiple=1

Lead Type N		Price Each			
µF	Order Code	1+	10+	50+	100+
1	157-2383▲	38.98	35.08	31.89	26.53
2.2	157-2381▲	35.07	31.57	28.70	23.89

Lead Type J		Dimensions			Lead	No. of Leads		
µF	nF	H	W	D	Pitch	per Side	Mftrs. List No.	Order Code
0.47	470	6.98	7.62	9.1	6.35	3	L1QJ50C474KS36	157-2384
1	1000	6.98	7.62	6.1	6.35	3	L1XJ501105KS24	157-2382
1	1000	6.98	7.62	3	6.35	3	L1XJ505105KS12	157-2380

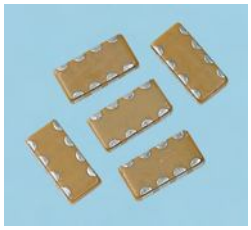
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Order Multiple=1

Lead Type J		Price Each			
µF	Order Code	1+	10+	50+	100+
0.47	157-2384▲	45.43	40.89	37.17	30.88
1	157-2382▲	38.98	35.08	31.89	26.53
1	157-2380▲	29.26	26.34	23.94	19.93

Automotive Capacitor Arrays

AECQ200 Qualified



- Four AECQ200 qualified capacitors in an array package
- 0508 and 0612 case sizes
- Reduces required board space, saves production time
- Ideal for pre-production, prototyping and production shortfalls

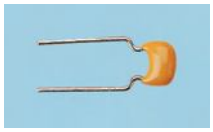
N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**

452065

Order Multiple = 5

pf	nF	Mftrs. List No.	Order Code	5+	50+	250+	1K+	2K+
0508 Case Size, 100 Volt d.c NP0								
0.056	0.056	W2A41A560K4T2A	SMD130-1732●	0.230	0.180	0.160	0.125	0.101
0508 Case Size, 10 Volt d.c X7R								
100	100	W2A4ZC104M4T2A	SMD130-1733●	0.310	0.250	0.220	0.170	0.137
0612 Case Size, 100 Volt d.c NP0								
0.22	0.22	W3A41A221K4T2A	SMD130-1734●	0.230	0.180	0.160	0.125	0.101
0612 Case Size, 16 Volt d.c X7R								
100	100	W3A4YC104M4T2A	SMD130-1736●	0.310	0.250	0.220	0.170	0.137
0612 Case Size, 100 Volt d.c X7R								
10	10	W3A41C103K4T2A	SMD130-1735●	0.370	0.310	0.260	0.210	0.164

MCRR Series



Lead length=25.4min,
Lead dia=0.508

- Cost effective dipped radial multilayer ceramic capacitors
- High reliability and performance
- Applications for COG dielectric tuned circuits and filters where low loss and stability are required
- X7R dielectric offers high capacitance values in compact sizes with good stability
- Z5U dielectric can be used in coupling and decoupling applications where change of capacitance with temperature is not important

	COG	X7R	Z5U
Operating Temperature	-55°C to +125°C	-55°C to +125°C	-55°C to +125°C
Temperature coefficient	0±30ppm/°C for C>20pf	±20%	+30% - 80%
Tolerance	±5%	±10%	±20%

N.B. For ease of selection capacitance values are listed in both **pF** and **nF**.

200 Volt d. c. COG		Tolerance	Dimensions					Order
pF	nF	(%)	H	W	D	Lead Pitch	Mftrs. List No.	Code
10	0.01	5	3.81	3.81	2.54	2.54	MCRR25100C0GJ0200	121-6406
22	0.022	5	3.81	3.81	2.54	2.54	MCRR25220C0GJ0200	121-6407
33	0.033	5	3.81	3.81	2.54	2.54	MCRR25330C0GJ0200	121-6408
47	0.047	5	3.81	3.81	2.54	2.54	MCRR25470C0GJ0200	121-6409

200 Volt d.c. COG		Price Each					
pF	Order Code	5+	50+	100+	500+	1K+	3K+
10	121-6406●	0.176	0.136	0.114	0.073	0.063	0.054
22	121-6407●	0.162	0.136	0.114	0.073	0.063	0.054
33	121-6408●	0.162	0.136	0.114	0.073	0.063	0.054
47	121-6409●	0.162	0.136	0.114	0.073	0.063	0.054

200 Volt d. c. COG		Tolerance	Dimensions					Order
pF	nF	(%)	H	W	D	Lead Pitch	Mftrs. List No.	Code
10	0.01	5	7.62	5.08	3.18	5.08	MCRR50100C0GJ0200	121-6410
22	0.022	5	7.62	5.08	3.18	5.08	MCRR50220C0GJ0200	121-6411
33	0.033	5	7.62	5.08	3.18	5.08	MCRR50330C0GJ0200	121-6412
47	0.047	5	7.62	5.08	3.18	5.08	MCRR50470C0GJ0200	121-6413
100	0.1	5	7.62	5.08	3.18	5.08	MCRR50101C0GJ0200	121-6414
220	0.22	5	7.62	5.08	3.18	5.08	MCRR50221C0GJ0200	121-6415

200 Volt d.c. COG		Price Each					
pF	Order Code	5+	50+	100+	500+	1K+	3K+
10	121-6410●	0.162	0.136	0.114	0.073	0.063	0.054
22	121-6411●	0.162	0.136	0.114	0.073	0.063	0.054
33	121-6412●	0.162	0.136	0.114	0.073	0.063	0.054
47	121-6413●	0.162	0.136	0.114	0.073	0.063	0.054
100	121-6414●	0.162	0.136	0.114	0.073	0.063	0.054
220	121-6415●	0.162	0.136	0.114	0.073	0.063	0.054

100 Volt d. c. COG		Tolerance	Dimensions					Order
pF	nF	(%)	H	W	D	Lead Pitch	Mftrs. List No.	Code
100	0.1	5	3.81	3.81	2.54	2.54	MCRR25101C0GJ0100	121-6416
220	0.22	5	3.81	3.81	2.54	2.54	MCRR25221C0GJ0100	121-6418
330	0.33	5	3.81	3.81	2.54	2.54	MCRR25331C0GJ0100	121-6419
470	0.47	5	3.81	3.81	2.54	2.54	MCRR25471C0GJ0100	121-6420
1000	1	5	3.81	3.81	2.54	2.54	MCRR25102C0GJ0100	121-6421

100 Volt d.c. COG		Price Each					
pF	Order Code	5+	50+	100+	500+	1K+	3K+
100	121-6416●	0.162	0.136	0.114	0.073	0.063	0.054
220	121-6418●	0.162	0.136	0.114	0.073	0.063	0.054
330	121-6419●	0.162	0.136	0.114	0.073	0.063	0.054
470	121-6420●	0.160	0.136	0.114	0.073	0.062	0.053
1000	121-6421●	0.184	0.162	0.153	0.096	0.075	0.065

100 Volt d. c. COG		Tolerance	Dimensions					Order
pF	nF	(%)	H	W	D	Lead Pitch	Mftrs. List No.	Code
1000	1	5	7.62	5.08	3.18	5.08	MCRR50102C0GJ0100	121-6422

100 Volt d.c. COG		Price Each					
pF	Order Code	5+	50+	100+	500+	1K+	3K+
1000	121-6422●	0.184	0.162	0.153	0.096	0.075	0.065

100 Volt d. c. X7R		Tolerance	Dimensions					Order
pF	nF	(%)	H	W	D	Lead Pitch	Mftrs. List No.	Code
1000	1	10	3.81	3.81	2.54	2.54	MCRR25102X7RK0100	121-6423
3300	3.3	10	3.81	3.81	2.54	2.54	MCRR25332X7RK0100	121-6424
10000	10	10	3.81	3.81	2.54	2.54	MCRR25103X7RK0100	121-6425
22000	22	10	3.81	3.81	2.54	2.54	MCRR25223X7RK0100	121-6426

100 Volt d.c. X7R		Price Each					
pF	Order Code	5+	50+	100+	500+	1K+	3K+
1000	121-6423●	0.135	0.112	0.088	0.058	0.050	0.043
3300	121-6424●	0.173	0.149	0.137	0.083	0.071	0.053
10000	121-6425●	0.185	0.151	0.126	0.083	0.063	0.054
22000	121-6426●	0.210	0.175	0.154	0.109	0.081	0.065

100 Volt d. c. X7R		Tolerance	Dimensions					Order
pF	nF	(%)	H	W	D	Lead Pitch	Mftrs. List No.	Code
1000	1	10	7.62	5.08	3.18	5.08	MCRR50102X7RK0100	121-6427
2200	2.2	10	7.62	5.08	3.18	5.08	MCRR50222X7RK0100	121-6428
3300	3.3	10	7.62	5.08	3.18	5.08	MCRR50332X7RK0100	121-6431
22000	22	10	7.62	5.08	3.18	5.08	MCRR50223X7RK0100	121-6433
100000	100	10	7.62	5.08	3.18	5.08	MCRR50104X7RK0100	121-6434

100 Volt d.c. X7R		Price Each					
pF	Order Code	5+	50+	100+	500+	1K+	3K+
1000	121-6427●	0.096	0.080	0.062	0.042	0.036	0.030
2200	121-6428●	0.093	0.082	0.072	0.047	0.038	0.033
3300	121-6431●	0.101	0.088	0.076	0.052	0.042	0.034
22000	121-6433●	0.210	0.175	0.154	0.109	0.081	0.065
100000	121-6434●	0.250	0.199	0.165	0.109	0.081	0.065

63/50 Volt d. c. X7R		Tolerance	Dimensions					Order
pF	nF	(%)	H	W	D	Lead Pitch	Mftrs. List No.	Code
10000	10	10	3.81	3.81	2.54	2.54	MCRR25103X7RK0050	121-6435
33000	33	10	5.08	5.08	3.18	2.54	MCRR25333X7RK0050	121-6436
47000	47	10	5.08	5.08	3.18	5.08	MCRR25473X7RK0050	121-6437
100000	100	10	5.08	5.08	3.18	2.54	MCRR25104X7RK0050	121-6438

63/50 Volt d.c. X7R		Price Each					
pF	Order Code	5+	50+	100+	500+	1K+	3K+
10000	121-6435●	0.135	0.112	0.089	0.058	0.050	0.043
33000	121-6436●	0.155	0.136	0.134	0.100	0.089	0.075
47000	121-6437●	0.135	0.112	0.101	0.059	0.052	0.043
100000	121-6438●	0.160	0.125	0.101	0.058	0.050	0.043

Multilayer Ceramic - continued

MCRR Series - continued

63/50 Volt d. c. X7R pF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
47000	47	10	7.62	5.08	3.18	5.08	MCRR50473X7RK0050	121-6439
100000	100	10	7.62	5.08	3.18	5.08	MCRR50104X7RK0050	121-6440
220000	220	10	7.62	5.08	3.18	5.08	MCRR50224X7RK0050	121-6441
470000	470	10	7.62	7.62	3.81	5.08	MCRR50474X7RK0050	121-6448
1000000	1000	10	7.62	7.62	3.81	5.08	MCRR50105X7RK0050	121-6443

63/50 Volt d.c. X7R pF	Order Code	Price Each 5+	50+	100+	500+	1K+	3K+
47000	121-6439●	0.135	0.112	0.101	0.059	0.052	0.043
100000	121-6440●	0.160	0.125	0.101	0.058	0.050	0.043
220000	121-6441●	0.380	0.330	0.290	0.190	0.160	0.128
470000	121-6448●	0.550	0.470	0.420	0.280	0.220	0.183
1000000	121-6443●	1.470	1.290	1.200	0.970	0.800	0.700

63/50 Volt d. c. Z5U pF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
100000	100	20	5.08	5.08	3.18	2.54	MCRR25104Z5UM0050	121-6444

63/50 Volt d.c. Z5U pF	Order Code	Price Each 5+	50+	100+	500+	1K+	3K+
100000	121-6444●	0.099	0.088	0.063	0.043	0.036	0.020

63/50 Volt d. c. Z5U pF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
100000	100	20	7.62	5.08	3.18	5.08	MCRR50104Z5UM0050	121-6445
470000	470	20	7.62	5.08	3.18	5.08	MCRR50474Z5UM0050	121-6446
1000000	1000	20	7.62	7.62	3.81	5.08	MCRR50105Z5UM0050	121-6447

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63/50 Volt d.c. Z5U pF	Order Code	Price Each 5+	50+	100+	500+	1K+	3K+
100000	121-6445●	0.099	0.088	0.063	0.043	0.036	0.020
470000	121-6446●	0.270	0.220	0.200	0.132	0.104	0.086
1000000	121-6447●	0.950	0.760	0.630	0.430	0.310	0.280

2252 300 Series



- Radial multilayer ceramic capacitors
- Ultra reliability
- Compact package size
- Choice of dielectric characteristics

Performance Characteristics

	NPO	X7R
Operating Temperature	-55°C to +125°C	-55°C to +125°C
Temperature coefficient	±30ppm/°C	—
Capacitance Tolerance	±5%	±10%
Dielectric strength	2.5VR	2.5VR

N.B. For ease of selection, capacitance value is listed in both **µf** and **nf**, or **nF** and **pF**

50 Volt d.c. NPO pF	nF	Dimensions H	W	D	Lead Dia	Lead Pitch	Mftrs. List No.	Order Code
10	0.01	4	4	2.5	0.5	2.5	225230500109	114-1756
15	0.015	4	4	2.5	0.5	2.5	225230500159	114-1759
22	0.022	4	4	2.5	0.5	2.5	225230500229	114-1760
33	0.033	4	4	2.5	0.5	2.5	225230500339	114-1761
47	0.047	4	4	2.5	0.5	2.5	225230500479	114-1762
68	0.068	4	4	2.5	0.5	2.5	225230500689	114-1763
100	0.1	4	4	2.5	0.5	2.5	225230500101	114-1765
150	0.15	4	4	2.5	0.5	2.5	225230500151	114-1766
220	0.22	4	4	2.5	0.5	2.5	225230500221	114-1767
330	0.33	4	4	2.5	0.5	2.5	225230500331	114-1768
470	0.47	4	4	2.5	0.5	2.5	225230500471	114-1769
680	0.68	4	4	2.5	0.5	2.5	225230500681	114-1770
		4	4	2.5	0.5	2.5	225230500102	114-1771

Order Multiple=5

50 Volt d.c.NPO pF	Order Code	Price Each 5+	50+	100+	500+	1K+	3K+
10	114-1756●	0.196	0.134	0.101	0.058	0.044	0.039
15	114-1759●	0.195	0.133	0.101	0.056	0.044	0.039
22	114-1760●	0.195	0.133	0.101	0.056	0.044	0.039
33	114-1761●	0.195	0.133	0.101	0.056	0.044	0.039
47	114-1762●	0.195	0.133	0.101	0.056	0.044	0.039
68	114-1763●	0.197	0.135	0.102	0.058	0.044	0.040
100	114-1765●	0.197	0.135	0.102	0.058	0.044	0.040
150	114-1766●	0.210	0.146	0.110	0.064	0.047	0.042
220	114-1767●	0.210	0.146	0.110	0.064	0.047	0.042
330	114-1768●	0.240	0.151	0.113	0.065	0.050	0.044
470	114-1769●	0.270	0.174	0.136	0.085	0.060	0.059
680	114-1770●	0.270	0.181	0.133	0.083	0.059	0.058
1000	114-1771●	0.350	0.250	0.210	0.110	0.085	0.072

50 Volt d.c. X7R µF	nF	Dimensions H	W	D	Lead Dia	Lead Pitch	Mftrs. List No.	Order Code
0.01	10	4	4	2.5	0.5	2.5	225232500103	114-1772
0.022	22	4	4	2.5	0.5	2.5	225232500223	114-1773
0.047	47	4	4	2.5	0.5	2.5	225232500473	114-1774
0.1	100	4	4	2.5	0.5	2.5	225232500104	114-1775
0.1	100	4	4	2.5	0.5	5	225232508104	114-1777
0.22	220	4	4	2.5	0.5	2.5	225232514224	114-1778

Order Multiple=5

50 Volt d.c.X7R µF	Order Code	Price Each 5+	50+	100+	500+	1K+	3K+
0.01	114-1772●	0.180	0.124	0.093	0.051	0.042	0.037
0.022	114-1773●	0.210	0.144	0.108	0.063	0.047	0.042
0.047	114-1774●	0.240	0.160	0.121	0.068	0.053	0.046
0.1	114-1775●	0.360	0.270	0.190	0.111	0.089	0.072
0.1	114-1777●	0.360	0.270	0.190	0.111	0.089	0.072
0.22	114-1778●	0.700	0.480	0.360	0.200	0.168	0.140

100 Volt d.c. X7R µF	nF	Dimensions H	W	D	Lead Dia	Lead Pitch	Mftrs. List No.	Order Code
0.001	1	4	4	2.5	0.5	2.5	225232600102	114-1779
0.0047	4.7	4	4	2.5	0.5	2.5	225232600472	114-1780
0.01	10	4	4	2.5	0.5	2.5	225232600103	114-1781
0.022	22	5	5	3.2	0.5	2.5	225232600223	114-1819
0.047	47	4	4	2.5	0.5	2.5	225232614473	114-1782
0.1	100	5	5	3.2	0.5	5	225232622104	114-1784

228221

Order Multiple=5

100 Volt d.c. X7R µF	Order Code	Price Each 5+	50+	100+	500+	1K+	3K+
0.001	114-1779●	0.165	0.113	0.084	0.047	0.039	0.035
0.0047	114-1780●	0.200	0.138	0.104	0.059	0.045	0.041
0.01	114-1781●	0.191	0.132	0.099	0.057	0.044	0.039
0.022	114-1819●	0.260	0.175	0.154	0.085	0.059	0.051
0.047	114-1782●	0.340	0.260	0.183	0.108	0.084	0.071
0.1	114-1784●	0.490	0.350	0.270	0.146	0.120	0.106

C315, C317, C320, C322, C330, C333 and C340 – 'Gold Max' Series

KEMET



Performance Characteristics

	NPO	X7R	Z5U
Operating Temperature Range	-55°C to +125C	-55°C to +125C	+10°C to +85C
Temperature coefficient	±30	±15%	-56 to +22%
Tolerance	±5%	±10%	±20%

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**, or **pF** and **nF**

100 Volt d. c. NPO pF	nF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
33	0.033	5.33	0.1	3.81	2.54	C315C330J1G5TA	145-7637
220	0.22	5.33	0.1	3.81	2.54	C315C221J1G5TA	145-7636
470	0.47	5.33	0.1	3.81	2.54	C315C471J1G5TA	145-7638
1000	1	5.33	0.1	3.81	2.54	C315C102J1G5TA	145-7635

Order Multiple=10

100 Volt d.c. NPO pF	Order Code	Price Each 10+	50+	100+	500+	1K+
33	145-7637●	0.350	0.230	0.175	0.103	0.072
220	145-7636●	0.350	0.230	0.175	0.103	0.072
470	145-7638●	0.350	0.230	0.175	0.103	0.072
1000	145-7635●	0.350	0.230	0.175	0.103	0.072

100 Volt d. c. NPO pF	nF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
10	0.01	5.84	0.1	3.81	5.08	C317C100J1G5TA	145-7661
100	0.1	5.84	0.1	3.81	5.08	C317C101J1G5TA	145-7663
100	0.1	6.6	0.125	5.08	5.08	C322C101J1G5TA	145-7671
220	0.22	5.84	0.1	3.81	5.08	C317C221J1G5TA	145-7667
330	0.33	5.84	0.1	3.81	5.08	C317C331J1G5TA	145-7669
470	0.47	5.84	0.1	3.81	5.08	C317C471J1G5TA	145-7670
1000	1	5.84	0.1	3.81	5.08	C317C102J1G5TA	145-7666
1000	1	6.6	0.125	5.08	5.08	C322C102J1G5TA	145-7672
2200	2.2	6.6	0.125	5.08	5.08	C322C222J1G5TA	145-7673
3300	3.3	6.6	0.125	5.08	5.08	C322C332J1G5TA	145-7675
4700	4.7	6.6	0.125	5.08	5.08	C322C472J1G5TA	145-7677
10000	10	9.14	0.15	7.62	5.08	C330C103J1G5TA	145-7678

Order Multiple=10

100 Volt d.c. NPO pF	Order Code	Price Each 10+	50+	100+	500+	1K+
10	145-7661●	0.157	0.078	0.053	0.039	0.033
100	145-7663●	0.230	0.183	0.111	0.100	0.088
100	145-7671●	0.250	0.200	0.129	0.117	0.108
220	145-7667●	0.340	0.310	0.230	0.210	0.191
330	145-7669●	0.340	0.310	0.230	0.210	0.191
470	145-7670●	0.340	0.310	0.230	0.210	0.191
1000	145-7666●	0.340	0.310	0.230	0.210	0.191
1000	145-7672●	0.350	0.320	0.240	0.220	0.200
2200	145-7673●	0.420	0.380	0.310	0.290	0.270
3300	145-7675●	0.570	0.520	0.440	0.410	0.380
4700	145-7677●	0.570	0.520	0.440	0.410	0.380
10000	145-7678●	1.490	1.360	1.250	1.110	0.950

200 Volt d. c. NPO pF	nF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
22	0.022	5.33	0.1	3.81	2.54	C315C220J2G5TA	145-7651
100	0.1	5.33	0.1	3.81	2.54	C315C101J2G5TA	145-7650

Order Multiple=10

200 Volt d.c. NPO pF	Order Code	Price Each 10+	50+	100+	500+	1K+
22	145-7651●	0.230	0.183	0.111	0.100	0.088
100	145-7650●	0.230	0.183	0.111	0.100	0.088

RL Re-reeling available

Farnell

200 Volt d. c. NPO

pF	nF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
22	0.022	5.84	0.1	3.81	5.08	C317C220J2G5TA	145-7695
47	0.047	5.84	0.1	3.81	5.08	C317C470J2G5TA	145-7696
100	0.1	5.84	0.1	3.81	5.08	C317C101J2G5TA	145-7694

Order Multiple=10
200 Volt d.c. NPO

pF	Order Code	10+	50+	Price Each 100+	500+	1K+
22	145-7695●	0.220	0.173	0.101	0.090	0.077
47	145-7696●	0.220	0.173	0.101	0.090	0.077
100	145-7694●	0.230	0.183	0.111	0.100	0.088

50 Volt d. c. X7R

µF	nF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.01	10	5.33	0.1	3.81	2.54	C315C103K5R5TA	145-7653
0.022	22	5.33	0.1	3.81	2.54	C315C223K5R5TA	145-7654
0.1	100	6.6	0.125	3.81	2.54	C320C104K5R5TA	145-7655
0.22	220	6.6	0.125	3.81	2.54	C320C224K5R5TA	145-7656

Order Multiple=10
50 Volt d.c. X7R

µF	Order Code	10+	50+	Price Each 100+	500+	1K+
0.01	SMD 145-7653●	0.196	0.152	0.091	0.078	0.068
0.022	145-7654●	0.196	0.152	0.091	0.078	0.068
0.1	SMD 145-7655●	0.196	0.152	0.091	0.078	0.068
0.22	145-7656●	0.390	0.300	0.181	0.157	0.136

50 Volt d. c. X7R

µF	nF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.01	10	6.6	0.125	5.08	5.08	C322C103K5R5TA	145-7698
0.1	100	6.6	0.125	5.08	5.08	C322C104K5R5TA	145-7699
0.22	220	6.6	0.125	5.08	5.08	C322C224K5R5TA	145-7700
0.33	330	9.14	0.15	7.62	5.08	C330C334K5R5TA	145-7702
0.47	470	9.14	0.15	7.62	5.08	C330C474K5R5TA	145-7703
1	1000	9.14	0.15	7.62	5.08	C330C105K5R5TA	145-7701
2.2	2200	11.68	0.15	10.16	5.08	C340C225K5R5TA	145-7704

Order Multiple=10
50 Volt d.c. X7R

µF	Order Code	10+	50+	Price Each 100+	500+	1K+
0.01	145-7698●	0.157	0.078	0.053	0.039	0.033
0.1	145-7699●	0.157	0.078	0.053	0.039	0.033
0.22	145-7700●	0.390	0.199	0.133	0.100	0.091
0.33	145-7702●	0.850	0.420	0.280	0.250	0.185
0.47	145-7703●	0.850	0.420	0.280	0.250	0.185
1	145-7701●	1.210	0.600	0.400	0.370	0.300
2.2	145-7704●	2.570	1.800	1.600	1.390	1.270

100 Volt d. c. X7R

µF	nF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.001	1	5.33	0.1	3.81	2.54	C315C102K1R5TA	145-7641
0.0012	1.2	5.33	0.1	3.81	2.54	C315C222K1R5TA	145-7644
0.0015	1.5	5.33	0.1	3.81	2.54	C315C152K1R5TA	145-7643
0.0047	4.7	5.33	0.1	3.81	2.54	C315C472K1R5TA	145-7649
0.01	10	5.33	0.1	3.81	2.54	C315C103K1R5TA	145-7642
0.022	22	6.6	0.125	3.81	2.54	C320C223K1R5TA	145-7646
0.033	33	6.6	0.125	3.81	2.54	C320C333K1R5TA	145-7647
0.047	47	6.6	0.125	3.81	2.54	C320C473K1R5TA	145-7648
0.1	100	6.6	0.125	3.81	2.54	C320C104K1R5TA	145-7645

Order Multiple=10
100 Volt d.c. X7R

µF	Order Code	10+	50+	Price Each 100+	500+	1K+
0.001	145-7641●	0.220	0.173	0.101	0.090	0.077
0.0012	145-7644●	0.220	0.173	0.101	0.090	0.077
0.0015	145-7643●	0.220	0.173	0.101	0.090	0.077
0.0047	145-7649●	0.220	0.173	0.101	0.090	0.077
0.01	145-7642●	0.220	0.173	0.101	0.090	0.077
0.022	145-7646●	0.220	0.173	0.101	0.090	0.077
0.033	145-7647●	0.220	0.173	0.101	0.090	0.077
0.047	145-7648●	0.220	0.173	0.101	0.090	0.077
0.1	145-7645●	0.220	0.173	0.101	0.090	0.077

100 Volt d. c. X7R

µF	nF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.001	1	5.84	0.1	3.81	5.08	C317C102K1R5TA	145-7679
0.0022	2.2	5.84	0.1	3.81	5.08	C317C222K1R5TA	145-7681
0.0047	4.7	5.84	0.1	3.81	5.08	C317C472K1R5TA	145-7682
0.01	10	5.84	0.1	3.81	5.08	C317C103K1R5TA	145-7680
0.01	10	6.6	0.125	5.08	5.08	C322C103K1R5TA	145-7684
0.022	22	6.6	0.125	5.08	5.08	C322C223K1R5TA	145-7686
0.033	33	6.6	0.125	5.08	5.08	C322C333K1R5TA	145-7687
0.047	47	6.6	0.125	5.08	5.08	C322C473K1R5TA	145-7689
0.1	100	6.6	0.125	5.08	5.08	C322C104K1R5TA	145-7685
0.1	100	9.91	0.15	7.62	5.08	C333C104K1R5TA	145-7692
0.22	220	9.14	0.15	7.62	5.08	C330C224K1R5TA	145-7691
1	1000	11.68	0.15	10.16	5.08	C340C105K1R5TA	145-7693

Order Multiple=10
100 Volt d.c. X7R

µF	Order Code	10+	50+	Price Each 100+	500+	1K+
0.001	145-7679●	0.220	0.173	0.101	0.090	0.077
0.0022	145-7681●	0.220	0.173	0.101	0.090	0.077
0.0047	145-7682●	0.220	0.173	0.101	0.090	0.077
0.01	145-7680●	0.220	0.173	0.101	0.090	0.077
0.01	145-7684●	0.220	0.173	0.101	0.090	0.077
0.022	145-7686●	0.340	0.310	0.230	0.210	0.191
0.033	145-7687●	0.340	0.310	0.230	0.210	0.191
0.047	145-7689●	0.340	0.310	0.230	0.210	0.191
0.1	145-7685●	0.340	0.310	0.230	0.210	0.191
0.1	145-7692●	0.570	0.520	0.440	0.410	0.380
0.22	145-7691●	1.390	1.280	1.160	1.020	0.850
1	145-7693●	2.570	1.800	1.600	1.390	1.270

200 Volt d. c. X7R

µF	nF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.01	10	6.6	0.125	5.08	5.08	C322C103K2R5TA	145-7697

Order Multiple=10
200 Volt d.c. X7R

µF	Order Code	10+	50+	Price Each 100+	500+	1K+
0.01	145-7697●	0.199	0.100	0.066	0.049	0.043

50 Volt d. c. Z5U

µF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.1	100	±20%	5.33	0.1	3.81	2.54	C315C104M5U5TA	145-7657
0.1	100	±20%	6.6	0.125	3.81	2.54	C320C104M5U5TA	145-7658
0.33	330	±20%	6.6	0.125	3.81	2.54	C320C334M5U5TA	145-7659
0.47	470	±20%	6.6	0.125	3.81	2.54	C320C474M5U5TA	145-7660

Order Multiple=10
50 Volt d.c. Z5U

µF	Order Code	10+	50+	Price Each 100+	500+	1K+
0.1	145-7657●	0.220	0.173	0.101	0.090	0.077
0.1	145-7658●	0.210	0.183	0.111	0.100	0.088
0.33	145-7659●	0.260	0.200	0.129	0.117	0.108
0.47	145-7660●	0.390	0.300	0.181	0.157	0.136

50 Volt d. c. Z5U

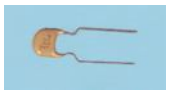
µF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.1	100	±20%	5.84	0.1	3.81	5.08	C317C104M5U5TA	145-7705
0.1	100	±20%	6.6	0.125	5.08	5.08	C322C104M5U5TA	145-7707
0.22	220	±20%	6.6	0.125	5.08	5.08	C322C224M5U5TA	145-7708
0.33	330	±20%	6.6	0.125	5.08	5.08	C322C334M5U5TA	145-7709
0.47	470	±20%	6.6	0.125	5.08	5.08	C322C474M5U5TA	145-7710
2.2	2200	±20%	9.14	0.15	7.62	5.08	C330C225M5U5TA	145-7711
4.7	4700	±20%	11.68	0.15	10.16	5.08	C340C475M5U5TA	145-7712

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Order Multiple=10
50 Volt d.c. Z5U

µF	Order Code	10+	50+	Price Each 100+	500+	1K+
0.1	145-7705●	0.185	0.144	0.101	0.062	0.041
0.1	145-7707●	0.196	0.155	0.111	0.072	0.052
0.22	145-7708●	0.260	0.220	0.173	0.134	0.103
0.33	145-7709●	0.260	0.220	0.173	0.134	0.103
0.47	145-7710●	0.390	0.340	0.290	0.250	0.196
2.2	145-7711●	1.490	1.360	1.250	1.110	0.950
4.7	145-7712●	3.060	2.190	1.960	1.760	1.580

SR15, SR20, SR21, SR30 – 'Skycap' Series



- 'Skycap' dipped radial multilayer ceramic capacitors
- Choice of dielectric, tolerance, voltage and case size

Lead length=25.4 min. Lead dia.=0.51

Performance Characteristics

	NPO	X7R	Z5U
Operating Temperature	-55°C to +125°C	-55°C to +125°C	-25°C to +85°C
Temperature coefficient	0±30ppm/°C for C>20pF 0+120-40ppm/°C for C≤20pF	±20	±30
Insulation resistance	100000MΩ or 1000 sec. (MΩ uF) whichever is less	100000MΩ or 1000 sec. (MΩ uF) whichever is less	10000MΩ or 100 sec. (MΩ uF) whichever is less
Proof voltage	2.5VR	2.5VR	2VR
Climatic category (IEC)	55/125/56	55/125/56	25/085/56

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**, or **pF** and **nF**

100 Volt d. c. NPO

pF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
10	0.01	5	3.81	3.81	2.54	2.54	SR151A100JTR	110-0368
15	0.015	5	3.81	3.81	2.54	2.54	SR151A150JTR	110-0498
22	0.022	5	3.81	3.81	2.54	2.54	SR151A220JTR	110-0369
33	0.033	5	3.81	3.81	2.54	2.54	SR151A330JTR	110-0370
47	0.047	5	3.81	3.81	2.54	2.54	SR151A470JTR	110-0371
100	0.1	5	3.81	3.81	2.54	2.54	SR151A101JTR	110-0372
220	0.22	5	3.81	3.81	2.54	2.54	SR151A221JTR	110-0374
330	0.33	5	3.81	3.81	2.54	2.54	SR151A331JTR	110-0375
470	0.47	5	3.81	3.81	2.54	2.54	SR151A471JTR	110-0376
1000	1	5	5.08	5.08	3.18	2.54	SR201A102JTR	110-0499
2200	2.2	5	5.08	5.08	3.18	2.54	SR201A222JTR	110-0500

Order Multiple=5
100 Volt d.c. NPO

pF	Order Code	5+	50+	Price Each 100+	500+	1K+
10	110-0368●	0.440	0.290	0.220	0.127	0.093
15	110-0498●	0.440	0.290	0.220	0.127	0.093
22	110-0369●	0.440	0.290	0.220	0.127	0.093
33	110-0370●	0.440	0.290	0.220	0.127	0.093
47	110-0371●	0.440	0.290	0.220	0.127	0.093
100	110-0372●	0.440	0.290	0.220	0.127	0.093
220	110-0374●	0.440	0.290	0.220	0.127	0.093
330	110-0375●	0.440	0.290	0.220	0.127	0.093
470	110-0376●	0.470	0.310	0.220	0.130	0.094
1000	110-0499●	0.570	0.330	0.260	0.151	0.110
2200	110-0500●	1.090	0.700	0.550	0.320	0.230

100 Volt d. c. NPO

pF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
15	0.015	5	7.62	5.08	3.18	5.08	SR211A150JTR	110-0501
33	0.033	5	7.62	5.08	3.18	5.08	SR211A330JTR	110-0502
47	0.047	5	7.62	5.08	3.18	5.08	SR211A470JTR	110-0503
100	0.1	5	7.62	5.08	3.18	5.08	SR211A101JTR	110-0504
100	0.1	10	7.62	5.08	3.18	5.08	SR211A101KTR	110-0505
150	0.15	5	7.62	5.08	3.18	5.08	SR211A151JTR	110-0507
220	0.22	5	7.62	5.08	3.18	5.08	SR211A221JTR	110-0508
330	0.33	5	7.62	5.08	3.18	5.08	SR211A331JTR	110-0509

RL Re-reeling available

Multilayer Ceramic - continued

SR15, SR20, SR21, SR30 – 'Skycap' Series - continued

470	0.47	5	7.62	5.08	3.18	5.08	SR211A471JTR	110-0510
680	0.68	5	7.62	5.08	3.18	5.08	SR211A681JTR	110-0511
1000	1	5	7.62	5.08	3.18	5.08	SR211A102JTR	110-0512
1000	1	10	5.49	7.62	5.08	5.08	SR211A102KTR	110-0513
1500	1.5	5	7.62	5.08	3.18	5.08	SR211A152JTR	110-0514
2200	2.2	5	7.62	5.08	3.18	5.08	SR211A222JTR	110-0515
3300	3.3	5	7.62	5.08	3.18	5.08	SR211A332JTR	110-0516
10000	10	5	5.49	7.62	3.18	5.08	SR301A103JTR	110-0517

Order Multiple=5
100 Volt d.c. NPO

pF	Order Code	Price Each 5+	50+	100+	500+	1K+
15	110-0501●	0.440	0.290	0.220	0.127	0.093
33	110-0502●	0.440	0.290	0.220	0.127	0.093
47	110-0503●	0.440	0.290	0.220	0.127	0.093
100	110-0504●	0.440	0.290	0.210	0.122	0.087
100	110-0505●	0.420	0.270	0.210	0.118	0.090
150	110-0507●	0.440	0.290	0.220	0.127	0.093
220	110-0508●	0.440	0.290	0.220	0.127	0.093
330	110-0509●	0.440	0.290	0.220	0.127	0.093
470	110-0510●	0.440	0.290	0.220	0.127	0.093
680	110-0511●	0.590	0.370	0.290	0.169	0.123
1000	110-0512●	0.570	0.330	0.260	0.151	0.110
1000	110-0513●	0.290	0.161	0.128	0.071	0.053
1500	110-0514●	1.090	0.700	0.550	0.320	0.230
2200	110-0515●	0.970	0.620	0.490	0.290	0.200
3300	110-0516●	1.250	0.820	0.640	0.350	0.270
10000	110-0517●	3.770	2.510	1.940	1.120	0.810

50 Volt d. c. X7R

µF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.01	10	10	3.81	3.81	2.54	2.54	SR155C103KTR	110-0433
0.1	100	10	5.08	5.08	3.18	2.54	SR205C104KTR	110-0367

Order Multiple=5
50 Volt d.c. X7R

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.01	110-0433●	0.350	0.240	0.187	0.106	0.076
0.1	110-0367●	0.460	0.270	0.220	0.123	0.090

50 Volt d. c. X7R

µF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.001	1	10	7.62	5.08	3.18	5.08	SR215C102KTR	110-0384
0.0022	2.2	10	7.62	5.08	3.18	5.08	SR215C222KTR	110-0386
0.0033	3.3	10	7.62	5.08	3.18	5.08	SR215C332KTR	110-0387
0.0047	4.7	10	7.62	5.08	3.18	5.08	SR215C472KTR	110-0388
0.01	10	10	7.62	5.08	3.18	5.08	SR215C103KTR	110-0389
0.022	22	10	7.62	5.08	3.18	5.08	SR215C223KTR	110-0390
0.033	33	10	7.62	5.08	3.18	5.08	SR215C333KTR	110-0391
0.047	47	10	7.62	5.08	3.18	5.08	SR215C473KTR	110-0392
0.1	100	10	7.62	5.08	3.18	5.08	SR215C104KTR	110-0393
0.22	220	10	5.49	7.62	3.81	5.08	SR305C224KTR	110-0394
0.33	330	10	5.49	7.62	3.81	5.08	SR305C334KTR	110-0395
0.47	470	10	7.62	5.08	3.81	5.08	SR305C474KTR	110-0396
1	1000	10	7.62	5.08	3.81	5.08	SR305C105KTR	110-0398

Order Multiple=5
50 Volt d.c. X7R

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.001	110-0384●	0.460	0.260	0.210	0.121	0.081
0.0022	110-0386●	0.440	0.300	0.230	0.130	0.095
0.0033	110-0387●	0.440	0.300	0.230	0.130	0.095
0.0047	110-0388●	0.440	0.300	0.230	0.130	0.095
0.01	110-0389●	0.400	0.290	0.220	0.131	0.090
0.022	110-0390●	0.510	0.330	0.260	0.149	0.110
0.033	110-0391●	0.510	0.330	0.260	0.149	0.110
0.047	110-0392●	0.410	0.260	0.210	0.118	0.083
0.1	110-0393●	0.460	0.270	0.220	0.123	0.090
0.22	110-0394●	1.830	1.130	0.910	0.510	0.370
0.33	110-0395●	2.180	1.450	1.130	0.640	0.470
0.47	110-0396●	2.460	1.580	1.190	0.690	0.510
1	110-0398●	3.340	2.290	1.820	1.220	0.950

100 Volt d. c. X7R

µF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.001	1	10	3.81	3.81	2.54	2.54	SR151C102KTR	110-0377
0.0022	2.2	10	3.81	3.81	2.54	2.54	SR151C222KTR	110-0378
0.0047	4.7	10	3.81	3.81	2.54	2.54	SR151C472KTR	110-0379
0.01	10	10	3.81	3.81	2.54	2.54	SR151C103KTR	110-0380
0.01	10	10	5.08	5.08	3.18	2.54	SR201C103KTR	110-0519
0.01	10	20	5.08	5.08	3.18	2.54	SR201C103MTR	110-0521
0.022	22	10	5.08	5.08	3.18	2.54	SR201C223KTR	110-0381
0.033	33	10	5.08	5.08	3.18	2.54	SR201C333KTR	110-0438
0.047	47	10	5.08	5.08	3.18	2.54	SR201C473KTR	110-0382
0.1	100	10	5.08	5.08	3.18	2.54	SR201C104KTR	110-0383

Order Multiple=5
100 Volt d.c. X7R

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.001	110-0377●	0.350	0.240	0.178	0.103	0.074
0.0022	110-0378●	0.490	0.320	0.240	0.140	0.100
0.0047	110-0379●	0.490	0.310	0.240	0.134	0.097
0.01	110-0380●	0.380	0.260	0.210	0.116	0.083
0.01	110-0519●	0.480	0.300	0.230	0.131	0.091
0.01	110-0521●	0.480	0.300	0.240	0.132	0.095
0.022	110-0381●	0.590	0.370	0.290	0.169	0.123
0.033	110-0438●	0.640	0.410	0.310	0.181	0.126
0.047	110-0382●	0.650	0.370	0.270	0.162	0.115
0.1	110-0383●	0.530	0.330	0.260	0.150	0.110

100 Volt d. c. X7R

µF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.001	1	10	7.62	5.08	3.18	5.08	SR211C102KTR	110-0406
0.0022	2.2	10	7.62	5.08	3.18	5.08	SR211C222KTR	110-0522
0.0047	4.7	10	7.62	5.08	3.18	5.08	SR211C472KTR	110-0523
0.0068	6.8	10	7.62	5.08	3.18	5.08	SR211C682KTR	110-0524
0.01	10	10	7.62	5.08	3.18	5.08	SR211C103KTR	110-0407
0.01	10	10	7.62	5.08	3.18	5.08	SR211C103MTR	110-0525
0.015	15	10	7.62	5.08	3.18	5.08	SR211C153KTR	110-0526
0.022	22	10	7.62	5.08	3.18	5.08	SR211C223KTR	110-0527
0.033	33	10	7.62	5.08	3.18	5.08	SR211C333KTR	110-0528
0.047	47	10	7.62	5.08	3.18	5.08	SR211C473KTR	110-0529
0.047	47	20	7.62	5.08	3.18	5.08	SR211C473MTR	110-0530
0.1	100	10	7.62	5.08	3.18	5.08	SR211C104KTR	110-0408
0.15	150	10	7.62	7.62	3.18	5.08	SR301C154KTR	110-0532

Order Multiple=5
100 Volt d.c. X7R

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.001	110-0406●	0.350	0.240	0.187	0.106	0.076
0.0022	110-0522●	0.193	0.123	0.099	0.055	0.039
0.0047	110-0523●	0.380	0.250	0.195	0.110	0.078
0.0068	110-0524●	0.500	0.310	0.250	0.144	0.100
0.01	110-0407●	0.380	0.260	0.210	0.116	0.083
0.01	110-0525●	0.330	0.210	0.168	0.095	0.067
0.015	110-0526●	0.590	0.370	0.290	0.169	0.123
0.022	110-0527●	0.590	0.370	0.290	0.169	0.123
0.033	110-0528●	0.700	0.460	0.350	0.210	0.149
0.047	110-0529●	0.540	0.340	0.260	0.155	0.112
0.047	110-0530●	0.540	0.340	0.260	0.155	0.112
0.1	110-0408●	0.530	0.340	0.290	0.167	0.116
0.15	110-0532●	2.340	1.550	1.210	0.690	0.490

50 Volt d. c. Z5U

µF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.1	100	20	5.08	5.08	3.18	2.54	SR205E104MTR	110-0533

Order Multiple=5
50 Volt d.c. Z5U

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.1	110-0533●	0.290	0.172	0.134	0.078	0.053

63/50 Volt d. c. Z5U

µF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.1	100	20	7.62	5.08	3.18	5.08	SR215E104MTR	110-0399
0.1	100	80	7.62	5.08	3.18	5.08	SR215E104ZTR	110-0534
0.22	220	20	7.62	5.08	3.18	5.08	SR215E224MTR	110-0400
0.33	330	20	7.62	5.08	3.18	5.08	SR215E334MTR	110-0401
0.47	470	20	7.62	5.08	3.18	5.08	SR215E474MTR	110-0402
0.68	680	20	7.62	7.62	3.81	5.08	SR305E684MTR	110-0441
1	1000	20	7.62	7.62	3.81	5.08	SR305E105MTR	110-0404
2.2	2200	20	7.62	7.62	3.81	5.08	SR305E225MTR	110-0405

Order Multiple=5
50 Volt d.c. Z5U

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.1	110-0399●	0.290	0.172	0.134	0.078	0.053
0.1	110-0534●	0.290	0.172	0.134	0.078	0.053
0.22	110-0400●	0.620	0.400	0.310	0.179	0.128
0.33	110-0401●	0.740	0.480	0.380	0.210	0.157
0.47	110-0402●	1.450	0.960	0.740	0.420	0.310
0.68	110-0441●	1.810	1.210	0.940	0.530	0.380
1	110-0404●	2.030	1.340	1.070	0.620	0.420
2.2	110-0405●	2.870	1.920	1.470	0.850	0.610

100 Volt d. c. Z5U

µF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.01	10	20	3.81	3.81	2.54	2.54	SR151E103MTR	110-0535
0.1	100	20	5.08	5.08	3.18	2.54	SR201E104MTR	110-0536

Order Multiple=5
100 Volt d.c. Z5U

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.01	110-0535●	0.440	0.290	0.220	0.127	0.093
0.1	110-0536●	0.470	0.290	0.220	0.125	0.091

100 Volt d. c. Z5U

µF	nF	Tolerance (%)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.01	10	20	7.62	5.08	3.18	5.08	SR211E103MTR	110-0537
0.1	100	20	7.62	5.08	3.18	5.08	SR211E104MTR	110-0538
0.22	220	20	7.62	7.62	3.81	5.08	SR301E224MTR	110-0539
0.47	470	20	7.62	7.62	3.81	5.08	SR301E474MTR	110-0540

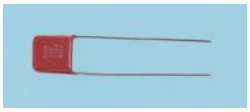
208406

Order Multiple=5
100 Volt d.c. Z5U

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.01	110-0537●	0.440	0.290	0.220	0.127	0.093
0.1	110-0538●	0.420	0.250	0.183	0.108	0.080
0.22	110-0539●	1.290	0.800	0.610	0.340	0.250
0.47	110-0540●	1.460	0.950	0.700	0.400	0.300

SK Series

AVX A KYOCERA GROUP COMPANY



- SK series advanced dipped multilayer ceramic capacitors
- High current handling capabilities
- Input and output filtering in commercial switch mode power supplies

Operating temperature	-25°C to +85°C	Insulance resistance	10000MΩ
Power factor	≤0.03	Proof voltage	
Temperature coefficient	-56%+22%		

RL Re-reeling available

Farnell

Mftrs. List No.	Capacitance µF	Voltage dc	Dimensions H	W	D	Lead Dia	Lead Pitch	Order Code
SK041E475ZAA	4.7	100	10.1	10.1	4.1	0.5	5.08	578-393
SK043E106ZAA	10	25	10.1	10.1	4.1	0.5	5.08	578-400
SK055E106ZAA	10	50	12.1	12.7	4.1	0.6	10.16	578-411

208642

µF	V dc	Order Code	Price Each 1+	50+	100+	500+	1K+
4.7	100	**578-393▲**	7.27	7.04	6.73	4.47	3.29
10	25	**578-400▲**	7.27	7.04	6.73	4.47	3.29
10	50	**578-411▲**	8.59	8.29	7.96	5.26	3.87

MR05/MR06 Series



- Radial moulded multilayer ceramic
- Moulded epoxy case
- Approved to **CECC 30-601-009 (NPO)**
  CECC 30-701-007 (X7R)
  CECC 30-701-008 (Z5U)

Lead length=30
Lead dia.=0.6
Lead pitch=5.08

Available to fully documented release, upon request

100 Volt d. c. NPO

pF	nF	Tolerance (%)	Dimensions H	W	D	Mftrs. List No.	Order Code
10	0.01	5	4.83	4.83	2.28	MR051A100JTA.	669-623
15	0.015	5	4.83	4.83	2.28	MR051A150JTA.	669-647
22	0.022	5	4.83	4.83	2.28	MR051A220JTA.	669-659
33	0.033	5	4.83	4.83	2.28	MR051A330JTA.	669-684
47	0.047	5	4.83	4.83	2.28	MR051A470JTA.	669-696
68	0.068	5	4.83	4.83	2.28	MR051A680JTA.	669-714
100	0.1	5	4.83	4.83	2.28	MR051A101JTA.	669-726
100	0.1	10	4.83	4.83	2.28	MR051A101KTA.	669-738
150	0.15	5	4.83	4.83	2.28	MR051A151JTA.	669-740
220	0.22	5	4.83	4.83	2.28	MR051A221JTA.	669-763
470	0.47	5	4.83	4.83	2.28	MR051A471JTA.	669-799
470	0.47	5	4.83	4.83	2.28	MR051A471KTA.	669-805
680	0.68	5	4.83	4.83	2.28	MR051A681JTA.	669-817
1000	1	5	4.83	4.83	2.28	MR051A102JTA.	669-829
2200	2.2	5	4.83	4.83	2.28	MR051A222JTA.	669-854
3300	3.3	5	4.83	4.83	2.28	MR051A332JTA.	669-878

100 Volt d.c. NPO

pF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	**669-623▲**	1.55	1.27	1.13	0.81	0.61
15	**669-647▲**	1.17	0.96	0.86	0.62	0.46
22	**669-659▲**	1.15	0.95	0.85	0.61	0.46
33	**669-684▲**	1.55	1.27	1.13	0.81	0.61
47	**669-696▲**	0.86	0.70	0.63	0.46	0.33
68	**669-714▲**	0.82	0.67	0.61	0.44	0.32
100	**669-726▲**	0.82	0.67	0.61	0.44	0.32
100	**669-738▲**	1.47	1.22	1.09	0.79	0.58
150	**669-740▲**	1.52	1.25	1.10	0.79	0.59
220	**669-763▲**	1.15	0.96	0.85	0.59	0.46
470	**669-799▲**	2.18	1.79	1.58	1.13	0.86
470	**669-805▲**	1.55	1.28	1.13	0.81	0.62
680	**669-817▲**	1.20	0.99	0.88	0.62	0.48
1000	**669-829▲**	0.91	0.77	0.66	0.48	0.38
2200	**669-854▲**	1.15	0.96	0.85	0.59	0.46
3300	**669-878▲**	0.91	0.77	0.66	0.48	0.35

100 Volt d. c. NPO

pF	nF	Tolerance (%)	Dimensions H	W	D	Mftrs. List No.	Order Code
10000	10	5	7.36	7.36	2.28	MR061A103JTA.	570-667
10000	10	10	7.36	7.36	2.28	MR061A103KTA.	570-679

100 Volt d.c. NPO

pF	Order Code	Price Each 1+	50+	100+	500+	1K+
10000	**570-667▲**	3.30	2.72	2.39	1.71	1.29
10000	**570-679▲**	1.30	1.09	0.94	0.67	0.56

100 Volt d. c. X7R

pF	nF	Tolerance (%)	Dimensions H	W	D	Mftrs. List No.	Order Code
4700	4.7	10	4.83	4.83	2.28	MR051C472KTA.	570-758
10000	10	20	4.83	4.83	2.28	MR051C103MTA.	570-783
10000	10	10	4.83	4.83	2.28	MR051C103KTA.	570-795
22000	22	10	4.83	4.83	2.28	MR051C223KTA.	570-801

100 Volt d.c. X7R

pF	Order Code	Price Each 1+	50+	100+	500+	1K+
4700	**570-758▲**	0.970	0.810	0.690	0.490	0.380
10000	**570-783▲**	0.690	0.550	0.490	0.350	0.270
10000	**570-795▲**	0.720	0.590	0.510	0.350	0.290
22000	**570-801▲**	0.500	0.390	0.330	0.250	0.178

100 Volt d. c. X7R

pF	nF	Tolerance (%)	Dimensions H	W	D	Mftrs. List No.	Order Code
47000	47	10	7.36	7.36	2.28	MR061C473KTA.	570-898
100000	100	10	7.36	7.36	2.28	MR061C104KTA.	570-904
100000	100	20	7.36	7.36	2.28	MR061C104MTA.	570-916

100 Volt d. c. X7R

pF	Order Code	Price Each 1+	50+	100+	500+	1K+
47000	**570-898▲**	1.41	1.14	1.02	0.74	0.54
100000	**570-904▲**	1.78	1.47	1.29	0.91	0.70
100000	**570-916▲**	0.93	0.78	0.69	0.49	0.35

50 Volt d. c. X7R

pF	nF	Tolerance (%)	Dimensions H	W	D	Mftrs. List No.	Order Code
33000	33	10	4.83	4.83	2.28	MR055C333KTA.	570-825
100000	100	10	4.83	4.83	2.28	MR055C104KTA.	570-977

50 Volt d.c. X7R

pF	Order Code	Price Each 1+	50+	100+	500+	1K+
33000	**570-825▲**	0.90	0.67	0.58	0.42	0.30
100000	**570-977▲**	1.29	1.07	0.94	0.65	0.51

50 Volt d. c. X7R

pF	nF	Tolerance (%)	Dimensions H	W	D	Mftrs. List No.	Order Code
330000	330	10	7.36	7.36	2.28	MR065C334KTA.	570-930
470000	470	10	7.36	7.36	2.28	MR065C474KTA.	570-941

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50 Volt d.c. X7R

pF	Order Code	Price Each 1+	50+	100+	500+	1K+
330000	**570-930▲**	1.22	1.01	0.88	0.63	0.49
470000	**570-941▲**	2.06	1.71	1.50	1.07	0.82

CK05/CK06 Series



- Moulded radial multilayer ceramic capacitors
- Manufactured in accordance with **MIL-C-11015**

Lead pitch=5.08, Lead dia.=0.64

	55/125/56
Operating Temperature	-55°C to +125°C
Power factor @ 1MHz	≥0.025
Temperature coefficient	±15%
Insulation resistance	100,000MΩ or 1000 sec. (MΩ x µF) whichever is less
Proof voltage	2.5VR
Climatic category	55/125/56

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**, or **µF** and **nF**

200 Volt d.c. BX

pF	nF	Dimensions H	W	D	Mftrs. List No.	Order Code
100	0.1	4.83	4.83	2.29	CK05BX101K	286-930
220	0.22	4.83	4.83	2.29	CK05BX221K	286-941
470	0.47	4.83	4.83	2.29	CK05BX471K	286-953
1000	1	4.83	4.83	2.29	CK05BX102K	286-965

Order Multiple=5
200 Volt d.c. BX

pF	Order Code	Price Each 5+	50+	100+	500+	1K+
100	**286-930▲**	0.340	0.320	0.300	0.195	0.180
220	**286-941▲**	0.340	0.320	0.300	0.195	0.180
470	**286-953▲**	0.340	0.320	0.290	0.195	0.176
1000	**286-965▲**	0.330	0.310	0.270	0.190	0.171

100 Volt d. c. BX

µF	nF	Dimensions H	W	D	Mftrs. List No.	Order Code
0.0022	2.2	4.83	4.83	2.29	CK05BX222K	286-989
0.0047	4.7	4.83	4.83	2.29	CK05BX472K	286-990
0.01	10	4.83	4.83	2.29	CK05BX103K	287-003
0.022	22	7.37	7.37	2.29	CK06BX223K	287-015
0.047	47	7.37	7.37	2.29	CK06BX473K	287-027
0.1	100	7.37	7.37	2.29	CK06BX104K	287-039

Order Multiple=5
100 Volt d.c. BX

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.0022	**286-989▲**	0.370	0.350	0.310	0.230	0.192
0.0047	**286-990▲**	0.330	0.320	0.280	0.198	0.167
0.01	**287-003▲**	0.530	0.490	0.460	0.300	0.270
0.022	**287-015▲**	0.480	0.440	0.410	0.270	0.250
0.047	**287-027▲**	0.640	0.590	0.540	0.350	0.320
0.1	**287-039▲**	0.670	0.630	0.590	0.380	0.340

50 Volt d. c. BX

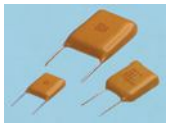
µF	nF	Dimensions H	W	D	Mftrs. List No.	Order Code
0.22	220	7.37	7.37	2.29	CK06BX224K	287-040
0.47	470	7.37	7.37	2.29	CK06BX474K	287-052
1	1000	7.37	7.37	2.29	CK06BX105K	287-064

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50 Volt d.c. BX

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
0.22	**287-040▲**	1.11	1.08	1.00	0.68	0.58
0.47	**287-052▲**	1.69	1.63	1.51	1.01	0.89
1	**287-064▲**	2.38	2.25	2.07	1.39	1.22

AR Series



- Conformally coated radial leaded multi-layer ceramic capacitors
- AEC-Q200 qualified for automotive applications
- Up to 150°C

New

50 Volt dc, C0G (NP0)	Tolerance	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
1nF	±5%	5.08	5.08	3.175	5.08	AR215A102J4R*	167-2266
2.2nF	±5%	5.08	5.08	3.175	5.08	AR215A222J4R*	167-2267
4.7nF	±5%	5.08	5.08	3.175	5.08	AR215A472J4R*	167-2268
8.2nF	±5%	5.08	5.08	3.175	5.08	AR215A822J4R*	167-2269

RL Re-reeling available

Multilayer Ceramic - continued

AR Series - continued

50 Volt d.c., C0G (NP0)		Price Each				
Capacitance	Order Code	1+	10+	100+	500+	1K+
1nF	167-2266●	0.450	0.300	0.260	0.220	0.171
2.2nF	167-2267●	0.800	0.670	0.560	0.460	0.310
4.7nF	167-2268●	0.910	0.790	0.670	0.570	0.450
8.2nF	167-2269●	0.980	0.880	0.790	0.710	0.650

50 Volt dc, X8R	Tolerance	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
1nF	±10%	5.08	5.08	3.175	2.54	AR205F102K4R*	167-2243
1nF	±10%	5.08	5.08	3.175	5.08	AR215F102K4R*	167-2246
10nF	±10%	5.08	5.08	3.175	2.54	AR205F103K4R*	167-2244
10nF	±10%	5.08	5.08	3.175	5.08	AR215F103K4R*	167-2247
100nF	±10%	5.08	5.08	3.175	2.54	AR205F104K4R*	167-2245
100nF	±10%	5.08	5.08	3.175	5.08	AR215F104K4R*	167-2248

50 Volt d.c., X8R		Price Each				
Capacitance	Order Code	1+	10+	100+	500+	1K+
1nF	167-2243●	0.450	0.300	0.260	0.220	0.171
1nF	167-2246●	0.450	0.300	0.260	0.220	0.171
10nF	167-2244●	0.450	0.300	0.260	0.220	0.171
10nF	167-2247●	0.450	0.300	0.260	0.220	0.171
100nF	167-2245●	0.450	0.300	0.260	0.220	0.171
100nF	167-2248●	0.450	0.300	0.260	0.220	0.171

50 Volt dc, X7R	Tolerance	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
47nF	±10%	5.08	5.08	3.175	5.08	AR215C473K4R*	167-2252
100nF	±10%	5.08	5.08	3.175	5.08	AR215C104K4R*	167-2254
470nF	±10%	7.62	7.62	3.81	5.08	AR305C474K4R*	167-2255

50 Volt d.c., X7R		Price Each				
Capacitance	Order Code	1+	10+	100+	500+	1K+
47nF	167-2252●	0.390	0.240	0.183	0.137	0.114
100nF	167-2254●	0.390	0.240	0.183	0.137	0.114
470nF	167-2255●	2.000	1.600	1.310	1.130	0.870

100 Volt dc, C0G (NP0)	Tolerance	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
330pF	±5%	5.08	5.08	3.175	5.08	AR211A331J4R*	167-2263
470pF	±5%	5.08	5.08	3.175	5.08	AR211A471J4R*	167-2264

100 Volt d.c., C0G (NP0)		Price Each				
Capacitance	Order Code	1+	10+	100+	500+	1K+
330pF	167-2263●	0.400	0.290	0.210	0.160	0.137
470pF	167-2264●	0.400	0.290	0.210	0.160	0.137

100 Volt dc, X7R	Tolerance	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
1nF	±10%	5.08	5.08	3.175	5.08	AR211C102K4R*	167-2249
4.7nF	±10%	5.08	5.08	3.175	5.08	AR211C472K4R*	167-2250
10nF	±10%	5.08	5.08	3.175	5.08	AR211C103K4R*	167-2251
1μF	±10%	10.16	10.16	3.81	5.08	AR401C105K4R*	167-2256

100 Volt d.c., X7R		Price Each				
Capacitance	Order Code	1+	10+	100+	500+	1K+
1nF	167-2249●	0.390	0.240	0.183	0.137	0.114
4.7nF	167-2250●	0.390	0.240	0.183	0.137	0.114
10nF	167-2251●	0.390	0.240	0.183	0.137	0.114
1μF	167-2256●	6.170	4.670	3.340	2.400	1.860

200 Volt dc, C0G (NP0)	Tolerance	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
10pF	±5%	5.08	5.08	3.175	5.08	AR212A100J4R*	167-2257
22pF	±5%	5.08	5.08	3.175	5.08	AR212A220J4R*	167-2258
33pF	±5%	5.08	5.08	3.175	5.08	AR212A330J4R*	167-2259
47pF	±5%	5.08	5.08	3.175	5.08	AR212A470J4R*	167-2260
100pF	±5%	5.08	5.08	3.175	5.08	AR212A101J4R*	167-2261
220pF	±5%	5.08	5.08	3.175	5.08	AR212A221J4R*	167-2262

527504

200 Volt d.c., C0G (NP0)		Price Each				
Capacitance	Order Code	1+	10+	100+	500+	1K+
10pF	167-2257●	0.400	0.290	0.210	0.160	0.137
22pF	167-2258●	0.400	0.290	0.210	0.160	0.137
33pF	167-2259●	0.400	0.290	0.210	0.160	0.137
47pF	167-2260●	0.400	0.290	0.210	0.160	0.137
100pF	167-2261●	0.420	0.310	0.230	0.183	0.160
220pF	167-2262●	0.420	0.310	0.230	0.183	0.160

High Voltage Leaded MLCC Capacitors

KEMET CHARGED





- Leaded MLCC radial capacitors
- High voltage
- Conformally coated

C330 C332

Performance Characteristics

	NPO	X7R
Operating Temperature	-55°C to +125°C	-55°C to +125°C
Temperature coefficient	0±30ppm/°C	±15%

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**

NP0 pF	nF	Tolerance (%)	Lead Pitch	Mftrs. List No.	Order Code
3000 Volt d.c.					
100	0.1	5	5.08	C330C101JHG5CA	128-8232
1000 Volt d.c.					
470	0.47	5	5.08	C322C471JDG5CA	128-8238
1000	1	5	5.08	C330C102JDG5CA	128-8231
500 Volt d.c.					
100	0.1	5	5.08	C322C101JCG5CA	128-8237

NP0		Price Each				
nF	Order Code	1+	50+	100+	500+	1K+
3000 Volt d.c.						
0.1	128-8232●	1.98	1.32	0.99	0.79	0.71
4000 Volt d.c.						
0.47	128-8238●	1.41	0.95	0.71	0.57	0.51
1	128-8231●	1.77	1.19	0.90	0.71	0.64
500 Volt d.c.						
0.1	128-8237●	1.21	0.81	0.61	0.48	0.43

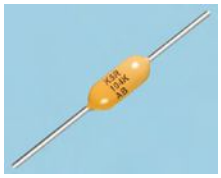
NPO					
3000 Volt d.c					
0.001	1	5	5.08	C330C102JHR5CA	128-8230
2000 Volt d.c					
0.001	1	10	5.08	C330C102KGR5CA	128-8229
1500 Volt d.c.					
0.001	1	10	5.08	C322C102KFR5CA	128-8236
1000 Volt d.c.					
0.01	10	5	5.08	C322C103JDR5CA	128-8235
500 Volt d.c.					
0.047	47	10	5.08	C322C473KCR5CA	128-8233

451496

X7R		Price Each				
nF	Order Code	1+	50+	100+	500+	1K+
3000 Volt d.c.						
1	128-8230●	1.86	1.25	0.94	0.75	0.68
2000 Volt d.c.						
1	128-8229●	1.32	0.88	0.66	0.53	0.47
1500 Volt d.c.						
1	128-8236●	0.93	0.62	0.46	0.37	0.33
1000 Volt d.c.						
10	128-8235●	0.80	0.54	0.41	0.33	0.30
500 Volt d.c.						
47	128-8233●	0.85	0.57	0.42	0.34	0.30

Aximax Series

KEMET CHARGED



- High capacitance values in a small physical volume

Tolerance ±10%
Operating Temperature Range -55°C to +125°C

100 Volt d.c. NPO nF	Dimensions L	D	Mftrs. List No.	Order Code
0.3	4.32	2.54	C410C331K1G5TA	145-7716

Order Multiple=10
100 Volt d.c. NPO

nF	Order Code	10+	50+	Price Each 100+	500+	+
0.3	SMD 145-7716●	0.175	0.155	0.134	0.093	– –

50 Volt d.c. X7R nF	Dimensions L	D	Mftrs. List No.	Order Code
2.2	4.32	2.54	C410C222K5R5TA	145-7715
47	4.32	2.54	C410C473K5R5TA	145-7719
68	4.32	3.05	C412C683K5R5TA	145-7722
100	4.32	3.05	C412C104K5R5TA	145-7721
220	7.37	3.81	C430C224K5R5TA	145-7723

Order Multiple=10
50 Volt d.c. X7R

nF	Order Code	10+	50+	Price Each 100+	500+	+
2.2	SMD 145-7715●	0.175	0.155	0.134	0.093	– –
47	145-7719●	0.185	0.165	0.144	0.103	– –
68	SMD 145-7722●	0.175	0.155	0.134	0.093	– –
100	145-7721●	0.124	0.109	0.088	0.067	– –
220	SMD 145-7723●	0.350	0.310	0.270	0.185	– –

100 Volt d.c. X7R nF	Dimensions L	D	Mftrs. List No.	Order Code
1	4.32	2.54	C410C102K1R5TA	145-7713
4.7	4.32	2.54	C410C472K1R5TA	145-7717
10	4.32	2.54	C410C103K1R5TA	145-7714

486855

Order Multiple=10
100 Volt d.c. X7R

nF	Order Code	10+	50+	Price Each 100+	500+	+
1	SMD 145-7713●	0.112	0.093	0.072	0.052	– –
4.7	SMD 145-7717●	0.112	0.093	0.072	0.052	– –
10	SMD 145-7714●	0.124	0.109	0.088	0.067	– –

RL Re-reeling available

Farnell

SA – 'Spinguard' Series



Lead length=20 min.
Lead dia=0.508

Bandoliered box quantities=4K pcs (108-996, 108-996=2K pcs)

- 'Spinguard' axial dipped multilayer ceramic capacitors
- Choice of dielectric, tolerance and voltage

Performance Characteristics

	NPO	X7R	Z5U
Operating Temperature	-55°C to +125°C	-55°C to +125°C	-25°C to +85°C
Temperature coefficient	0±30ppm/°C for C>20pF 0+120-40ppm/°C for C≤20pF	±20%	+30%-80%
Insulation resistance	100000MΩ or 1000 sec. (MΩ uF) whichever is less	100000MΩ or 1000 sec. (MΩ uF) whichever is less	>100000MΩ or 1000 sec. (MΩ uF) whichever is less
Proof voltage	2.5VR	2.5VR	2VR
Climatic category (IEC)	55/125/56	55/125/56	25/085/56

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**, or **µF** and **nF**

pF	nF	L	Dia.	Mftrs. List No.	Order Code
1000	1	4.3	2.54	SA105A102JARTB	110-0434

Order Multiple=10
50 Volt d.c. NPO

pF	Order Code	10+	50+	Price Each 100+	500+	1K+
1000	110-0434●	0.180	0.159	0.148	0.113	0.095

pF	nF	L	Dia.	Mftrs. List No.	Order Code
470	0.47	4.32	2.54	SA101A471JARTB	110-0411

Order Multiple=10
100 Volt d.c. NPO

pF	Order Code	10+	50+	Price Each 100+	500+	1K+
470	110-0411●	0.210	0.178	0.164	0.131	0.113

pF	nF	L	Dia.	Mftrs. List No.	Order Code
10	0.01	4.32	2.54	SA102A100JARTB	110-0409
100	0.1	4.32	2.54	SA102A101JARTB	110-0410

Order Multiple=10
200 Volt d.c. NPO

pF	Order Code	10+	50+	Price Each 100+	500+	1K+
10	110-0409●	0.156	0.134	0.128	0.096	0.081
100	110-0410●	0.156	0.134	0.128	0.096	0.081

µF	nF	L	Dia.	Mftrs. List No.	Order Code
0.01	10	4.32	2.54	SA105C103KARTB	110-0414

Order Multiple=10
50 Volt d.c. X7R

µF	Order Code	10+	50+	Price Each 100+	500+	1K+
0.01	110-0414●	0.134	0.115	0.111	0.084	0.069

µF	nF	L	Dia.	Mftrs. List No.	Order Code
0.001	1	4.32	2.54	SA101C102KARTB	110-0412
0.0047	4.7	4.32	2.54	SA101C472KARTB	110-0413

Order Multiple=10
100 Volt d.c. X7R

µF	Order Code	10+	50+	Price Each 100+	500+	1K+
0.001	110-0412●	0.141	0.122	0.115	0.087	0.074
0.0047	110-0413●	0.095	0.081	0.077	0.058	0.050

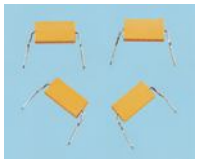
µF	nF	L	Dia.	Mftrs. List No.	Order Code
0.022	22	4.32	2.54	SA105E223MARTB	110-0416
0.1	100	4.32	2.54	SA105E104MARTB	110-0417
0.22	220	6.6	2.54	SA205E224MARTB	110-0418
0.47	470	7.37	3.81	SA305E474MARTB	110-0419
1	1000	7.37	3.81	SA305E105MARTB	110-0420

208411

Order Multiple=10
50 Volt d.c. Z5U

µF	Order Code	10+	50+	Price Each 100+	500+	1K+
0.022	110-0416●	0.141	0.122	0.115	0.087	0.074
0.1	110-0417●	0.144	0.122	0.115	0.083	0.074
0.22	110-0418●	0.220	0.187	0.180	0.133	0.112
0.47	110-0419●	0.500	0.440	0.410	0.320	0.270
1	110-0420●	0.790	0.670	0.630	0.530	0.460

MD Series - Dipguard



Ultra-low profile ceramic capacitors to provide effective decoupling of dual in-line IC's, designed to fit under the IC by fitting directly into the PCB or an IC socket. They may also be retrospectively fitted on top of the IC with its pins soldered to the IC pins to improve system perfomrance of existing designs.

- Dipguard dual in-line package
- Compatible with standard IC packages

Style	Dimensions H	W	D
MD01	6.6mm	3.43mm	2.49mm

Pitch = 7.06mm nominal

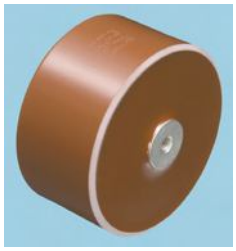
pF	Volt dc	Dielectric	Tolerance (%)	Mftrs. List No.	Order Code
10000	100	X7R	10	MD011C103KAB.	669-465
100000	50	X7R	10	MD015C104KAB.	669-490
100000	50	X7R	20	MD015C104MAB.	669-532
47000	50	Z5U	20	MD015E473MAB.	669-544
100000	50	Z5U	20	MD015E104MAB.	669-556

478243

pF	Order Code	1+	10+	Price Each 50+	100+
10000	669-465▲	0.95	0.85	0.72	0.51
100000	669-490▲	1.37	1.14	1.00	0.73
100000	669-532▲	1.49	1.30	1.12	0.83
47000	669-544▲	0.82	0.70	0.58	0.46
100000	669-556▲	0.70	0.61	0.51	0.40

UHV Series

Ultra-high Voltage Ceramic Capacitors



Dielectric Characteristic Z5T
Tolerance ±10%

- TDK UHV series high voltage ceramic capacitors feature low dissipation and excellent voltage-capacitance characteristics using patented strontium titanate for dielectric material. They are epoxy-encapsulated to meet requirement of high voltage applications.
- Small size
- Low dissipation factor
- Screw terminals for easy mounting
- Applications include high voltage power supplies and laser equipment

528653

pF	Order Code	1+	10+	Price Each 50+	100+	250+
20 kV						
700	SMD 167-0064●	34.48	30.36	28.17	24.68	20.20
2500	SMD 167-0066●	40.55	38.12	34.83	30.55	23.46
4000	SMD 167-0067●	45.79	36.63	33.65	30.75	28.92
40 kV						
200	SMD 167-0065●	38.57	36.69	32.57	27.22	21.62
700	SMD 167-0068●	43.19	40.70	35.50	30.57	24.99
1300	SMD 167-0069●	45.65	36.63	33.65	30.47	28.92
2000	SMD 167-0070●	50.97	40.55	38.00	35.60	32.11
50 kV						
1000	SMD 167-0061●	47.43	38.24	33.55	30.55	28.27
560	SMD 167-0060●	44.63	34.58	30.09	28.95	28.04
1700	SMD 167-0063●	57.07	45.65	42.58	39.73	35.99

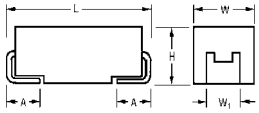
Tantalum

Very high capacitance per unit volume with excellent electrical performance and stability against both temperature and time. Suitable for a wide range of general purpose applications such as coupling, decoupling filters and timing circuits. Care should be taken during connection as all units are polarity sensitive.

208421

MCCT Series





- General purpose
- Surface mount tantalum capacitors

Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1	A +0.3 -0.2	W_1 ±0.2	Reel Qty.	Tape Size
A	3.2	1.6	1.6	0.8	1.2	2000	8mm
B	3.5	2.8	1.9	0.8	2.2	2000	8mm
C	6	3.2	2.6	1.3	2.2	500	12mm
D	7.3	4.3	2.9	1.3	2.4	500	12mm

6.3 Volt d.c. µF	DC Leakage Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
3.3	0.5	7	A	MCCTA335M006	119-0105
10	0.5	6	A	MCCTA106M006	119-0107
22	1.4	2.3	C	MCCTC226M006	119-0108
47	1.9	1.8	C	MCCTC476M006	119-0109

Order Multiple=5
6.3 Volt d.c.

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
3.3	SMD 119-0105●	0.290	0.220	0.200	0.160	0.144
10	SMD 119-0107●	0.280	0.220	0.191	0.151	0.136
22	SMD 119-0108●	0.560	0.470	0.420	0.340	0.300
47	SMD 119-0109●	0.560	0.470	0.420	0.340	0.300

10 Volt d.c. µF	DC Leakage Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
4.7	0.5	5	A	MCCTA475M010	119-0110
6.8	0.7	3	B	MCCTB685M010	119-0112
10	1	2.5	B	MCCTB106M010	119-0113

RL Re-reeling available

Tantalum - continued

MCCT Series - continued

Order Multiple=5
10 Volt d.c.

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
4.7	SMD 119-0110● RL	0.300	0.240	0.210	0.168	0.153
6.8	SMD 119-0112●	0.270	0.220	0.200	0.154	0.138
10	SMD 119-0113●	0.360	0.300	0.250	0.200	0.181

16 Volt d.c. µF	DC Leakage Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
1	0.5	11	A	MCCTA105M016	119-0114
2.2	0.5	6.5	A	MCCTA225M016	119-0115
4.7	0.8	3.5	B	MCCTB475M016	119-0116
10	1.6	2.8	B	MCCTB106M016	119-0117
22	3.5	1.6	C	MCCTC226M016	119-0119
33	5.3	0.9	D	MCCTD336M016	119-0121
47	7.5	0.9	D	MCCTD476M016	119-0122

Order Multiple=5
16 Volt d.c.

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
1	SMD 119-0114● RL	0.250	0.210	0.178	0.138	0.127
2.2	SMD 119-0115● RL	0.250	0.210	0.180	0.138	0.127
4.7	SMD 119-0116●	0.390	0.330	0.290	0.220	0.200
10	SMD 119-0117● RL	0.370	0.310	0.270	0.210	0.190
22	SMD 119-0119●	0.550	0.460	0.400	0.330	0.290
33	SMD 119-0121● RL	1.190	0.990	0.860	0.680	0.610
47	SMD 119-0122●	1.140	0.950	0.820	0.650	0.580

20 Volt d.c. µF	DC Leakage Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
2.2	0.5	3.5	B	MCCTB225M020	119-0123
3.3	0.7	3	B	MCCTB335M020	119-0124
4.7	1	3	B	MCCTB475M020	119-0125

Order Multiple=5
20 Volt d.c.

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
2.2	SMD 119-0123●	0.270	0.220	0.200	0.154	0.138
3.3	SMD 119-0124●	0.360	0.300	0.250	0.200	0.181
4.7	SMD 119-0125●	0.360	0.300	0.270	0.210	0.185

25 Volt d.c. µF	DC Leakage Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
1	0.5	8	A	MCCTA105M025	119-0127
2.2	0.6	4.5	B	MCCTB225M025	119-0128
10	2.5	2.5	C	MCCTC106M025	119-0129

Order Multiple=5
25 Volt d.c.

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
1	SMD 119-0127●	0.250	0.210	0.177	0.137	0.126
2.2	SMD 119-0128●	0.390	0.330	0.290	0.220	0.200
10	SMD 119-0129● RL	0.580	0.480	0.430	0.340	0.330

35 Volt d.c. µF	DC Leakage Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
0.1	0.5	24	A	MCCTA104M035	119-0132
0.22	0.5	18	A	MCCTA224M035	119-0133
0.47	0.5	12	A	MCCTA474M035	119-0134
1	0.5	6.5	B	MCCTB105M035	119-0135
2.2	0.8	3.5	C	MCCTC225M035	119-0136
4.7	1.6	2.2	C	MCCTC475M035	119-0137
6.8	2.4	1.3	D	MCCTD685M035	119-0138
10	3.5	1	D	MCCTD106M035	119-0139

208532

Order Multiple=5
35 Volt d.c.

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
0.1	SMD 119-0132● RL	0.510	0.420	0.370	0.290	0.280
0.22	SMD 119-0133●	0.260	0.220	0.200	0.150	0.136
0.47	SMD 119-0134●	0.560	0.460	0.420	0.320	0.290
1	SMD 119-0135●	0.400	0.340	0.290	0.220	0.210
2.2	SMD 119-0136●	0.360	0.300	0.260	0.210	0.192
4.7	SMD 119-0137●	0.650	0.540	0.480	0.370	0.360
6.8	SMD 119-0138●	0.930	0.770	0.680	0.540	0.470
10	SMD 119-0139● RL	1.180	0.980	0.860	0.680	0.610

FREE Re-reeling service



Only buy what you need and improve assembly efficiency. Look for the RL logo or find out more:
www.farnell.co.uk / 08447 11 11 11

B45196 Series - Standard

KEMET



- Long life surface mount Tantalum chip capacitors
- Flame retardant plastic case **UL94V-0**
- Suitable for Vapour phase, IR and Wave soldering
- Laser marked and conform to **CECC 30801-801/CECC 30801-802**

SMD

Case Code	Length	Width	Height	Reel Qty.	Tape Size
A	3.2	1.6	1.6	2000	8
B	3.5	2.8	1.9	2000	12
C	6	3.2	2.6	750	12
D	7.3	4.3	2.9	750	12
E	7.3	4.3	4.1	400	12

4 Volt d.c. µF	DC Leakage Current (µA)	Impedance @ 100kHz (Ω)	Case Size	Mftrs. List No.	Order Code
1000	40	0.6	E	B45196H0108K509	975-1840

4 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
1000	SMD 975-1840● RL	2.84	2.46	2.17	1.96	1.82

6.3 Volt d.c. µF	DC Leakage Current (µA)	Impedance @ 100kHz (Ω)	Case Size	Mftrs. List No.	Order Code
22	1.4	2	C	B45196E1226K309	975-3761
47	3	1.1	D	B45196E1476K409	975-3770
68	4.3	0.8	D	B45196E1686K409	975-3788

6.3 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
22	SMD 975-3761● RL	0.56	0.41	0.35	0.30	0.27
47	SMD 975-3770● RL	0.95	0.73	0.59	0.49	0.43
68	SMD 975-3788● RL	0.95	0.73	0.59	0.49	0.43

10 Volt d.c. µF	DC Leakage Current (µA)	Impedance @ 100kHz (Ω)	Case Size	Mftrs. List No.	Order Code
2.2	0.5	7	A	B45196E2225K109	975-3796
10	1	3.8	A	B45196H2106K109	975-1041
4.7	0.5	4.5	B	B45196E2475K209	975-3800
10	1	2.4	C	B45196E2106K309	975-3818
15	1.5	2	C	B45196E2156K309	975-3826
33	3.3	1.1	D	B45196E2336K409	975-3834
47	4.7	0.8	D	B45196E2476K409	975-3842
100	10	0.8	D	B45196H2107K409	975-3850

10 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
2.2	SMD 975-3796● RL	0.270	0.199	0.160	0.135	0.121
10	SMD 975-1041● RL	0.350	0.270	0.220	0.182	0.162
4.7	SMD 975-3800● RL	0.340	0.260	0.210	0.177	0.156
10	SMD 975-3818● RL	0.560	0.410	0.350	0.310	0.270
15	SMD 975-3826● RL	0.560	0.410	0.350	0.310	0.270
33	SMD 975-3834● RL	0.950	0.730	0.590	0.490	0.430
47	SMD 975-3842● RL	0.950	0.730	0.590	0.490	0.430
100	SMD 975-3850● RL	1.230	0.930	0.740	0.630	0.550

16 Volt d.c. µF	DC Leakage Current (µA)	Impedance @ 100kHz (Ω)	Case Size	Mftrs. List No.	Order Code
1	0.5	10	A	B45196E3105K109	975-3869
3.3	0.6	5	B	B45196E3335K209	975-3877
4.7	0.8	3.5	B	B45196E3475K209	975-3885
10	1	2.5	B	B45196H3106K209	975-3893
10	1.6	2	C	B45196E3106K309	975-3907
22	3.6	1.1	D	B45196E3226K409	975-3915
33	5.3	1	D	B45196E3336K409	975-3923
47	7.5	0.8	D	B45196H3476K409	975-3931

16 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
1	SMD 975-3869● RL	0.270	0.199	0.160	0.135	0.121
3.3	SMD 975-3877● RL	0.340	0.260	0.210	0.177	0.156
4.7	SMD 975-3885● RL	0.340	0.260	0.210	0.177	0.156
10	SMD 975-3893● RL	0.380	0.290	0.250	0.199	0.176
10	SMD 975-3907● RL	0.560	0.410	0.350	0.310	0.270
22	SMD 975-3915● RL	0.950	0.730	0.590	0.490	0.430
33	SMD 975-3923● RL	0.950	0.730	0.590	0.490	0.430
47	SMD 975-3931● RL	1.130	0.870	0.700	0.590	0.520

25 Volt d.c µF	DC Leakage Current (µA)	Impedance @ 100kHz (Ω)	Case Size	Mftrs. List No.	Order Code
0.47	0.5	13	A	B45196E5474K109	975-3940
1	0.5	7	A	B45196H5105K109	975-3958
1.5	0.6	5	B	B45196E5155K209	975-3966
2.2	0.9	2.8	B	B45196E5225K209	975-3974
3.3	1.2	2.3	C	B45196E5335K309	975-3982
4.7	2.5	1.2	C	B45196E5475K309	975-3990
10	0.5	8	D	B45196E5106K409	975-4008

25 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
0.47	SMD 975-3940● RL	0.270	0.199	0.160	0.135	0.121
1	SMD 975-3958● RL	0.310	0.240	0.183	0.157	0.138
1.5	SMD 975-3966● RL	0.330	0.250	0.200	0.171	0.150
2.2	SMD 975-3974● RL	0.340	0.260	0.210	0.177	0.157
3.3	SMD 975-3982● RL	0.440	0.320	0.270	0.240	0.210
4.7	SMD 975-3990● RL	0.560	0.410	0.350	0.310	0.270
10	SMD 975-4008● RL	0.960	0.730	0.590	0.480	0.430

RL Re-reeling available

35 Volt d.c. µF	DC Leakage Current (µA)	Impedance @ 100kHz (Ω)	Case Size	Mftrs. List No.	Order Code
0.1	0.5	28	A	B45196E6104K109	975-4016
0.47	0.5	11	B	B45196E6474K209	975-4024
1	0.5	7	B	B45196E6105K209	975-4032
2.2	0.8	3.2	C	B45196E6225K309	975-4040
3.3	1.2	2.4	C	B45196E6335K309	975-4059
4.7	1.7	1.5	D	B45196E6475K409	975-4067
6.8	2.4	1.2	D	B45196E6685K409	975-4075
10	3.5	1	D	B45196E6106K409	975-4083
15	5.3	0.8	D	B45196H6156K409	975-4091
22	7.7	0.8	E	B45196H6226K509	975-4105

208543

35 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
0.1	SMD 975-4016 RL	0.290	0.220	0.174	0.147	0.131
0.47	SMD 975-4024 RL	0.360	0.280	0.220	0.185	0.163
1	SMD 975-4032 RL	0.370	0.290	0.240	0.196	0.171
2.2	SMD 975-4040 RL	0.680	0.510	0.410	0.360	0.310
3.3	SMD 975-4059 RL	0.680	0.510	0.410	0.360	0.310
4.7	SMD 975-4067 RL	1.140	0.880	0.700	0.600	0.520
6.8	SMD 975-4075 RL	1.140	0.870	0.680	0.590	0.510
10	SMD 975-4083 RL	1.140	0.880	0.700	0.600	0.520
15	SMD 975-4091 RL	1.130	0.870	0.700	0.590	0.520
22	SMD 975-4105 RL	4.350	3.300	2.660	2.260	1.990

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T491 Series

KEMET CHARGED.

SMD



- Precision molded tantalum capacitors
- Symmetrical, compliant terminations
- Laser-marked case
- Halogen free epoxy

4 Volt d.c. µF	Current DC	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
33	1.3	4.0	A	T491A336K004AT	145-7424
1000	40	0.2	E	T491E108M004AT*	145-7521

* 20% tolerance for this part

Order Multiple=5

4 Volt d.c. µF	Order Code	5+	100+	Price Each 250+	500+	1K+
33	SMD 145-7424	0.350	0.260	0.230	0.210	0.175
1000	SMD 145-7521	11.270	8.460	7.350	6.770	5.630

6 Volt d.c. µF	Current DC (µA)	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
10	0.6	4.0	A	T491A106K006AT	145-7412
10	0.6	3.5	B	T491B106K006AT	145-7434
22	1.4	3.5	B	T491B226K006AT	145-7444
47	3.0	3.5	A	T491A476M006AT*	145-7429
47	2.9	2.0	B	T491B476K006AT	145-7456
100	6.3	3.0	B	T491B107K006AT	145-7438
220	13.2	1.2	C	T491C227K006AT	145-7477
330	19.8	0.4	D	T491D337K006AT	145-7509
470	28.2	0.4	X	T491X477K006AT	145-7547
680	40.8	0.5	E	T491E687K006AT	145-7523

* 20% tolerance for this part

Order Multiple=5

6 Volt d.c. µF	Order Code	5+	100+	Price Each 250+	500+	1K+
10	SMD 145-7412	0.250	0.185	0.165	0.155	0.124
10	SMD 145-7434	0.310	0.240	0.210	0.185	0.155
22	SMD 145-7444	0.330	0.250	0.220	0.196	0.165
47	SMD 145-7429	0.680	0.520	0.440	0.410	0.340
47	SMD 145-7456	0.680	0.520	0.440	0.410	0.340
100	SMD 145-7438	1.360	1.020	0.890	0.810	0.680
220	SMD 145-7477	2.410	1.810	1.580	1.440	1.210
330	SMD 145-7509	2.020	1.510	1.320	1.220	1.010
470	SMD 145-7547	3.030	2.280	1.980	1.820	1.510
680	SMD 145-7523	11.270	8.460	7.350	6.770	5.630

10 Volt d.c. µF	Current DC (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
2.2	0.5	8.0	A	T491A225K010AT	145-7417
4.7	0.5	5.0	A	T491A475K010AT	145-7427
4.7	0.5	3.5	B	T491B475K010AT	145-7452
10	1.0	4.0	A	T491A106K010AT	145-7413
10	1	3.5	B	T491B106K010AT	145-7435
10			R	T491R106K010AT	167-9292
22	2.2	6.0	A	T491A226K010AT	145-7420
22	2.2	2.4	B	T491B226K010AT	145-7446
22	2.2	1.8	C	T491C226K010AT	145-7473
33	3.3	1.8	B	T491B336K010AT	145-7450
47	4.7	1.0	B	T491B476K010AT	145-7458
47	4.7	1.2	C	T491C476K010AT	145-7485
47	4.7	0.8	D	T491D476K010AT	145-7514
68	6.8	1.2	C	T491C686K010AT	145-7489
100	10.0	1.2	C	T491C107K010AT	145-7465
100	10	0.7	D	T491D107K010AT	145-7492
150	15.0	0.9	C	T491C157K010AT	145-7471
150	15.0	0.7	D	T491D157K010AT	145-7497
220	22.0	0.5	D	T491D227K010AT	145-7505
220	22.0	0.5	X	T491X227K010AT	145-7539
330	33.0	0.5	X	T491X337K010AT	145-7544

Order Multiple=5

10 Volt d.c. µF	Order Code	5+	100+	Price Each 250+	500+	1K+
2.2	SMD 145-7417	0.230	0.175	0.155	0.134	0.113
4.7	SMD 145-7427	0.230	0.175	0.155	0.134	0.113
4.7	SMD 145-7452	0.310	0.240	0.210	0.185	0.155
10	SMD 145-7413	0.270	0.196	0.175	0.155	0.134
10	SMD 145-7435	0.310	0.240	0.210	0.185	0.155
10	NEW SMD 167-9292	1.120	0.560	0.370	0.280	0.220
22	SMD 145-7420	0.690	0.520	0.450	0.410	0.350
22	SMD 145-7446	0.410	0.310	0.270	0.250	0.210
22	SMD 145-7473	0.490	0.370	0.320	0.300	0.250
33	SMD 145-7450	0.680	0.520	0.440	0.410	0.340
47	SMD 145-7458	1.360	1.020	0.890	0.810	0.680
47	SMD 145-7485	0.690	0.520	0.450	0.410	0.350
47	SMD 145-7514	0.790	0.600	0.520	0.470	0.400
68	SMD 145-7489	0.970	0.730	0.640	0.590	0.480
100	SMD 145-7465	2.020	1.510	1.320	1.220	1.010
100	SMD 145-7492	0.860	0.640	0.560	0.520	0.430
150	SMD 145-7471	2.410	1.810	1.580	1.440	1.210
150	SMD 145-7497	1.360	1.020	0.890	0.810	0.680
220	SMD 145-7505	2.020	1.510	1.320	1.220	1.010
220	SMD 145-7539	2.490	1.860	1.630	1.490	1.250
330	SMD 145-7544	3.030	2.280	1.980	1.820	1.510

16 Volt d.c. µF	Current DC (µA)	ESR (Ω) @ 100kHz	Case style	Mftrs. List No.	Order Code
1	0.5	10.0	A	T491A105K016AT	145-7406
1.5	0.5	8.0	A	T491A155K016AT	145-7415
2.2	0.5	6.0	A	T491A225K016AT	145-7418
3.3	0.5	5.0	A	T491A335K016AT	145-7423
4.7	0.8	4.0	A	T491A475K016AT	145-7428
4.7	0.8	3.5	B	T491B475K016AT	145-7453
6.8	1.1	3.5	A	T491A685K016AT	145-7431
10	1.6	7.0	A	T491A106K016AT	145-7414
10	1.6	2.8	B	T491B106K016AT	145-7436
10	1.6	1.8	C	T491C106K016AT	145-7461
15	2.4	2.5	B	T491B156K016AT	145-7440
15	2.4	1.8	C	T491C156K016AT	145-7467
22	3.6	2.2	B	T491B226K016AT	145-7447
22	3.6	1.6	C	T491C226K016AT	145-7474
22	3.6	0.8	D	T491D226K016AT	145-7499
33	5.3	1.2	C	T491C336K016AT	145-7479
33	5.3	0.8	D	T491D336K016AT	145-7507
47	7.5	1.2	C	T491C476K016AT	145-7486
47	7.5	0.8	D	T491D476K016AT	145-7515
68	10.9	0.7	D	T491D686K016AT	145-7520
100	16.0	0.7	D	T491D107K016AT	145-7493
100	16.0	0.7	X	T491X107K016AT	145-7525
150	24.0	0.5	X	T491X157K016AT	145-7532

Order Multiple=5

16 Volt d.c. µF	Order Code	5+	100+	Price Each 250+	500+	1K+
1	SMD 145-7406	0.230	0.175	0.155	0.134	0.113
1.5	SMD 145-7415	0.230	0.175	0.155	0.134	0.113
2.2	SMD 145-7418	0.230	0.175	0.155	0.134	0.113
3.3	SMD 145-7423	0.230	0.175	0.155	0.134	0.113
4.7	SMD 145-7428	0.250	0.185	0.165	0.155	0.124
4.7	SMD 145-7453	0.310	0.240	0.210	0.185	0.155
6.8	SMD 145-7431	0.270	0.196	0.175	0.155	0.134
10	SMD 145-7414	0.350	0.260	0.230	0.210	0.175
10	SMD 145-7436	0.330	0.250	0.220	0.196	0.165
10	SMD 145-7461	0.490	0.370	0.320	0.300	0.250
15	SMD 145-7440	0.410	0.310	0.270	0.250	0.210
15	SMD 145-7467	0.490	0.370	0.320	0.300	0.250
22	SMD 145-7447	0.680	0.520	0.440	0.410	0.340
22	SMD 145-7474	0.560	0.410	0.360	0.330	0.280
22	SMD 145-7499	0.790	0.600	0.520	0.470	0.400
33	SMD 145-7479	0.690	0.520	0.450	0.410	0.350
33	SMD 145-7507	0.790	0.600	0.520	0.470	0.400
47	SMD 145-7486	0.970	0.730	0.640	0.590	0.480
47	SMD 145-7515	0.790	0.600	0.520	0.470	0.400
68	SMD 145-7520	1.010	0.760	0.660	0.610	0.510
100	SMD 145-7493	1.360	1.020	0.890	0.810	0.680
100	SMD 145-7525	2.140	1.610	1.390	1.290	1.070
150	SMD 145-7532	2.490	1.860	1.630	1.490	1.250

20 Volt d.c. µF	Current DC (µA)	ESR (Ω) @ 100kHz	Case style	Mftrs. List No.	Order Code
1	0.5	9.0	A	T491A105K020AT	145-7407
2.2	0.5	7.0	A	T491A225K020AT	145-7419
2.2	0.5	3.5	B	T491B225K020AT	145-7441
3.3	0.7	3.0	B	T491B335K020AT	145-7449
4.7	1.0	3.0	B	T491B475K020AT	145-7454
4.7	1.0	2.4	C	T491C475K020AT	145-7480
6.8	1.4	2.5	B	T491B685K020AT	145-7459
10	2.0	2.1	B	T491B106K020AT	145-7437
10	2.0	1.8	C	T491C106K020AT	145-7462
22	4.4	1.2	C	T491C226K020AT	145-7475
22	4.4	0.8	D	T491D226K020AT	145-7502
33	6.6	0.8	D	T491D336K020AT	145-7508
47	9.4	0.7	D	T491D476K020AT	145-7516
68	13.6	0.7	X	T491X686K020AT	145-7551
100	20.0	0.5	X	T491X107K020AT	145-7526

RL Re-reeling available

Farnell

Tantalum - continued

T491 Series - continued

Order Multiple=5
20 Volt d.c.

µF	Order Code	Price Each 5+	100+	250+	500+	1K+
1	SMD 145-7407●	0.230	0.175	0.155	0.134	0.113
2.2	SMD 145-7419●	0.230	0.175	0.155	0.134	0.113
2.2	SMD 145-7441●	0.310	0.240	0.210	0.185	0.155
3.3	SMD 145-7449●	0.310	0.240	0.210	0.185	0.155
4.7	SMD 145-7454●	0.310	0.240	0.210	0.185	0.155
4.7	SMD 145-7480●	0.490	0.370	0.320	0.300	0.250
6.8	SMD 145-7459●	0.330	0.250	0.220	0.196	0.165
10	SMD 145-7437●	0.410	0.310	0.270	0.250	0.210
10	SMD 145-7462●	0.490	0.370	0.320	0.300	0.250
22	SMD 145-7475●	0.690	0.520	0.450	0.410	0.350
22	SMD 145-7502●	0.790	0.600	0.520	0.470	0.400
33	SMD 145-7508●	0.790	0.600	0.520	0.470	0.400
47	SMD 145-7516●	0.860	0.640	0.560	0.520	0.430
68	SMD 145-7551●	2.100	1.580	1.370	1.260	1.050
100	SMD 145-7526●	2.490	1.860	1.630	1.490	1.250

25 Volt d.c. µF	Current DC (µA)	ESR (Ω) @ 100kHz	Case style	Mftrs. List No.	Order Code
0.47	0.5	14.0	A	T491A474K025AT	145-7425
1	0.5	8.0	A	T491A105K025AT	145-7409
1.5	0.5	5.0	B	T491B155K025AT	145-7439
2.2	0.6	4.5	B	T491B225K025AT	145-7442
4.7	1.2	1.5	B	T491B475K025AT	145-7455
4.7	1.2	2.4	C	T491C475K025AT	145-7483
6.8	1.7	1.9	C	T491C685K025AT	145-7487
10	2.5	1.5	C	T491C106K025AT	145-7463
10	2.5	1.0	D	T491D106K025AT	145-7490
15	3.8	1.5	C	T491C156K025AT	145-7468
15	3.8	1.0	D	T491D156K025AT	145-7495
22	5.5	0.8	D	T491D226K025AT	145-7503
47	11.8	0.7	D	T491D476K025AT	145-7517
47	11.8	0.7	X	T491X476K025AT	145-7545

Order Multiple=5
25 Volt d.c.

µF	Order Code	Price Each 5+	100+	250+	500+	1K+
0.47	SMD 145-7425●	0.230	0.175	0.155	0.134	0.113
1	SMD 145-7409●	0.250	0.185	0.165	0.155	0.124
1.5	SMD 145-7439●	0.310	0.240	0.210	0.185	0.155
2.2	SMD 145-7442●	0.330	0.250	0.220	0.196	0.165
4.7	SMD 145-7455●	0.680	0.520	0.440	0.410	0.340
4.7	SMD 145-7483●	0.490	0.370	0.320	0.300	0.250
6.8	SMD 145-7487●	0.490	0.370	0.320	0.300	0.250
10	SMD 145-7463●	0.560	0.410	0.360	0.330	0.280
10	SMD 145-7490●	0.790	0.600	0.520	0.470	0.400
15	SMD 145-7468●	0.690	0.520	0.450	0.410	0.350
15	SMD 145-7495●	0.790	0.600	0.520	0.470	0.400
22	SMD 145-7503●	0.790	0.600	0.520	0.470	0.400
47	SMD 145-7517●	2.020	1.510	1.320	1.220	1.010
47	SMD 145-7545●	2.490	1.860	1.630	1.490	1.250

35 Volt d.c. µF	Current DC (µA)	ESR (Ω) @ 100kHz	Case style	Mftrs. List No.	Order Code
0.1	0.5	20.0	A	T491A104K035AT	145-7402
0.22	0.5	18.0	A	T491A224K035AT	145-7416
0.33	0.5	15.0	A	T491A334K035AT	145-7422
0.47	0.5	12.0	A	T491A474K035AT	145-7426
0.47	0.5	8.0	B	T491B474K035AT	145-7451
0.68	0.5	8.0	A	T491A684K035AT	145-7430
1	0.5	7.5	A	T491A105K035AT	145-7411
1	0.5	5.0	B	T491B105K035AT	145-7432
1.5	0.5	4.5	C	T491C155K035AT	145-7466
2.2	0.8	4.0	B	T491B225K035AT	145-7443
2.2	0.8	3.5	C	T491C225K035AT	145-7472
3.3	1.2	2.5	C	T491C335K035AT	145-7478
4.7	1.7	2.2	C	T491C475K035AT	145-7484
4.7	1.7	1.5	D	T491D475K035AT	145-7510
6.8	2.4	1.8	C	T491C685K035AT	145-7488
6.8	2.4	1.3	D	T491D685K035AT	145-7518
10	3.5	1.6	C	T491C106K035AT	145-7464
10	3.5	1.0	D	T491D106K035AT	145-7491
15	5.3	0.8	D	T491D156K035AT	145-7496
22	7.7	0.7	D	T491D226K035AT	145-7504
22	7.7	0.7	X	T491X226K035AT	145-7535
33	11.6	0.6	X	T491X336K035AT	145-7542
47		0.5	E	T491E476K035AT	145-7522
47	16.5	0.6	X	T491X476K035AT	145-7546

Order Multiple=5
35 Volt d.c.

µF	Order Code	Price Each 5+	100+	250+	500+	1K+
0.1	SMD 145-7402●	0.230	0.175	0.155	0.134	0.113
0.22	SMD 145-7416●	0.230	0.175	0.155	0.134	0.113
0.33	SMD 145-7422●	0.230	0.175	0.155	0.134	0.113
0.47	SMD 145-7426●	0.250	0.185	0.165	0.155	0.124
0.47	SMD 145-7451●	0.310	0.240	0.210	0.185	0.155
0.68	SMD 145-7430●	0.250	0.185	0.165	0.155	0.124
1	SMD 145-7411●	0.270	0.196	0.175	0.155	0.134
1	SMD 145-7432●	0.310	0.240	0.210	0.185	0.155
1.5	SMD 145-7466●	0.490	0.370	0.320	0.300	0.250
2.2	SMD 145-7443●	0.410	0.310	0.270	0.250	0.210
2.2	SMD 145-7472●	0.490	0.370	0.320	0.300	0.250
3.3	SMD 145-7478●	0.490	0.370	0.320	0.300	0.250
4.7	SMD 145-7484●	0.560	0.410	0.360	0.330	0.280
4.7	SMD 145-7510●	0.790	0.600	0.520	0.470	0.400
6.8	SMD 145-7488●	0.690	0.520	0.450	0.410	0.350
6.8	SMD 145-7518●	0.790	0.600	0.520	0.470	0.400
10	SMD 145-7464●	0.970	0.730	0.640	0.590	0.480

Order Multiple=5
35 Volt d.c.

µF	Order Code	Price Each 5+	100+	250+	500+	1K+
10	SMD 145-7491●	0.790	0.600	0.520	0.470	0.400
15	SMD 145-7496●	0.860	0.640	0.560	0.520	0.430
22	SMD 145-7504●	2.020	1.510	1.320	1.220	1.010
22	SMD 145-7535●	2.100	1.580	1.370	1.260	1.050
33	SMD 145-7542●	2.490	1.860	1.630	1.490	1.250
47	SMD 145-7522●	11.270	8.460	7.350	6.770	5.630
47	SMD 145-7546●	3.030	2.280	1.980	1.820	1.510

50 Volt d.c. µF	Current DC (µA)	ESR (Ω) @ 100kHz		Mftrs. List No.	Order Code
0.33	0.5	10.0	B	T491B334K050AT	145-7448
1	0.5	5.5	C	T491C105K050AT	145-7460
2.2	1.1	2.5	D	T491D225K050AT	145-7498
3.3	1.7	2.0	D	T491D335K050AT	145-7506
4.7	2.4	1.4	D	T491D475K050AT	145-7511
6.8	3.5	1.0	X	T491X685K050AT	145-7549
15	7.5	0.7	X	T491X156K050AT	145-7529

486857

Order Multiple=5
50 Volt d.c.

µF	Order Code	Price Each 5+	100+	250+	500+	1K+
0.33	SMD 145-7448●	0.62	0.46	0.40	0.37	0.31
1	SMD 145-7460●	1.09	0.81	0.71	0.65	0.55
2.2	SMD 145-7498●	1.95	1.46	1.27	1.16	0.97
3.3	SMD 145-7506●	1.95	1.46	1.27	1.16	0.97
4.7	SMD 145-7511●	1.95	1.46	1.27	1.16	0.97
6.8	SMD 145-7549●	9.33	7.00	6.09	5.59	4.67
15	SMD 145-7529●	10.10	7.58	6.59	6.07	5.06

KEMET

B45197 Series - Low ESR



SMD

- Low ESR (equivalent series resistance) version of B45196 series
- Long life surface mount tantalum chip capacitors
- Suitable for vapour phase, IR and wave soldering
- Laser marked and conform to **CECC 30801-805**

Case Code	Length	Width	Height	Reel Qty.	Tape Size
A	3.2	1.6	1.6	2000	8
B	3.5	2.8	1.9	2000	8
C	6	3.2	2.6	750	12
D	7.3	4.3	2.9	750	12
E	7.3	4.3	4.1	400	12

µF	ESR @ 100kHz (mΩ)	DC Leakage Current (µA)	Case Size	Mftrs. List No.	Order Code
10 Volt d.c.					
2.2	1800	0.5	A	B45010A2259K188	135-8544
15	200	15	C	B45010C1579K207	135-8547
100	100	10	D	B45197A2107K409	975-1050
220	100	22	E	B45197A2227K509	975-1068
330	100	33	E	B45197A2337K509	975-1076
470	100	47.0	E	B45197A2477K509	975-1190
16 Volt d.c.					
15	2500	2.4	A	B45016A1569K258	135-8548
33	350	5.3	B	B45016B3369K357	135-8545
47	180	7.5	D	B45197A3476K409	975-1092
100	100	16	E	B45197A3107K509	975-1084
220	100	35.2	E	B45197A3227K509	975-1203
20 Volt d.c.					
4.7	1800	0.9	A	B45020A4759K188	135-8549
68	200	13.6	E	B45197A4686K509	975-1106
25 Volt d.c.					
4.7	530	1.2	C	B45197A5475K309	975-1122
10	750	2.5	B	B45025B1069K757	135-8550
22	230	5.5	D	B45197A5226K409	975-1114
35 Volt d.c.					
4.7	1000	1.6	B	B45035B4759K108	135-8551
10	260	3.5	D	B45197A6106K409	975-1130
22	260	7.7	E	B45197A6226K509	975-1149

228455

Order Multiple=5

µF	Order Code	Price Each 5+	50+	100+	250+	500+
10 Volt d.c.						
2.2	SMD 135-8544●	0.660	0.330	0.230	0.165	– –
15	SMD 135-8547●	1.570	0.780	0.530	0.390	– –
100	SMD 975-1050● RL	1.800	1.350	1.070	0.920	0.800
220	SMD 975-1068● RL	3.610	2.720	2.200	1.880	1.650
330	SMD 975-1076● RL	3.620	2.720	2.220	1.880	1.650
470	SMD 975-1190● RL	4.050	3.070	2.480	2.110	1.860
16 Volt d.c.						
15	SMD 135-8548●	0.610	0.300	0.200	0.151	– –
33	SMD 135-8545●	0.810	0.410	0.280	0.200	– –
47	SMD 975-1092● RL	1.260	0.970	0.770	0.650	0.580
100	SMD 975-1084● RL	2.020	1.910	1.860	1.820	1.790
220	SMD 975-1203● RL	3.140	2.390	1.930	1.640	1.430
20 Volt d.c.						
4.7	SMD 135-8549●	0.610	0.300	0.200	0.151	– –
68	SMD 975-1106● RL	3.750	2.840	2.300	1.930	1.700

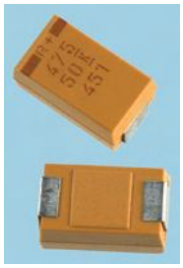
RL Re-reeling available

Order Multiple=5 µF	Order Code	Price Each 5+	50+	100+	250+	500+
25 Volt d.c.						
4.7	SMD 975-1122● RL	1.080	0.820	0.660	0.570	0.490
10	SMD 135-8550●	0.780	0.390	0.260	0.196	– –
22	SMD 975-1114● RL	1.700	1.290	1.040	0.900	0.780
35 Volt d.c.						
4.7	SMD 135-8551●	0.990	0.490	0.330	0.250	– –
10	SMD 975-1130● RL	2.020	1.540	1.240	1.050	0.940
22	SMD 975-1149● RL	3.820	2.920	2.340	1.980	1.770

T495 Series–Low ESR Tantalum

KEMET CHARGED.

SMD



- Designed for Very Low ESR
- Extended Values for Low ESR
- High Surge & Ripple Current Capability
- 100% Accelerated Steady-State Aging
- 100% Surge Current Test
- Low Equivalent Series Inductance

Characteristics

Case size			
C	L = 6	W = 3.2	H = 2.5
D	L = 7.3	W = 4.3	H = 2.8
V	L = 7.3	W = 4.3	H = 2
X	L = 7.3	W = 4.3	H = 4

Tolerance ±10%
Dielectric tpye Tantalum

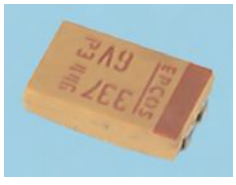
406040

µF	Resistance (ESR)	Case size	Order Code	Price Each 1+	25+	50+	100+
6 Volts d.c.							
100	150mohm	C	SMD 922-9230● RL	1.04	0.92	0.71	0.60
470	65mohm	X	SMD 922-9361● RL	4.28	3.64	3.20	2.83
6.3 Volts d.c.							
330	200mohm	C	NEW SMD 167-9287●	1.78	0.89	0.59	0.44
100	50mohm	D	SMD 135-8513●	5.46	2.73	1.82	1.37
150	40mohm	V	SMD 135-8518●	5.07	2.53	1.69	1.27
1000	100mohm	X	NEW SMD 167-9288●	6.32	3.16	2.10	1.58
10 Volts d.c.							
22		B	NEW SMD 167-9290●	1.64	0.82	0.54	0.41
22		C	NEW SMD 167-9289●	1.91	0.95	0.64	0.47
100	100mohm	D	SMD 922-9256● RL	0.86	0.74	0.59	0.48
100	100mohm	V	SMD 135-8514●	6.39	3.19	2.13	1.60
150	50mohm	D	SMD 128-8218● RL	2.01	1.34	1.01	0.80
220	125mohm	D	SMD 922-9280● RL	1.76	1.47	1.27	1.11
220	100mohm	X	SMD 922-9337● RL	1.78	1.66	1.55	1.41
16 Volts d.c.							
10		B	NEW SMD 167-9291●	1.44	0.72	0.48	0.36
47	150mohm	D	SMD 922-9299● RL	1.61	1.28	1.07	0.92
68	70mohm	D	SMD 135-8515●	7.31	3.66	2.44	1.83
100	125mohm	D	SMD 922-9264● RL	1.50	1.28	1.13	1.00
100	100mohm	X	SMD 922-9310● RL	1.68	1.29	1.08	0.90
20 Volts d.c.							
10	400mohm	C	SMD 128-8223● RL	1.50	1.01	0.75	0.61
33	100mohm	D	SMD 128-8224● RL	1.44	0.96	0.72	0.58
47	150mohm	X	SMD 922-9353● RL	1.52	1.17	0.99	0.82
25 Volts d.c.							
6.8	400mohm	C	SMD 128-8225● RL	0.81	0.55	0.40	0.33
33	200mohm	X	SMD 135-8516●	3.81	1.91	1.27	0.96
35 Volts d.c.							
3.3	525mohm	C	SMD 128-8219● RL	1.48	0.99	0.75	0.60
10	300mohm	D	SMD 922-9248● RL	1.78	1.55	1.22	1.00
10	250mohm	X	SMD 922-9302● RL	1.73	1.38	1.24	1.08
22	300mohm	D	SMD 922-9272● RL	1.13	1.05	1.02	0.96
22	275mohm	X	SMD 922-9329● RL	1.68	1.29	1.08	0.90
50 Volts d.c.							
4.7	300mohm	X	SMD 922-9345● RL	5.22	5.05	4.47	4.15
6.8	190mohm	D	SMD 128-8220● RL	3.04	2.03	1.52	1.13
15	200mohm	X	SMD 135-8517●	16.17	8.09	5.39	4.04

B45194 Series - Low Profile

KEMET

SMD



- Maximum height 2mm
- High capacitance per unit volume
- Low leakage current, low self-inductance, low dissipation factor
- Suitable for vapour phase, IR and wave soldering
- V case size has same foot print as D case

Tolerance ± 10%
Operating temperature -55°C to +125°C
Impedance measured at 100kHz 20°C
Supplied on 180mm diameter reel

Case Code	Length	Width	Height	Reel Qty	Tape Size
V	7.3	4.3	2.0	1000	12mm

µF	Impedance (Ω)	DC Leakage Current (µA)	Case Size	Mftrs. List No.	Order Code
6.3 Volt d.c.					
330	0.7	21	V	B45194E1337K409	416-0332
10 Volt d.c.					
150	0.7	15	V	B45194E2157K409	121-9095
220	0.7	22	V	B45194E2227K409	416-0356
16 Volt d.c.					
68	0.7	11	V	B45194E3686K409	121-9096

240996

Capacitance µF	Order Code	Price Each 1+	50+	100+	250+	500+
6.3 Volt d.c.						
330	SMD 416-0332● RL	2.15	1.63	1.33	1.11	1.00
10 Volt d.c.						
150	SMD 121-9095● RL	2.15	1.63	1.33	1.11	1.00
220	SMD 416-0356● RL	2.15	1.63	1.33	1.11	1.00
16 Volt d.c.						
68	SMD 121-9096● RL	2.15	1.63	1.33	1.11	1.00

B45192 Series - Low Profile, Low ESR

KEMET

SMD



- Maximum height of 1.5mm
- High volumetric efficiency
- Low ESR, for use in telecommunication and other low ESR application with height constraint
- Low leakage current, low self-inductance, low dissipation factor
- Suitable for vapour phase, IR and wave soldering
- W and X case sizes has same foot print as C and D case

Tolerance ±10%
Operating temperature -55°C to +125°C
ESR measured at 100kHz 20°C
Supplied on 180mm diameter reel

Case Code	Length (mm)	Width (mm)	Height (mm)	Reel Qty	Tape Size
W	6.0	3.2	1.5	1250	12mm
X	7.3	4.3	1.5	1250	12mm

µF	ESR (mΩ)	DC Leakage Current (µA)	Case Size	Mftrs. List No.	Order Code
10 Volt d.c.					
47	400	4.7	W	B45192R2476K309	975-1742
100	200	10	X	B45192R2107K409	416-0381
16 Volt d.c.					
33	400	5.3	W	B45192R3336K309	975-1769

241031

Capacitance µF	Order Code	Price Each 1+	50+	100+	250+	500+
10 Volt d.c.						
47	SMD 975-1742● RL	1.66	0.73	0.63	0.59	0.54
100	SMD 416-0381● RL	2.47	1.07	0.94	0.84	0.79
16 Volt d.c.						
33	SMD 975-1769● RL	1.66	0.73	0.63	0.59	0.54

T530 Series–Multi Anode Tantalum Polymer

KEMET CHARGED.



- High Frequency Capacitance Retention
- Non-Ignition Failure Mode
- Moulded Case (pick-and-place precision)
- 100% Accelerated Steady State Aging
- 100% Surge Current Testing
- Utilizes Multiple Tantalum Anode Technology
- Volumetric Efficiency
- Use Up to 80% of Rated Voltage (20% De-rating)
- Self-Healing Mechanism

Dimensions L =7.3 W = 4.3 H = 7.3
Tolerance ±+20%

406054

µF	Resistance (ESR)	Order Code	Price Each 1+	25+	50+	100+
3 Volts d.c.						
1500	8mohm	SMD 922-9728● RL	5.00	4.78	4.46	4.19
4 Volts d.c.						
680	6mohm	SMD 922-9752● RL	5.23	4.98	4.65	4.36
6 Volts d.c.						
470	6mohm	SMD 922-9744● RL	5.23	4.98	4.65	4.36
10 Volts d.c.						
330	6mohm	SMD 922-9736● RL	5.23	4.98	4.65	4.36

B45396 Series - Multiple Anode Tantalum

KEMET

SMD



- Very low ESR, as low as 30mΩ to 35mΩ
- Excellent for DC/DC converters and other very low ESR applications
- High ripple current, up to 3 A
- 100% Inrush tested
- Supplied on 180mm diameter reel

Tolerance ±10%
Operating temperature -55°C to +125°C
ESR measured at 100kHz 20°C

Case Code	Length	Width	Height	Reel Qty.	Tape Size
E	4.1	7.3	4.3	400	12

RL Re-reeling available

Tantalum - continued

B45396 Series - Multiple Anode Tantalum - continued

µF	ESR (mΩ)	DC Leakage Current (µA)	Case Size	Mftrs. List No.	Order Code
4 Volt d.c.					
680	30	27.2	E	B45396R0687K509	975-1777
6.3 Volt d.c.					
470	30	28.2	E	B45396R1477K509	975-1785

241032

Capacitance µF	Order Code	1+	50+	Price Each 100+	400+	800+
4 Volt d.c.						
680	SMD 975-1777● RL	4.38	3.88	3.49	3.19	2.98
6.3 Volt d.c.						
470	SMD 975-1785● RL	4.49	3.99	3.58	3.27	3.06

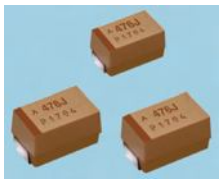
FREE Re-reeling service

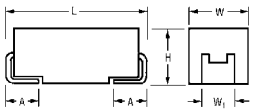


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TCJ Series

Tantalum Solid Electrolytic Chip Capacitor





Operating temperature -55°C to 125°C
Tolerance ±20%

- Tantalum solid electrolytic chip capacitor with a conductive polymer electrode
- Low ESR
- Safe non-ignition failure mode
- Increased capacitance retention compared to conventional MnO_2 electrode capacitors

Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1	H	L 3.5	W 2.8	H 1.5
A	3.2	1.6	1.6	R	2.05	1.3	1.2
B	3.5	2.8	1.9	T	3.5	2.8	1.2
C	6.0	3.2	2.6				

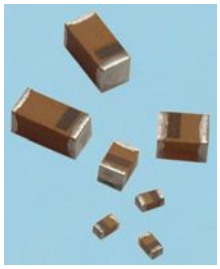
Capacitance µF	ESR (mΩ) @ 100kHz	Case Size	Mftrs. List No.	Order Code
2.5 Volt d.c				
68	250	A	TCJA686M002R0250	165-8373
100	200	A	TCJA107M002R0200	165-8369
100	70	B	TCJB107M002R0070	165-8375
150	70	B	TCJB157M002R0070	165-8942
4 Volt d.c				
15	300	A	TCJA156M004R0300	165-8370
22	300	A	TCJA226M004R0300	113-5226
33	300	A	TCJA336M004R0300	165-8371
47	200	A	TCJA476M004R0200	165-8940
47	80	T	TCJT476M004R0080	165-8946
68	250	A	TCJA686M004R0250	165-8374
68	70	B	TCJB686M004R0070	113-5227
68	80	T	TCJT686M004R0080	143-2542
100	200	A	TCJA107M004R0200	143-2518
100	70	B	TCJB107M004R0070	113-5228
100	150	T	TCJT107M004R0150	143-2536
150	70	B	TCJB157M004R0070	143-2525
6.3 Volt d.c				
10	300	A	TCJA106M006R0300	113-5229
10	500	R	TCJR106M006R0500	143-2533
15	300	A	TCJA156M006R0300	165-8939
22	300	A	TCJA226M006R0300	143-2520
22	150	T	TCJT226M006R0150	165-8945
33	200	A	TCJA336M006R0200	143-2521
33	70	B	TCJB336M006R0070	143-2528
33	200	B	TCJB336M006R0200	165-8944
33	150	T	TCJT336M006R0150	143-2538
47	200	A	TCJA476M006R0200	143-2522
47	70	B	TCJB476M006R0070	113-5230
47	80	T	TCJT476M006R0080	113-5231
47	120	T	TCJT476M006R0120	165-8381
68	55	B	TCJB686M006R0055	165-8377
68	70	B	TCJB686M006R0070	113-5232
68	100	C	TCJC686M006R0100	143-2531
100	45	B	TCJB107M006R0045	165-8376
100	70	B	TCJB107M006R0070	113-5233
150	200	H	TCJH157M006R0200	143-2532
150	70	W	TCJW157M006R0070	165-8947
10 Volt d.c				
4.7	500	R	TCJR475M010R0500	143-2534
4.7	500	K	TCJK475M010R0500	165-8378
10	300	A	TCJA106M010R0300	113-5234
15	200	A	TCJA156M010R0200	143-2519
22	300	B	TCJB226M010R0300	113-5236
22	150	T	TCJT226M010R0150	143-2537
33	200	B	TCJB336M010R0200	113-5237
33	100	C	TCJC336M010R0100	143-2529
33	70	T	TCJT336M010R0070	165-8380
33	150	T	TCJT336M010R0150	143-2541
47	70	B	TCJB476M010R0070	113-5238
47	100	C	TCJC476M010R0100	143-2530
16 Volt d.c				
6.8	200	A	TCJA685M016R0200	165-8941
10	200	A	TCJA106M016R0200	165-8938
10	150	T	TCJT106M016R0150	143-2535
15	150	B	TCJB156M016R0150	143-2524
22	150	B	TCJB226M016R0150	143-2526
16 Volt d.c				
1	500	P	TCJP105M025R0500	165-8379

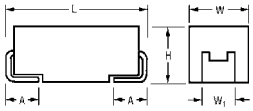
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µF	Order Code	5+	50+	Price Each 100+	500+	1K+
2.5 Volt d.c.						
68	NEW SMD 165-8373● RL	0.82	0.72	0.64	0.58	0.55
100	NEW SMD 165-8369● RL	0.87	0.77	0.67	0.62	0.57
100	NEW SMD 165-8375● RL	1.11	0.96	0.87	0.78	0.72
150	NEW SMD 165-8942● RL	0.74	0.65	0.58	0.53	0.49
4 Volt d.c.						
15	NEW SMD 165-8370● RL	0.59	0.53	0.47	0.41	0.39
22	SMD 113-5226● RL	0.37	0.33	0.30	0.28	0.25
33	NEW SMD 165-8371● RL	0.62	0.55	0.49	0.44	0.40
47	NEW SMD 165-8940● RL	0.89	0.79	0.69	0.63	0.58
47	NEW SMD 165-8946● RL	0.67	0.59	0.54	0.48	0.46
68	NEW SMD 165-8374● RL	0.82	0.72	0.64	0.58	0.55
68	SMD 113-5227● RL	0.43	0.38	0.34	0.31	0.28
68	SMD 143-2542●	0.89	0.81	0.72	0.65	0.59
100	SMD 143-2518●	1.14	1.05	0.93	0.87	0.76
100	SMD 113-5228● RL	0.50	0.45	0.40	0.36	0.33
100	SMD 143-2536●	1.11	1.01	0.91	0.82	0.76
150	SMD 143-2525●	0.90	0.80	0.71	0.66	0.60
6.3 Volt d.c.						
10	SMD 113-5229● RL	0.44	0.39	0.35	0.32	0.30
10	SMD 143-2533●	0.91	0.83	0.73	0.66	0.60
15	NEW SMD 165-8939● RL	0.65	0.57	0.51	0.47	0.42
22	SMD 143-2520●	0.53	0.48	0.42	0.38	0.34
22	NEW SMD 165-8945● RL	0.91	0.80	0.71	0.64	0.59
33	SMD 143-2521●	0.65	0.59	0.53	0.49	0.44
33	SMD 143-2528●	0.72	0.64	0.57	0.53	0.48
33	NEW SMD 165-8944● RL	0.56	0.49	0.44	0.39	0.37
33	SMD 143-2538●	1.04	0.95	0.85	0.78	0.69
47	SMD 143-2522●	0.90	0.82	0.72	0.66	0.61
47	SMD 113-5230● RL	0.64	0.52	0.47	0.40	0.38
47	SMD 113-5231● RL	0.53	0.47	0.42	0.38	0.34
47	NEW SMD 165-8381● RL	0.89	0.79	0.70	0.63	0.59
68	NEW SMD 165-8377● RL	1.35	1.19	1.05	0.95	0.89
68	SMD 113-5232● RL	0.45	0.40	0.36	0.32	0.30
68	SMD 143-2531●	1.21	1.11	0.97	0.88	0.81
100	NEW SMD 165-8376● RL	1.58	1.39	1.23	1.12	1.04
100	SMD 113-5233● RL	0.50	0.45	0.40	0.36	0.34
150	NEW SMD 165-8947● RL	1.17	1.02	0.91	0.82	0.78
150	SMD 143-2532●	1.19	1.08	0.98	0.88	0.80
10 Volt d.c.						
4.7	SMD 143-2534●	1.29	1.17	1.03	0.95	0.87
4.7	NEW SMD 165-8378● RL	0.89	0.79	0.70	0.63	0.59
10	SMD 113-5234● RL	0.44	0.39	0.35	0.32	0.30
15	SMD 143-2519●	0.54	0.49	0.44	0.39	0.36
22	SMD 113-5236● RL	0.54	0.48	0.43	0.39	0.36
22	SMD 143-2537●	1.04	0.95	0.85	0.78	0.69
33	SMD 113-5237● RL	0.50	0.45	0.40	0.36	0.33
33	SMD 143-2529●	1.21	1.11	0.97	0.88	0.81
33	NEW SMD 165-8380● RL	1.92	1.69	1.51	1.36	1.27
33	SMD 143-2541●	0.89	0.83	0.72	0.65	0.60
47	SMD 113-5238● RL	0.64	0.52	0.47	0.40	0.38
47	SMD 143-2530●	1.06	0.97	0.85	0.77	0.70
16 Volt d.c.						
6.8	NEW SMD 165-8941● RL	1.04	0.93	0.82	0.73	0.69
10	NEW SMD 165-8938● RL	0.61	0.54	0.48	0.42	0.40
10	SMD 143-2535●	0.87	0.79	0.70	0.63	0.58
15	SMD 143-2524●	0.78	0.69	0.63	0.57	0.52
22	SMD 143-2526●	1.17	1.06	0.95	0.86	0.78
25 Volt d.c.						
1	NEW SMD 165-8379● RL	1.15	1.01	0.90	0.81	0.77

TLC Series

Tantalum Solid Electrolytic Chip Capacitor





- Super high volumetric efficiency
- Small and low profile case sizes

Operating temperature -55°C to 125°C
Tolerance ±20%

Capacitance µF	ESR (Ω) @ 100 kHz	Case Size	Mftrs. List No.	Order Code
2.5 Volt d.c				
47		0603	TLCL476M002XTA	165-8395
3 Volt d.c				
10		0402	TLCK106M003QTA	165-8388
47		0603	TLCL476M003XTA	165-8397

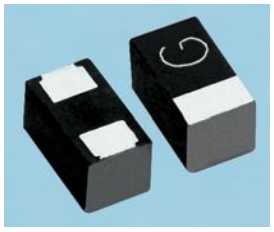
RL Re-reeling available

Capacitance	ESR (Ω)			Order
4 Volt d.c				
10	0603	TLCJ106M004XTA		165-8386
10	0602	TLCZ106M004XTA		165-8406
33	0603	TLCL336M004XTA		165-8394
68	0805	TLCR686M004XTA		165-8401
220	1411	TLCT227M004XTA		165-8404
6.3 Volt d.c				
4.7	0402	TLCK475M006QTA		165-8391
10	0602	TLCZ106M006XTA		165-8407
47	0805	TLCH476M006XTA		165-8385
10 Volt d.c				
2.2	0402	TLCK225M010QTA		165-8389
4.7	0603	TLCJ475M010XTA		165-8387
15	0805	TLCH156M010XTA		165-8382
15	0603	TLCL156M010XTA		165-8393
22	0803	TLCM226M010XTA		165-8398
33	0805	TLCH336M010XTA		165-8383
100	1411	TLCT107M010XTA		165-8403
16 Volt d.c				
0.47	0402	TLCK474M016QTA		165-8390
10	1206	TLCV106M016XTA		165-8405
20 Volt d.c				
10	0805	TLCR106M020XTA		165-8399
25 Volt d.c				
1	0603	TLCL105M025XTA		165-8392
2.2	0805	TLCR225M025XTA		165-8400

424905

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
2.5 Volt d.c						
47	NEW SMD 165-8395● RL	1.33	1.17	1.04	0.91	0.86
3 Volt d.c						
10	NEW SMD 165-8388● RL	2.81	2.48	2.21	1.94	1.82
47	NEW SMD 165-8397● RL	1.33	1.17	1.04	0.91	0.86
4 Volt d.c						
10	NEW SMD 165-8386● RL	1.05	0.93	0.83	0.72	0.67
10	NEW SMD 165-8406● RL	0.71	0.63	0.56	0.49	0.47
33	NEW SMD 165-8394● RL	1.19	1.04	0.94	0.82	0.78
68	NEW SMD 165-8401● RL	3.87	3.41	3.04	2.67	2.49
220	NEW SMD 165-8404● RL	4.36	3.85	3.44	3.05	2.85
6.3 Volt d.c						
4.7	NEW SMD 165-8391● RL	1.41	1.22	1.10	0.96	0.90
10	NEW SMD 165-8407● RL	0.71	0.63	0.56	0.49	0.47
47	NEW SMD 165-8385● RL	1.87	1.65	1.47	1.29	1.21
10 Volt d.c						
2.2	NEW SMD 165-8389● RL	1.41	1.22	1.10	0.96	0.90
4.7	NEW SMD 165-8387● RL	1.05	0.93	0.83	0.72	0.67
15	NEW SMD 165-8382● RL	1.85	1.62	1.46	1.28	1.20
15	NEW SMD 165-8393● RL	0.96	0.85	0.77	0.66	0.62
22	NEW SMD 165-8398● RL	1.21	1.07	0.95	0.85	0.79
33	NEW SMD 165-8383● RL	1.87	1.65	1.47	1.29	1.21
100	NEW SMD 165-8403● RL	4.36	3.85	3.44	3.05	2.85
16 Volt d.c						
0.47	NEW SMD 165-8390● RL	1.38	1.21	1.09	0.95	0.89
10	NEW SMD 165-8405● RL	2.22	1.95	1.75	1.53	1.44
20 Volt d.c						
10	NEW SMD 165-8399● RL	2.13	1.87	1.67	1.47	1.38
25 Volt d.c						
1	NEW SMD 165-8392● RL	1.05	0.93	0.83	0.72	0.67
2.2	NEW SMD 165-8400● RL	1.96	1.74	1.54	1.36	1.27

298D Series



- Solid tantalum chip capacitors
- MICROTAN™ lead frameless molded

Operating Temperature - 55°C to + 85°C

µF	L	W	H	Tolerance	Case Size	Mftrs. List No.	Order Code
	Dimensions						
4 Volt d.c							
220	2.4	1.45	1.1	±20%	P	298D227X0004P2T	156-5124
6.3 Volt d.c							
10	1.6	0.85	0.8	±10%	M	298D106X96R3M2T	156-5120
22	1.6	0.85	0.8	±20%	M	298D226X06R3M2T	156-5123
10 Volt d.c							
10	1.6	0.85	0.8	±20%	M	298D106X0010M2T	156-5121
15	1.6	0.85	0.8	±20%	M	298D156X0010M2T	156-5122
16 Volt d.c							
1	1.6	0.85	0.8	±10%	M	298D105X9016M2T	156-5119

527116

µF	Order Code	1+	50+	Price Each 100+	500+	1K+
4 Volt d.c.						
220	SMD 156-5124● RL	1.14	0.94	0.76	0.65	0.58
6.3 Volt d.c.						
10	SMD 156-5120● RL	0.77	0.62	0.51	0.43	0.38
22	SMD 156-5123● RL	1.01	0.81	0.66	0.58	0.49
10 Volt d.c.						
10	SMD 156-5121● RL	1.01	0.81	0.66	0.58	0.49
15	SMD 156-5122● RL	1.01	0.81	0.66	0.58	0.49
16 Volt d.c.						
1	SMD 156-5119● RL	0.68	0.55	0.44	0.39	0.34

AVX Polymer Designer Kits



- A range of designer kits by AVX containing Tantalum TCJ Capacitors
- Replenishable from Farnell InOne stock
- Each kit contains a full range card and data CD Rom

Description	No. of Values	Resistance Values	Mftrs List No.	Order Code
TCJ series	12 values	22µF to 100µF	TANTTCJ001F	113-5225

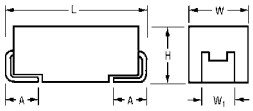
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Order Code	Price Each 1+	3+
113-5225●	32.90	27.84

TLJ Series

Tantalum Solid Electrolytic Chip Capacitor





- High volumetric Efficiency
- Small and low profile cases
- Enviromentally friendly

Operating temperature -55°C to 125°C Tolerance ±20%

Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1	Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1
A	3.2	1.6	1.6	P	2.05	1.35	1.5
B	3.5	2.8	1.9	R	2.05	1.35	1.35
H	3.5	2.8	1.6	T	3.5	2.8	1.2
K	3.2	1.6	1	W	6	3.2	1.5

Capacitance µF	ESR (mΩ) @ 100kHz	Case Size	Mftrs. List No.	Order Code
2.5 Volt d.c				
220		T	TLJT227M002R1100	165-8456
4 Volt d.c				
33		R	TLJR336M004R3000	165-8439
47		K	TLJK476M004R1500	165-8427
47		P	TLJP476M004R3000	165-8431
47	3000	R	TLJR476M004R3000	113-5254
68		K	TLJK686M004R1200	165-8428
68		P	TLJP686M004R3000	165-8434
68		S	TLJS686M004R1500	165-8448
100	500	A	TLJA107M004R0500	113-5255
100		G	TLJG107M004R0800	165-8415
100		S	TLJS107M004R1400	165-8444
150		A	TLJA157M004R0800	165-8409
150		T	TLJT157M004R0800	165-8453
220		H	TLJH227M004R0900	165-8419
220		T	TLJT227M004R1100	165-8457
330		W	TLJW337M004R0200	165-8461
6.3 Volt d.c				
4.7		J	TLJJ475M006R8500	165-8421
6.8		J	TLJJ685M006R10000	165-8423
100		A	TLJA107M006R0800	165-8408
10		J	TLJJ106M006R8000	165-8420
22		R	TLJR226M006R3500	165-8436
33	1700	K	TLJK336M006R1700	143-2548
33		P	TLJP336M006R3000	165-8430
33	3000	R	TLJR336M006R3000	113-5256
47	1500	K	TLJK476M006R1500	143-2549
47		P	TLJP476M006R2500	165-8432
47		R	TLJR476M006R3200	165-8442
47		S	TLJS476M006R1500	165-8446
68		A	TLJA686M006R0500	165-8412
68		G	TLJG686M006R0800	165-8417
68		T	TLJT686M006R0600	165-8458
100	500	A	TLJA107M006R0500	113-5257
100		T	TLJT107M006R0800	165-8450
150		A	TLJA157M006R0900	165-8410
150	900	H	TLJH157M006R0900	143-2547
150		T	TLJT157M006R1200	165-8454
220		B	TLJB227M006R0500	165-8413
220		W	TLJW227M006R0200	165-8460
10 Volt d.c				
4.7		J	TLJJ475M010R10000	165-8422
10	3000	R	TLJR106M010R3000	113-5258
15		R	TLJR156M010R2000	165-8435
22		K	TLJK226M010R1800	165-8424
22		N	TLJN226M010R3800	165-8429
22		R	TLJR226M010R3800	165-8437
33		K	TLJK336M010R1500	165-8425
33	3500	P	TLJP336M010R3500	143-2550
33		R	TLJR336M010R3500	165-8441
33		S	TLJS336M010R1500	165-8445
47		A	TLJA476M010R0600	165-8411
47		G	TLJG476M010R1500	165-8416
47		P	TLJP476M010R3200	165-8433
47		S	TLJS476M010R1500	165-8447
47	600	T	TLJT476M010R0600	113-5261
100		H	TLJH107M010R0900	165-8418
100		T	TLJT107M010R0900	165-8452
150	500	B	TLJB157M010R0500	113-5262
150		W	TLJW157M010R0150	165-8459

RL Re-reeling available

Tantalum - continued

TLJ Series - continued

Tantalum Solid Electrolytic Chip Capacitor - continued

Capacitance	ESR (mΩ)			
150	200	W	TLJW157M010R0200	113-5263
16 Volt d.c				
10		S	TLJS106M016R2200	165-8443
22		T	TLJT226M016R1000	165-8455
20 Volt d.c				
10		T	TLJT106M020R1000	165-8449

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µF	Order Code	Price Each 5+	50+	100+	500+	2K+
2.5 Volt d.c						
220	NEW SMD 165-8456● RL	0.860	0.780	0.700	0.630	0.570
4 Volt d.c						
33	NEW SMD 165-8439● RL	0.350	0.320	0.300	0.260	0.240
47	NEW SMD 165-8427● RL	0.540	0.480	0.420	0.390	0.350
47	NEW SMD 165-8431● RL	0.410	0.380	0.340	0.310	0.290
47	SMD 113-5254● RL	0.230	0.200	0.183	0.167	0.158
68	NEW SMD 165-8428● RL	0.540	0.480	0.420	0.390	0.350
68	NEW SMD 165-8434● RL	0.410	0.380	0.340	0.310	0.290
68	NEW SMD 165-8448● RL	0.550	0.500	0.460	0.400	0.370
100	SMD 113-5255● RL	0.350	0.310	0.290	0.260	0.240
100	NEW SMD 165-8415● RL	0.550	0.500	0.460	0.400	0.370
100	NEW SMD 165-8444● RL	0.770	0.670	0.620	0.560	0.510
150	NEW SMD 165-8409● RL	0.610	0.550	0.500	0.440	0.400
150	NEW SMD 165-8453● RL	0.700	0.630	0.570	0.510	0.480
220	NEW SMD 165-8419● RL	0.860	0.780	0.700	0.630	0.570
220	NEW SMD 165-8457● RL	0.950	0.860	0.780	0.690	0.640
330	NEW SMD 165-8461● RL	1.170	1.040	0.940	0.850	0.790
6.3 Volt d.c						
4.7	NEW SMD 165-8421● RL	0.810	0.730	0.670	0.590	0.550
6.8	NEW SMD 165-8423● RL	1.110	1.000	0.900	0.810	0.750
100	NEW SMD 165-8408● RL	0.540	0.480	0.420	0.390	0.350
10	NEW SMD 165-8420● RL	0.830	0.750	0.680	0.600	0.560
22	NEW SMD 165-8436● RL	0.310	0.270	0.250	0.230	0.200
33	SMD 143-2548●	0.910	0.830	0.730	0.660	0.600
33	NEW SMD 165-8430● RL	0.350	0.320	0.300	0.260	0.240
33	SMD 113-5256● RL	0.380	0.330	0.300	0.260	0.250
47	SMD 143-2549●	1.020	0.930	0.820	0.740	0.670
47	NEW SMD 165-8432● RL	0.380	0.340	0.310	0.270	0.260
47	NEW SMD 165-8442● RL	0.480	0.420	0.390	0.340	0.320
47	NEW SMD 165-8446● RL	0.440	0.390	0.350	0.320	0.300
68	NEW SMD 165-8412● RL	0.320	0.290	0.260	0.240	0.210
68	NEW SMD 165-8417● RL	0.510	0.470	0.410	0.370	0.340
68	NEW SMD 165-8458● RL	0.550	0.500	0.460	0.400	0.370
100	SMD 113-5257● RL	0.800	0.700	0.630	0.560	0.540
100	NEW SMD 165-8450● RL	0.700	0.630	0.570	0.510	0.480
150	NEW SMD 165-8410● RL	1.330	1.200	1.090	0.970	0.890
150	SMD 143-2547●	0.900	0.780	0.690	0.640	0.580
150	NEW SMD 165-8454● RL	0.800	0.710	0.650	0.580	0.540
220	NEW SMD 165-8413● RL	0.630	0.560	0.510	0.460	0.410
220	NEW SMD 165-8460● RL	0.980	0.890	0.810	0.720	0.660
10 Volt d.c						
4.7	NEW SMD 165-8422● RL	0.830	0.750	0.680	0.600	0.560
10	SMD 113-5258● RL	0.330	0.300	0.260	0.250	0.210
15	NEW SMD 165-8435● RL	0.320	0.290	0.260	0.240	0.210
22	NEW SMD 165-8424● RL	0.800	0.710	0.650	0.580	0.540
22	NEW SMD 165-8429● RL	0.510	0.470	0.410	0.370	0.340
22	NEW SMD 165-8437● RL	0.570	0.510	0.470	0.410	0.380
33	NEW SMD 165-8425● RL	0.540	0.480	0.420	0.390	0.350
33	SMD 143-2550●	0.470	0.420	0.370	0.340	0.310
33	NEW SMD 165-8441● RL	0.340	0.310	0.270	0.250	0.230
33	NEW SMD 165-8445● RL	0.440	0.390	0.350	0.320	0.300
47	NEW SMD 165-8411● RL	0.320	0.290	0.260	0.240	0.210
47	NEW SMD 165-8416● RL	0.480	0.420	0.390	0.340	0.320
47	NEW SMD 165-8433● RL	0.380	0.340	0.310	0.270	0.260
47	NEW SMD 165-8447● RL	0.630	0.560	0.510	0.460	0.410
47	SMD 113-5261● RL	0.710	0.620	0.560	0.500	0.480
100	NEW SMD 165-8418● RL	0.860	0.780	0.700	0.630	0.570
100	NEW SMD 165-8452● RL	1.580	1.420	1.280	1.150	1.050
150	SMD 113-5262● RL	0.710	0.610	0.580	0.510	0.480
150	NEW SMD 165-8459● RL	0.770	0.670	0.620	0.560	0.510
150	SMD 113-5263● RL	0.880	0.800	0.700	0.640	0.610
16 Volt d.c						
10	NEW SMD 165-8443● RL	0.500	0.440	0.400	0.350	0.330
22	NEW SMD 165-8455● RL	0.540	0.480	0.420	0.390	0.350
20 Volt d.c						
10	NEW SMD 165-8449● RL	0.660	0.590	0.550	0.490	0.460

AVX Tantalum Designer Kits Consumer Series



- A range of designer kits by AVX containing Tantalum TLJ and TLC Capacitors
- Replenishable from Farnell InOne stock
- Each kit contains a full range card and data CD Rom

Description	No. of Values	Resistance Values	Mftrs List No.	Order Code
TLJ + TLC series	12 values	4.7µF to 150µF	TANTTLJTLC001F	113-5253

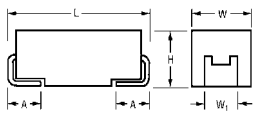
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Order Code	Price Each 1+	3+
113-5253●	29.38	24.87

TPM Multianode

Ultra Low ESR Capacitor





Low ESR, high capacitance and high ripple current are the key parameters for processor filtering. Multianode configuration within a standard E case package meets these requirements. These parameters makes TPM series ready to use with the latest processor families.

Capacitance Tolerance ±10%, ±20%
Leakage Current 0.01CV
Temperature Range -55°C to +125°C

Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1	Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1
D	7.3	4.3	2.9	V	7.3	6.1	3.45
E	7.3	4.3	4.1				

Capacitance (µF)	ESR (mΩ)	DC Leakage Current (µA)	Case Size	Mftrs. List No.	Order Code
2.5 Volt d.c.					
1000	25	25	D	TPMD108K002R0025	165-8462
1500	18	38	E	TPME158K002R0018	165-8478
1500	15	38	E	TPME158K002R0015	113-5195
2200	18	44	E	TPME228M002R0018	165-8482
4 Volt d.c.					
330	25	13.2	D	TPMD337K004R0025	165-8464
330	35	13.2	D	TPMD337K004R0035	165-8465
470	25	18.8	D	TPMD477K004R0025	165-8468
470	35	18.8	D	TPMD477K004R0035	165-8469
680	18	27	E	TPME687K004R0018	113-5241
680	23	27	E	TPME687K004R0023	113-5196
680	25	27.2	D	TPMD687K004R0025	165-8471
1000	18	40	E	TPME108K004R0018	756-9505
1000	23	40	E	TPME108K004R0023	165-8473
1000	18	40	V	TPMV108K004R0018	113-5242
1500	15	40	E	TPME158K004R0015	165-8948
1500	18	40	E	TPME158K004R0018	165-8479
6.3 Volt d.c.					
330	25	19.8	D	TPMD337K006R0025	165-8466
330	35	19.8	D	TPMD337K006R0035	165-8467
470	30	28.2	D	TPMD477K006R0030	165-8470
470	18	28	E	TPME477K006R0018	165-8952
470	23	28	E	TPME477K006R0023	113-5243
470	30	28	E	TPME477K006R0030	756-9475
680	18	41	E	TPME687K006R0018	113-5199
680	23	41	E	TPME687K006R0023	756-9491
680	23	41	V	TPMV687K006R0023	113-5244
10 Volt d.c.					
220	35	22	D	TPMD227K010R0035	143-2558
330	35	33	D	TPMD337K010R0035	143-2560
330	23	33	E	TPME337K010R0023	165-8950
330	35	33	E	TPME337K010R0035	756-9467
470	30	47	E	TPME477K010R0030	113-5203
470	23	47	E	TPME477K010R0023	113-5245
470	23	47	E	TPME477M010R0023	165-8483
470	30	47	E	TPME477M010R0030	756-9483
16 Volt d.c.					
150	40	24	V	TPME157K016R0040	113-5206
150	30	24	E	TPME157K016R0030	165-8477
220	25	35	E	TPME227K016R0025	113-5246
220	40	35	E	TPME227K016R0040	113-5207
20 Volt d.c.					
100	35	20	E	TPME107K020R0035	113-5212
100	45	20	E	TPME107K020R0045	165-8472
25 Volt d.c.					
68	45	17	E	TPME686K025R0045	165-8953
68	55	17	E	TPME686K025R0055	113-5248
35 Volt d.c.					
22	100	8	E	TPME226K035R0100	113-5216
22	60	8	E	TPME226K035R0060	113-5249
33	50	12	E	TPME336K035R0050	165-8949
33	65	12	E	TPME336K035R0065	113-5250
47	55	16	E	TPME476K035R0055	165-8951
47	65	16	E	TPME476K035R0065	113-5251
50 Volt d.c.					
10	120	5	E	TPME106K050R0120	113-5252
15	75	7.5	E	TPME156K050R0075	165-8474
15	100	7.5	E	TPME156K050R0100	165-8476
22	75	11	E	TPME226K050R0075	165-8480
22	100	11	E	TPME226K050R0100	165-8481

339443

Capacitance (µF)	Order Code	Price Each 1+	50+	100+	400+	800+
2.5 Volt d.c.						
1000	NEW SMD 165-8462● RL	4.50	3.99	3.59	3.25	3.04
1500	SMD 113-5195● RL	5.20	4.62	4.16	3.78	3.37
1500	NEW SMD 165-8478● RL	6.85	6.08	5.45	4.95	4.63
2200	NEW SMD 165-8482● RL	8.36	7.40	6.65	6.03	5.63
4 Volt d.c.						
330	NEW SMD 165-8464● RL	3.43	3.04	2.73	2.47	2.32
330	NEW SMD 165-8465● RL	3.64	3.23	2.89	2.63	2.46
470	NEW SMD 165-8468● RL	3.64	3.23	2.89	2.63	2.46

RL Re-reeling available

Capacitance (µF)	Order Code	Price Each 1+	50+	100+	400+	800+
4 Volt d.c.						
470	NEW SMD 165-8469 RL	3.64	3.23	2.89	2.63	2.46
680	SMD 113-5241 RL	3.90	3.48	3.12	2.84	2.51
680	SMD 113-5196 RL	3.01	2.66	2.40	2.18	2.11
680	NEW SMD 165-8471 RL	4.07	3.61	3.25	2.94	2.74
1000	SMD 756-9505 RL	4.35	3.82	3.45	2.92	2.30
1000	NEW SMD 165-8473 RL	6.22	5.51	4.94	4.49	4.19
1000	SMD 113-5242 RL	4.17	3.69	3.34	3.03	2.66
1500	NEW SMD 165-8948 RL	5.92	5.30	4.73	4.32	4.24
1500	NEW SMD 165-8479 RL	12.86	11.39	10.22	9.27	8.66
6.3 Volt d.c.						
330	NEW SMD 165-8466 RL	3.64	3.23	2.89	2.63	2.46
330	NEW SMD 165-8467 RL	3.64	3.23	2.89	2.63	2.46
470	SMD 113-5243 RL	2.86	2.55	2.29	2.09	1.89
470	NEW SMD 165-8470 RL	3.64	3.23	2.89	2.63	2.46
470	NEW SMD 165-8952 RL	3.81	3.38	3.03	2.75	2.70
470	SMD 756-9475 RL	4.28	3.64	3.21	2.84	2.40
680	SMD 113-5199 RL	4.26	3.78	3.42	3.10	2.94
680	SMD 756-9491 RL	3.58	3.04	2.68	2.37	2.04
680	SMD 113-5244 RL	4.80	4.27	3.84	3.49	3.15
10 Volt d.c.						
220	SMD 143-2558	4.00	3.60	3.26	2.93	2.72
330	SMD 143-2560	3.63	3.27	2.97	2.66	2.48
330	NEW SMD 165-8950 RL	3.81	3.38	3.03	2.75	2.70
330	SMD 756-9467 RL	4.28	3.64	3.21	2.84	2.40
470	SMD 113-5203 RL	3.04	2.69	2.43	2.20	1.94
470	SMD 113-5245 RL	3.52	3.12	2.81	2.55	2.35
470	NEW SMD 165-8483 RL	6.43	5.70	5.12	4.64	4.33
470	SMD 756-9483 RL	10.20	8.95	8.16	7.75	7.36
16 Volt d.c.						
150	NEW SMD 165-8477 RL	5.58	4.94	4.42	4.02	3.76
150	SMD 113-5206 RL	3.07	2.73	2.46	2.24	2.00
220	SMD 113-5207 RL	3.90	3.48	3.12	2.84	2.51
220	SMD 113-5246 RL	5.20	4.62	4.16	3.78	3.37
20 Volt d.c.						
100	SMD 113-5212 RL	3.59	3.17	2.86	2.60	2.29
100	NEW SMD 165-8472 RL	5.58	4.94	4.42	4.02	3.76
25 Volt d.c.						
68	NEW SMD 165-8953 RL	6.51	5.79	5.20	4.71	4.63
68	SMD 113-5248 RL	5.13	4.55	4.09	3.89	3.68
35 Volt d.c.						
22	SMD 113-5216 RL	4.96	4.39	3.96	3.73	3.64
22	SMD 113-5249 RL	5.49	4.89	4.39	3.99	3.71
33	NEW SMD 165-8949 RL	5.91	5.28	4.73	4.30	4.22
33	SMD 113-5250 RL	4.96	4.39	3.96	3.92	3.83
47	NEW SMD 165-8951 RL	5.92	5.30	4.73	4.32	4.24
47	SMD 113-5251 RL	5.31	4.73	4.24	3.88	3.71
50 Volt d.c.						
10	SMD 113-5252 RL	5.35	4.75	4.27	3.89	3.71
15	NEW SMD 165-8474 RL	10.50	9.30	8.35	7.58	7.08
15	NEW SMD 165-8476 RL	9.44	8.35	7.49	6.80	6.36
22	NEW SMD 165-8480 RL	9.44	8.35	7.49	6.80	6.36
22	NEW SMD 165-8481 RL	8.58	7.60	6.81	6.18	5.78

T520 Series–Tantalum Polymer

KEMET CHARGED.

SMD



Case size	Dimensions (mm) L	W	H
A	3.2	1.6	1.6
B	3.5	2.8	1.9
C	6	3.2	2.5
D	7.3	4.3	2.8
T	3.5	2.8	1.2
U	6	3.2	1.5
V	7.3	4.3	1.9
X	7.3	4.3	4
Y	7.3	4.3	4

Tolerance ±20%
Operating Temperature -55 to +105°C

- Surface Mount Replacement for Aluminium Capacitors
- High Frequency Cap Retention
- No-Ignition Failure Mode
- 100% Surge Current Tested
- 100% Accelerated Steady State Aging
- Self-Healing Mechanism
- Volumetrically Efficient

406051

µF	Resistance (ESR)	Case size	Order Code	Price Each 1+	25+	50+	100+
2.5 Volt d.c.							
56	40mohm	T	SMD 135-8531	1.76	0.89	0.59	0.44
68	70mohm	A	SMD 110-8332 RL	0.61	0.52	0.43	0.39
330	15mohm	C	SMD 135-8519	2.74	1.37	0.92	0.68
1000	10mohm	D	SMD 128-8227 RL	3.03	2.02	1.51	1.21
4 Volt d.c.							
47	70mohm	A	SMD 110-8331 RL	0.73	0.57	0.46	0.37
220	45mohm	B	SMD 110-8333 RL	0.75	0.66	0.55	0.49
470	12mohm	D	SMD 922-9620 RL	2.32	1.99	1.75	1.54
680	12mohm	D	SMD 128-8226 RL	3.07	2.04	1.54	1.23
6 Volt d.c.							
22	90mohm	A	SMD 110-8329 RL	0.61	0.52	0.43	0.39
33	70mohm	A	SMD 110-8330 RL	0.61	0.52	0.43	0.39
47	40mohm	B	SMD 922-9566 RL	0.73	0.63	0.53	0.46
150	45mohm	B	SMD 110-8334 RL	0.75	0.66	0.55	0.49
330	15mohm	D	SMD 922-9612 RL	2.17	1.84	1.63	1.44
6.3 Volt d.c.							
120	35mohm	B	SMD 135-8520	1.51	0.76	0.51	0.38
330	15mohm	V	SMD 135-8521	5.66	2.83	1.89	1.41
8 Volt d.c.							
82	25mohm	C	SMD 135-8523	2.16	1.08	0.72	0.54

µF	Resistance (ESR)	Case size	Order Code	Price Each 1+	25+	50+	100+
10 Volt d.c.							
10	80mohm	A	SMD 157-2644	1.44	0.72	0.48	0.36
22	80mohm	A	SMD 157-2646	1.37	0.69	0.46	0.34
33	25mohm	B	SMD 135-8530	1.89	0.94	0.63	0.47
47	35mohm	B	SMD 157-2648	1.74	0.88	0.58	0.43
47	55mohm	U	SMD 135-8524	3.67	1.83	1.23	0.92
100	25mohm	C	SMD 135-8525	2.27	1.13	0.75	0.57
100	40mohm	B	SMD 922-9574 RL	0.75	0.66	0.55	0.49
100	18mohm	D	SMD 922-9582 RL	1.84	1.58	1.38	1.23
150	25mohm	D	SMD 922-9590 RL	1.58	1.35	1.16	1.05
220	18mohm	D	SMD 922-9604 RL	1.68	1.29	1.08	0.90
330	25mohm	X	SMD 922-9647 RL	5.56	4.73	4.17	3.68
330	35mohm	Y	SMD 135-8526	5.11	3.02	2.01	1.50
16 Volt d.c.							
10	100mohm	B	NEW SMD 167-9286	1.52	0.76	0.50	0.38
33	70mohm	V	SMD 135-8527	5.07	2.97	1.98	1.48
47	35mohm	D	SMD 922-9639 RL	1.99	1.69	1.48	1.24
150	40mohm	X	SMD 135-8528	9.73	6.60	4.41	3.30
20 Volt d.c.							
22	45mohm	V	SMD 135-8529	5.00	2.61	1.73	1.30
25 Volt d.c.							
15	60mohm	D	SMD 157-2645	4.24	2.12	1.41	1.22

B45294 Series - Polymer Tantalum

KEMET



SMD

- Very low ESR, as low as 35mΩ to 45mΩ
- Enhanced high ESR stability versus temperature
- Enhanced high capacity stability versus frequency
- High ripple current: 1700mA rms at 100kHz, 20°C to +105°C
- V case size has same foot print as D case, with maximum height of 2mm
- Supplied on 180mm diameter reel

Tolerance ±20% Operating temperature -55°C to +105°C ESR measured at 100kHz 20°C

Case Code	Length	Width	Height	Reel Qty.	Tape Size
V	7.3	4.3	2.0	1000	12mm

µF	ESR (mΩ)	DC Leakage Current (µA)	Case Size	Mftrs. List No.	Order Code
6.3 Volt d.c.					
100	45	63	V	B45294R1107M409	975-1858

241034

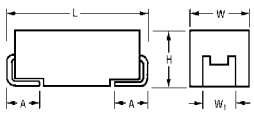
Capacitance µF	Order Code	Price Each 1+	50+	100+	500+	1K+
6.3 Volt d.c.						
100	SMD 975-1858 RL	0.85	0.76	0.65	0.60	0.55

Niobium Oxide Capacitor

OxiCap™ NOJ Series

AVX





SMD

- Reduced Voltage Derating
- Failed OxiCap™ will not burn up to category voltage

A new solid electrolyte capacitor OxiCap™ has been developed by AVX in standard EIA case sizes as a higher performance alternative to aluminum and other SMT capacitor technologies currently on the market. The OxiCap™ non-burn1 technology is based on NbO niobium oxide ceramic material as the anodic material processed through the same manufacturing process as tantalum capacitors. Nb2O5 dielectric in combination to self-healing MnO_2 cathode is a basis for a good reliability level 0.5%/1000 hrs. within a temperature range up to 105°C and rated voltage <6V (rail voltage <5V). Electrical parameters are similar to general tantalum specifications. NbO and MnO2 are widely available materials. The laser coded orange molded body gives total traceability.

Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1	Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1
A	3.2	1.6	1.6	S	3.2	1.6	1.2
B	3.5	2.8	1.9	T	3.5	2.8	1.2
C	6.0	3.2	2.6	V	7.3	6.1	3.45
D	7.3	4.3	2.9	W	6.0	3.2	1.5
E	7.3	4.3	4.1	X	7.3	4.3	1.5
P	2.05	1.35	1.5	Y	7.3	4.3	2

Capacitance (µF)	Dimensions L	W	H	Case Size	ESR (Ω)	Mftrs. List No.	Order Code
1.8 Volt d.c.							
47	3.2	1.6	1.6	A	1.6	NOJA476M001RWJ	165-7991
47	3.5	2.8	1.9	B	1.6	NOJB476M001RWJ	165-7997
68	3.5	2.8	1.9	B	1.5	NOJB686M001RWJ	165-8000
100	3.5	2.8	1.9	B	1.4	NOJB107M001RWJ	165-7994
100	6	3.2	2.6	C	0.4	NOJC107M001RWJ	165-8004
150	6	3.2	2.6	C	0.4	NOJC157M001RWJ	165-8006
220	6	3.2	2.6	C	0.4	NOJC227M001RWJ	165-8009
330	6	3.2	2.6	C	0.3	NOJC337M001RWJ	165-8012
470	7.3	4.3	2	Y	0.3	NOJY477M001RWJ	143-2314

RL Re-reeling available

Farnell

Tantalum - continued

Niobium Oxide Capacitor - continued

OxiCap™ NOJ Series - continued

Capacitance (µF)	Dimensions L	W	H	Case Size	ESR (Ω)	Mftrs. List No.	Order Code
2.5 Volt d.c.							
10	2.05	1.35	1.5	P	4.5	NOJP106M002RWJ	113-5127
15	3.2	1.6	1.2	S	2	NOJS156M002RWJ	143-2294
22	3.2	1.6	1.6	A	1.9	NOJA226M002RWJ	165-7989
22	3.5	2.8	1.2	T	1.9	NOJT226M002RWJ	113-5189
33	3.2	1.6	1.6	A	1.7	NOJA336M002RWJ	113-5128
33	3.5	2.8	1.9	B	1.7	NOJB336M002RWJ	165-7996
33	3.5	2.8	1.2	T	1.7	NOJT336M002RWJ	143-2298
47	3.2	1.6	1.6	A	1.6	NOJA476M002RWJ	165-7992
47	3.5	2.8	1.9	B	1.6	NOJB476M002RWJ	165-7998
68	3.5	2.8	1.9	B	1.5	NOJB686M002RWJ	165-8002
68	6	3.2	2.6	C	0.5	NOJC686M002RWJ	165-8014
100	3.5	2.8	1.9	B	1.4	NOJB107M002RWJ	165-7995
100	6	3.2	2.6	C	0.4	NOJC107M002RWJ	165-8005
100	6.0	3.2	1.5	W	0.4	NOJW107M002RWJ	143-2302
150	6	3.2	2.6	C	0.4	NOJC157M002RWJ	165-8007
150	7.3	4.3	1.5	X	0.4	NOJX157M002RWJ	143-2307
220	6	3.2	2.6	C	0.4	NOJC227M002RWJ	165-8010
330	6.0	3.2	2.6	C	0.3	NOJC337M002RWJ	143-2281
330	7.3	4.3	2	Y	0.3	NOJY337M002RWJ	143-2313
330	7.3	4.3	2.9	D	0.3	NOJD337M002RWJ	165-8018
470	7.3	4.3	2.9	D	0.3	NOJD477M002RWJ	165-8020
680	7.3	4.3	4.1	E	0.3	NOJE687M002RWJ	143-2285
1000	7.3	6.1	3.45	V	0.3	NOJV108M002RWJ	113-5130
4 Volt d.c.							
6.8	2.05	1.35	1.5	P	5.3	NOJP685M004RWJ	113-5131
10	3.2	1.6	1.2	S	2.2	NOJS106M004RWJ	143-2293
15	3.2	1.6	1.6	A	2	NOJA156M004RWJ	165-8896
15	2.05	1.35	1.5	P	4.1	NOJP156M004RWJ	143-2287
22	3.2	1.6	1.6	A	1.9	NOJA226M004RWJ	113-5135
22	3.5	2.8	1.2	T	1.8	NOJT226M004RWJ	143-2297
33	3.2	1.6	1.6	A	1.7	NOJA336M004RWJ	165-7990
33	3.5	2.8	1.9	B	1.7	NOJB336M004RWJ	165-8897
47	3.5	2.8	1.9	B	1.6	NOJB476M004RWJ	113-5085
47	6	3.2	2.6	C	0.5	NOJC476M004RWJ	113-5137
47	6.0	3.2	1.5	W	0.5	NOJW476M004RWJ	143-2304
68	3.5	2.8	1.9	B	1.5	NOJB686M004RWJ	143-2274
68	6	3.2	2.6	C	0.5	NOJC686M004RWJ	165-8898
68	6.0	3.2	1.5	W	0.4	NOJW686M004RWJ	143-2305
100	3.5	2.8	1.9	B	1.4	NOJB107M004RWJ	143-2271
100	6	3.2	2.6	C	0.4	NOJC107M004RWJ	756-5143
100	7.3	4.3	1.5	X	0.4	NOJX107M004RWJ	143-2306
150	6	3.2	2.6	C	0.4	NOJC157M004RWJ	113-5138
150	7.3	4.3	2.9	D	0.3	NOJD157M004RWJ	165-8017
220	6.0	3.2	2.6	C	0.4	NOJC227M004RWJ	143-2277
220	7.3	4.3	2.9	D	0.4	NOJD227M004RWJ	113-5139
330	7.3	4.3	2.9	D	0.3	NOJD337M004RWJ	113-5140
470	7.3	4.3	2.9	D	0.3	NOJD477M004RWJ	165-8021
470	7.3	4.3	4.1	E	0.3	NOJE477M004RWJ	143-2284
680	7.3	4.3	2.9	E	0.3	NOJE687M004RWJ	165-8023
680	7.3	6.1	3.45	V	0.3	NOJV687M004RWJ	113-5141
1000	7.3	4.3	2.9	V	0.3	NOJV108M004RWJ	165-8024
6.3 Volt d.c.							
4.7	3.2	1.6	1.6	A	3.1	NOJA475M006RWJ	113-5086
4.7	2.05	1.35	1.5	P	6.1	NOJP475M006RWJ	143-2290
4.7	3.2	1.6	1.2	S	3.2	NOJS475M006RWJ	113-5142
6.8	3.2	1.6	1.6	A	2.6	NOJA685M006RWJ	165-7993
6.8	2.05	1.35	1.5	P	5.2	NOJP685M006RWJ	143-2292
6.8	3.2	1.6	1.2	S	2.7	NOJS685M006RWJ	143-2295
10	3.2	1.6	1.6	A	2.2	NOJA106M006RWJ.	756-5127
10	2.05	1.35	1.5	P	4.5	NOJP106M006RWJ	143-2286
15	3.2	1.6	1.6	A	2.2	NOJA156M006RWJ	143-2265
15	3.5	2.8	1.9	B	2	NOJB156M006RWJ	113-5143
22	3.2	1.6	1.6	A	1.8	NOJA226M006RWJ	143-2267
22	3.5	2.8	1.9	B	1.9	NOJB226M006RWJ	756-5135
33	3.5	2.8	1.9	B	1.7	NOJB336M006RWJ	113-5087
33	6	3.2	2.6	C	0.5	NOJC336M006RWJ	113-5145
33	6.0	3.2	1.5	W	0.5	NOJW336M006RWJ	143-2303
47	3.5	2.8	1.9	B	1.6	NOJB476M006RWJ	143-2273
47	6	3.2	2.6	C	0.5	NOJC476M006RWJ	113-5146
68	6	3.2	2.6	C	0.5	NOJC686M006RWJ	113-5147
68	3.5	2.8	1.9	B	1.5	NOJB686M006RWJ	165-8003
68	7.3	4.3	1.5	X	0.5	NOJX686M006RWJ	143-2311
100	6.0	3.2	2.6	C	0.4	NOJC107M006RWJ	143-2275
100	7.3	4.3	2.9	D	0.4	NOJD107M006RWJ	756-5151
100	7.3	4.3	2	Y	0.4	NOJY107M006RWJ	113-5148
150	6	3.2	2.6	C	0.4	NOJC157M006RWJ	165-8008
150	7.3	4.3	2	Y	0.4	NOJY157M006RWJ	143-2312
150	7.3	4.3	2.9	D	0.4	NOJD157M006RWJ	113-5149
220	6	3.2	2.6	C	0.4	NOJC227M006RWJ	165-8011
220	7.3	4.3	2.9	D	0.4	NOJD227M006RWJ	143-2283
220	7.3	4.3	4.1	E	0.4	NOJE227M006RWJ	756-5160
330	7.3	4.3	2.9	D	0.3	NOJD337M006RWJ	165-8019
330	7.3	4.3	4.1	E	0.3	NOJE337M006RWJ	756-5178
470	7.3	4.3	2.9	E	0.3	NOJE477M006RWJ	165-8022
470	7.3	6.1	3.45	V	0.3	NOJV477M006RWJ	143-2301
10 Volt d.c.							
2.2	2.05	1.35	1.5	P	8.3	NOJP225M010RWJ	143-2288
3.3	2.05	1.35	1.5	P	7	NOJP335M010RWJ	143-2289
4.7	3.2	1.6	1.6	A	3.1	NOJA475M010RWJ	143-2268
4.7	3.5	2.8	1.2	T	3.1	NOJT475M010RWJ	143-2299
6.8	3.2	1.6	1.6	A	2.6	NOJA685M010RWJ	143-2269
6.8	3.5	2.8	1.2	T	2.6	NOJT685M010RWJ	143-2300
10	3.2	1.6	1.6	A	2.2	NOJA106M010RWJ	143-2264
10	3.5	2.8	1.9	B	2.2	NOJB106M010RWJ	143-2270
10	3.5	2.8	1.2	T	2.2	NOJT106M010RWJ	143-2296
15	3.2	1.6	1.6	A	2	NOJA156M010RWJ	165-7988
15	3.5	2.8	1.9	B	2	NOJB156M010RWJ	113-5150
22	3.5	2.8	1.9	B	1.8	NOJB226M010RWJ	143-2272

Capacitance (µF)	Dimensions L	W	H	Case Size	ESR (Ω)	Mftrs. List No.	Order Code
10 Volt d.c.							
22	6.0	3.2	2.6	C	0.5	NOJC226M010RWJ	143-2276
33	6.0	3.2	2.6	C	0.5	NOJC336M010RWJ	143-2279
47	6.0	3.2	2.6	C	0.4	NOJC476M010RWJ	143-2282
68	6	3.2	2.6	C	0.5	NOJC686M010RWJ	165-8015
100	7.3	4.3	2.9	D	0.4	NOJD107M010RWJ	165-8016

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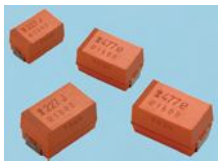
Capacitance (µF)	Order Code	Price Each 5+	50+	100+	500+	1K+
1.8 Volt d.c.						
47	NEW SMD 165-7991 RL	0.200	0.178	0.155	0.130	0.119
47	NEW SMD 165-7997 RL	0.189	0.166	0.143	0.119	0.106
68	NEW SMD 165-8000 RL	0.200	0.178	0.155	0.130	0.119
100	NEW SMD 165-7994 RL	0.200	0.178	0.155	0.130	0.119
100	NEW SMD 165-8004 RL	0.310	0.270	0.240	0.200	0.189
150	NEW SMD 165-8006 RL	0.320	0.290	0.250	0.210	0.189
220	NEW SMD 165-8009 RL	0.340	0.300	0.260	0.230	0.200
330	NEW SMD 165-8012 RL	0.400	0.350	0.310	0.270	0.250
470	SMD 143-2314	1.310	1.210	1.100	0.970	0.900
2.5 Volt d.c.						
10	SMD 113-5127 RL	0.300	0.260	0.230	0.210	0.196
15	SMD 143-2294	0.330	0.300	0.270	0.250	0.230
22	NEW SMD 165-7989 RL	0.155	0.140	0.125	0.110	0.095
22	SMD 113-5189 RL	0.300	0.250	0.230	0.210	0.197
33	SMD 113-5128 RL	0.140	0.119	0.109	0.099	0.093
33	NEW SMD 165-7996 RL	0.189	0.166	0.143	0.119	0.106
33	SMD 143-2298	0.400	0.350	0.320	0.300	0.270
47	NEW SMD 165-7992 RL	0.200	0.178	0.155	0.130	0.119
47	NEW SMD 165-7998 RL	0.189	0.166	0.143	0.119	0.106
68	NEW SMD 165-8002 RL	0.200	0.178	0.155	0.130	0.119
68	NEW SMD 165-8014 RL	0.310	0.270	0.240	0.200	0.189
100	NEW SMD 165-7995 RL	0.200	0.178	0.155	0.130	0.119
100	NEW SMD 165-8005 RL	0.310	0.270	0.240	0.200	0.189
100	SMD 143-2302	0.820	0.740	0.660	0.610	0.550
150	NEW SMD 165-8007 RL	0.320	0.290	0.250	0.210	0.189
150	SMD 143-2307	1.250	1.130	1.010	0.910	0.830
220	NEW SMD 165-8010 RL	0.340	0.300	0.260	0.230	0.200
330	SMD 143-2281	0.570	0.510	0.470	0.420	0.380
330	NEW SMD 165-8018 RL	0.510	0.460	0.390	0.330	0.310
330	SMD 143-2313	1.310	1.210	1.100	0.970	0.900
470	NEW SMD 165-8020 RL	0.580	0.510	0.440	0.380	0.340
680	SMD 143-2285	3.130	2.860	2.570	2.330	2.130
1000	SMD 113-5130 RL	1.370	– –	– –	– –	– –
4 Volt d.c.						
6.8	SMD 113-5131 RL	0.176	0.153	0.135	0.125	0.115
10	SMD 143-2293	0.330	0.300	0.270	0.250	0.230
15	NEW SMD 165-8896 RL	0.170	0.156	0.142	0.128	0.114
15	SMD 143-2287	0.290	0.260	0.240	0.210	0.193
22	SMD 113-5135 RL	0.210	0.181	0.165	0.149	0.141
22	SMD 143-2297	0.400	0.350	0.320	0.300	0.270
33	NEW SMD 165-7990 RL	0.200	0.178	0.155	0.130	0.119
33	NEW SMD 165-8897 RL	0.250	0.230	0.194	0.171	0.160
47	SMD 113-5085 RL	0.330	0.300	0.260	0.250	0.240
47	SMD 113-5137 RL	0.260	0.230	0.210	0.199	0.189
47	SMD 143-2304	0.820	0.740	0.660	0.610	0.550
68	SMD 143-2274	0.260	0.240	0.210	0.193	0.178
68	NEW SMD 165-8898 RL	0.340	0.310	0.260	0.240	0.220
68	SMD 143-2305	0.820	0.740	0.660	0.610	0.550
100	SMD 143-2271	0.260	0.240	0.210	0.193	0.178
100	SMD 756-5143 RL	0.460	0.400	0.370	0.350	0.330
100	SMD 143-2306	1.250	1.130	1.010	0.910	0.830
150	SMD 113-5138 RL	0.500	0.440	0.390	0.370	0.350
150	NEW SMD 165-8017 RL	0.470	0.400	0.340	0.300	0.270
220	SMD 143-2277	0.420	0.380	0.330	0.310	0.280
220	SMD 113-5139 RL	0.750	0.670	0.610	0.570	0.550
330	SMD 113-5140 RL	1.340	1.190	1.090	0.970	0.890
470	NEW SMD 165-8021 RL	0.590	0.530	0.460	0.390	0.350
470	SMD 143-2284	3.680	3.360	3.030	2.730	2.500
680	NEW SMD 165-8023 RL	1.140	0.990	0.870	0.740	0.690
680	SMD 113-5141 RL	3.140	2.800	2.520	2.400	2.270
1000	NEW SMD 165-8024 RL	1.820	1.590	1.380	1.200	1.100
6.3 Volt d.c.						
4.7	SMD 113-5086 RL	0.147	0.117	0.094	0.076	0.072
4.7	SMD 143-2290	0.290	0.260	0.240	0.210	0.193
4.7	SMD 113-5142 RL	0.330	0.300	0.260	0.250	0.210
6.8	NEW SMD 165-7993 RL	0.155	0.140	0.125	0.110	0.095
6.8	SMD 143-2292	0.290	0.260	0.240	0.210	0.193
6.8	SMD 143-2295	0.330	0.300	0.270	0.250	0.230
10	SMD 756-5127 RL	0.156	0.140	0.125	0.114	0.103
10	SMD 143-2286	0.290	0.260	0.240	0.210	0.193
15	SMD 143-2265	0.134	0.123	0.112	0.100	0.092
15	SMD 113-5143 RL	0.250	0.210	0.196	0.181	0.165
22	SMD 143-2267	0.134	0.123	0.112	0.100	0.092
22	SMD 756-5135 RL	0.230	0.200	0.183	0.166	0.153
33	SMD 113-5087 RL	0.330	0.300	0.260	0.250	0.240
33	SMD 113-5145 RL	0.340	0.300	0.270	0.260	0.250
33	SMD 143-2303	0.820	0.740	0.660	0.610	0.550
47	SMD 143-2273	0.260	0.240	0.210	0.193	0.178
47	SMD 113-5146 RL	0.540	0.480	0.420	0.410	0.390
68	NEW SMD 165-8003 RL	0.270	0.240	0.200	0.178	0.166
68	SMD 113-5147 RL	0.500	0.440	0.390	0.370	0.350
68	SMD 143-2311	1.250	1.130	1.010	0.910	0.830
100	SMD 143-2275	0.500	0.470	0.410	0.370	0.340
100	SMD 756-5151 RL	0.620	0.530	0.470	0.440	0.410
100	SMD 113-5148 RL	1.270	1.120	1.010	0.920	0.850
150	NEW SMD 165-8008 RL	0.480	0.410	0.350	0.310	0.290
150	SMD 143-2312	1.310	1.210	1.100	0.970	0.900
150	SMD 113-5149 RL	1.090	0.870	0.700	0.660	0.640
220	NEW SMD 165-8011 RL	0.480	0.410	0.350	0.310	0.290
220	SMD 143-2283	0.830	0.740	0.660	0.620	0.570
220	SMD 756-5160 RL	0.910	0.880	0.860	0.850	0.820
330	NEW SMD 165-8019 RL	0.790	0.690	0.590	0.510	0.480

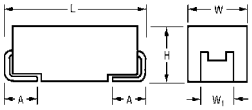
RL Re-reeling available

Capacitance (µF)	Order Code	Price Each 5+	50+	100+	500+	1K+
6.3 Volt d.c.						
330	SMD 756-5178● RL	3.150	2.620	2.190	2.090	1.980
470	NEW SMD 165-8022● RL	0.980	0.870	0.740	0.650	0.590
470	SMD 143-2301●	4.540	4.120	3.710	3.360	3.070
10 Volt d.c.						
2.2	SMD 143-2288●	0.290	0.260	0.240	0.210	0.193
3.3	SMD 143-2289●	0.290	0.260	0.240	0.210	0.193
4.7	SMD 143-2268●	0.171	0.156	0.141	0.128	0.116
4.7	SMD 143-2299●	0.400	0.350	0.320	0.300	0.270
6.8	SMD 143-2269●	0.134	0.123	0.112	0.100	0.092
6.8	SMD 143-2300●	0.400	0.350	0.320	0.300	0.270
10	SMD 143-2264●	0.171	0.156	0.141	0.128	0.116
10	SMD 143-2270●	0.230	0.210	0.186	0.167	0.155
10	SMD 143-2296●	0.400	0.350	0.320	0.300	0.270
15	NEW SMD 165-7988● RL	0.200	0.178	0.155	0.130	0.119
15	SMD 113-5150● RL	0.290	0.270	0.250	0.230	0.210
22	SMD 143-2272●	0.260	0.240	0.210	0.191	0.174
22	SMD 143-2276●	0.340	0.310	0.290	0.260	0.240
33	SMD 143-2279●	0.440	0.390	0.370	0.330	0.300
47	SMD 143-2282●	0.640	0.590	0.530	0.410	0.340
68	NEW SMD 165-8015● RL	0.440	0.390	0.330	0.300	0.260
100	NEW SMD 165-8016● RL	0.820	0.710	0.620	0.540	0.490

Niobium Oxide - Multianode

OxiCap™ NOM Series





- Multianode Niobium Oxide surface mount capacitors
- Low ESR and high ripple current
- Reduced voltage derating
- Failed OxiCap™ will not burn up to categry voltage

Operating temperature -55°C to 125°C
Tolerance ±20%

Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1
E	7.3	4.3	4.1

Capacitance µF	ESR (mΩ) @ 100kHz	Case Size	Mftrs. List No.	Order Code
1.8 Volt d.c				
680	23	E	NOME687M001R0023	165-8028
2.5 Volt d.c				
470	30	E	NOME477M002R0030	113-5220
680	23	E	NOME687M002R0023	143-2317
4 Volt d.c				
330	35	E	NOME337M004R0035	113-5221
470	23	E	NOME477M004R0023	143-2316
470	30	E	NOME477M004R0030	165-8027
6.3 Volt d.c				
330	23	E	NOME337M006R0023	143-2315
330	35	E	NOME337M006R0035	165-8026
10 Volt d.c				
220	40	E	NOME227M006R0040	113-5222

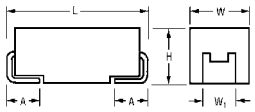
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µF	Order Code	Price Each 5+	50+	100+	500+	1K+
1.8 Volt d.c						
680	NEW SMD 165-8028● RL	1.77	1.59	1.43	1.30	1.19
2.5 Volt d.c						
470	SMD 113-5220● RL	2.87	2.56	2.29	2.08	1.91
680	SMD 143-2317●	3.08	2.76	2.49	2.25	2.08
4 Volt d.c						
330	SMD 113-5221● RL	2.73	2.42	2.18	1.96	1.81
470	SMD 143-2316●	3.08	2.76	2.49	2.25	2.08
470	NEW SMD 165-8027● RL	1.77	1.59	1.43	1.30	1.19
6.3 Volt d.c						
330	SMD 143-2315●	3.08	2.76	2.49	2.25	2.08
330	SMD 165-8026● RL	1.77	1.59	1.43	1.30	1.19
10 Volt d.c						
220	NEW SMD 113-5222● RL	3.78	3.37	3.03	2.73	2.50

Niobium Oxide - Low ESR

OxiCap™ NOS Series





- Niobium Oxide surface mount capacitors
- Low ESR
- Reduced voltage derating
- Failed OxiCap™ will not burn up to categry voltage

Operating temperature -55°C to 125°C
Tolerance ±20%

Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1	Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1
A	3.2	1.6	1.6	V	7.3	6.1	3.45
B	3.5	2.8	1.9	W	6	3.2	1.5
C	6.0	3.2	2.6	X	7.3	4.3	1.5
D	7.3	4.3	2.9	Y	7.3	4.3	2
E	7.3	4.3	4.1				

Capacitance µF	ESR (mΩ) @ 100kHz	Case Size	Mftrs. List No.	Order Code
1.8 Volt d.c				
100	350	B	NOSB107M001R0350	165-8030
100	150	W	NOSW107M001R0150	165-8053
220	125	C	NOSC227M001R0125	165-8034
220	100	X	NOSX227M001R0100	165-8055
2.5 Volt d.c				
22	900	A	NOSA226M002R0900	143-2319
47	500	B	NOSB476M002R0500	165-8032
68	150	W	NOSW686M002R0150	165-8054
100	150	C	NOSC107M002R0150	113-5191
150	150	C	NOSC157M002R0150	165-8033
150	100	X	NOSX157M002R0100	143-2329
150	150	C	NOSC157M002R0150	165-8033
220	125	C	NOSC227M002R0125	165-8035
330	35	D	NOSD337M002R0035	165-8043
330	100	Y	NOSY337M002R0100	143-2335
470	35	D	NOSD477M002R0035	165-8046
470	55	D	NOSD477M002R0055	143-2328
470	100	E	NOSE477M002R0100	165-8052
680	60	E	NOSE687M002R0060	113-5158
1000	50	V	NOSV108M002R0050	113-5159
4 Volt d.c				
15	1500	A	NOSA156M004R1500	113-5160
33	600	B	NOSB336M004R0600	165-8031
22	600	B	NOSB226M004R0600	113-5161
47	500	B	NOSB476M004R0500	143-2322
47	300	C	NOSC476M004R0300	165-8038
100	70	C	NOSC107M004R0070	113-5164
100	150	C	NOSC107M004R0150	165-8899
100	100	X	NOSX107M004R0100	113-5165
150	90	C	NOSC157M004R0090	113-5166
150	150	C	NOSC157M004R0150	165-8900
220	60	D	NOSD227M004R0060	113-5171
220	40	D	NOSD227M004R0040	165-8041
220	100	Y	NOSY227M004R0100	143-2334
330	35	D	NOSD337M004R0035	165-8045
330	100	D	NOSD337M004R0100	113-5172
470	100	D	NOSD477M004R0100	165-8047
470	75	E	NOSE477M004R0075	113-5173
470	100	E	NOSE477M004R0100	165-8902
6.3 Volt d.c				
10	800	A	NOSA106M006R0800	143-2318
10	1000	A	NOSA106M006R1000	165-8029
10	2000	A	NOSA106M006R2000	113-5175
15	600	B	NOSB156M006R0600	143-2320
22	600	B	NOSB226M006R0600	113-5176
33	600	B	NOSB336M006R0600	113-5177
33	500	C	NOSC336M006R0500	165-8036
33	250	W	NOSW336M006R0250	113-5178
47	300	C	NOSC476M006R0300	143-2324
68	75	C	NOSC686M006R0075	143-2325
68	200	C	NOSC686M006R0200	113-5179
68	100	X	NOSX686M006R0100	143-2330
68	100	Y	NOSY686M006R0100	165-8056
100	150	C	NOSC107M006R0150	143-2323
100	80	D	NOSD107M006R0080	113-5180
100	100	D	NOSD107M006R0100	165-8901
100	100	Y	NOSY107M006R0100	143-2331
150	50	D	NOSD157M006R0050	165-8039
150	70	D	NOSD157M006R0070	113-5182
150	100	D	NOSD157M006R0100	165-8040
150	100	Y	NOSY157M006R0100	143-2332
220	45	D	NOSD227M006R0045	165-8042
220	60	D	NOSD227M006R0060	143-2327
220	100	D	NOSD227M006R0100	113-5183
220	100	E	NOSE227M006R0100	165-8048
330	80	E	NOSE337M006R0080	113-5185
330	100	E	NOSE337M006R0100	165-8051
470	75	V	NOSV477M006R0075	113-5186

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µF	Order Code	Price Each 5+	50+	100+	500+	1K+
1.8 Volt d.c.						
100	NEW SMD 165-8030● RL	0.240	0.210	0.200	0.178	0.155
100	NEW SMD 165-8053● RL	0.460	0.410	0.380	0.330	0.310
220	NEW SMD 165-8034● RL	0.400	0.380	0.340	0.300	0.270
220	NEW SMD 165-8055● RL	0.610	0.570	0.510	0.460	0.410
2.5 Volt d.c.						
22	SMD 143-2319●	0.260	0.230	0.210	0.186	0.171
47	NEW SMD 165-8032● RL	0.210	0.200	0.189	0.166	0.155
68	NEW SMD 165-8054● RL	0.490	0.460	0.400	0.350	0.330
100	SMD 113-5191● RL	0.300	0.270	0.240	0.210	0.200
150	NEW SMD 165-8033● RL	0.400	0.380	0.340	0.300	0.270
150	SMD 143-2329●	2.490	2.260	2.010	1.810	1.660
220	NEW SMD 165-8035● RL	0.390	0.350	0.330	0.300	0.260
330	NEW SMD 165-8043● RL	1.270	1.180	1.070	0.940	0.860
330	NEW SMD 165-8044● RL	0.590	0.550	0.500	0.440	0.400
330	SMD 143-2335●	1.740	1.580	1.410	1.260	1.150
470	NEW SMD 165-8046● RL	1.270	1.180	1.070	0.940	0.860
470	SMD 143-2328●	1.980	1.810	1.590	1.440	1.310
470	NEW SMD 165-8052● RL	0.990	0.930	0.850	0.740	0.670
680	SMD 113-5158● RL	1.870	1.670	1.500	1.430	1.350
1000	SMD 113-5159● RL	2.550	2.250	2.030	1.930	1.830
4 Volt d.c.						
15	SMD 113-5160● RL	0.197	0.171	0.151	0.140	0.133
22	SMD 113-5161● RL	0.220	0.197	0.171	0.162	0.155
33	NEW SMD 165-8031● RL	0.210	0.200	0.189	0.166	0.155
47	SMD 143-2322●	0.300	0.270	0.250	0.220	0.210
47	NEW SMD 165-8038● RL	0.340	0.320	0.290	0.260	0.240
100	SMD 113-5164● RL	0.970	0.860	0.780	0.730	0.700
100	NEW SMD 165-8899● RL	0.780	0.700	0.610	0.550	0.490
100	SMD 113-5165● RL	1.740	1.540	1.380	1.260	1.190
150	SMD 113-5166● RL	0.750	0.650	0.580	0.530	0.500
150	NEW SMD 165-8900● RL	0.830	0.740	0.640	0.580	0.530

RL Re-reeling available

Tantalum - continued

Niobium Oxide - Low ESR - continued

OxiCap™ NOS Series - continued

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
220	NEW SMD 165-8041● RL	1.270	1.180	1.070	0.940	0.860
220	SMD 113-5171● RL	0.850	0.740	0.670	0.640	0.610
220	SMD 143-2334●	1.740	1.580	1.410	1.260	1.150
330	NEW SMD 165-8045● RL	1.270	1.180	1.070	0.940	0.860
470	NEW SMD 165-8047● RL	0.720	0.660	0.610	0.540	0.490
330	SMD 113-5172● RL	1.170	1.050	0.940	0.900	0.850
470	SMD 113-5173● RL	2.860	2.520	2.290	2.170	2.070
470	NEW SMD 165-8902● RL	3.080	2.900	2.570	2.340	2.170
6.3 Volt d.c.						
10	SMD 143-2318●	0.310	0.260	0.230	0.192	0.166
10	NEW SMD 165-8029● RL	0.189	0.178	0.155	0.143	0.130
10	SMD 113-5175● RL	0.270	0.240	0.200	0.191	0.183
15	SMD 143-2320●	0.300	0.270	0.240	0.220	0.198
22	SMD 113-5176● RL	0.330	0.300	0.260	0.250	0.240
33	SMD 113-5177● RL	0.230	0.210	0.183	0.172	0.165
33	NEW SMD 165-8036● RL	0.350	0.330	0.310	0.270	0.250
33	SMD 113-5178● RL	0.720	0.640	0.580	0.510	0.480
47	SMD 143-2324●	0.410	0.370	0.330	0.300	0.270
68	SMD 143-2325●	0.510	0.480	0.410	0.370	0.340
68	SMD 113-5179● RL	0.310	0.280	0.250	0.240	0.220
68	SMD 143-2330●	2.490	2.260	2.010	1.810	1.660
68	NEW SMD 165-8056● RL	0.790	0.720	0.660	0.580	0.540
100	SMD 143-2323●	0.630	0.590	0.510	0.480	0.440
100	SMD 113-5180● RL	0.890	0.790	0.700	0.660	0.640
100	NEW SMD 165-8901● RL	1.180	1.110	1.040	1.010	0.980
100	SMD 143-2331●	1.740	1.580	1.410	1.260	1.150
150	NEW SMD 165-8039● RL	1.270	1.180	1.070	0.940	0.860
150	SMD 113-5182● RL	0.850	0.740	0.670	0.640	0.610
150	NEW SMD 165-8040● RL	0.590	0.550	0.500	0.440	0.400
150	SMD 143-2332●	1.740	1.580	1.410	1.260	1.150
220	NEW SMD 165-8042● RL	1.270	1.180	1.070	0.940	0.860
220	SMD 143-2327●	1.060	0.980	0.850	0.770	0.710
220	SMD 113-5183● RL	1.210	1.050	0.960	0.910	0.880
220	NEW SMD 165-8048● RL	0.890	0.830	0.740	0.660	0.610
330	SMD 113-5185● RL	1.860	1.640	1.480	1.410	1.340
330	NEW SMD 165-8051● RL	0.990	0.930	0.850	0.740	0.670
470	SMD 113-5186● RL	2.710	2.410	2.160	2.050	1.950

AVX Oxicap™ Designer Kits



- A range of designer kits by AVX containing Oxicap™ (Niobium Oxide) Capacitors
- Replenishable from Farnell InOne stock
- Each kit contains a full range card and data CD Rom

Description	No. of Values	Resistance Values	Mftrs List No.	Order Code
NOS series	30 Values	10µF to 1000µF	OXICAPNOS001F	113-5151
NOJ series	30 Values	4.7µF to 1000µF	OXICAPNOJ001F	113-5126
NOS + NOJ series	30 Values	4.7µF to 1000µF	OXICAPMIX001F	113-5187

424862

Order Code	Price Each 1+	3+
113-5151●	32.90	27.84
113-5126●	32.90	27.84
113-5187●	32.90	27.84

AVX Designer Kits

Tantalum and Oxicap™ (Niobium Oxide)



- A range of designer kits by AVX containing Tantalum and Oxicap™ (Niobium Oxide) Capacitors
- Replenishable from Farnell InOne stock
- Each kit contains a full range card and data CD Rom

Description	No. of Values	Resistance Values	Mftrs List No.	Order Code
TPS + TPM series	22 values	1µF to 1000µF	TANTLOWESR001F	113-5224
TAC microchip series	22 values	1µF to 220µF	TANTTAC001F	113-5268
TAJ series	30 Values	4.7µF to 1000µF	TANTTAJ001F	113-5043
TPM series	17 values	22µF to 1500µF	TANTTPM001F	113-5239
TPS series	30 Values	1µF to 1000µF	TANTTPS001F	113-5096
Low profile TAJ, TAC + NOJ series	30 Values	0.47µF to 330µF	TANTLOWPROF001F	113-5068
TPS, TPM, NOS + NOM series	30 Values	10µF to 1500µF	TANTPOWER001F	113-5194

424853

Order Code	Price Each 1+	3+
113-5224●	43.93	37.19
113-5268●	24.37	22.75
113-5043●	43.93	37.19
113-5239●	32.90	27.84
113-5096●	32.90	27.84
113-5068●	43.93	37.19
113-5194●	43.93	37.19

Kemet T498 Series – High Temperature Tantalum



- Operating temperature of up to 150°C
- Self-healing mechanism
- 100% Accelerated steady state aging
- 100% Surge Current Test

Characteristics

Case size	Dimensions (mm)		
A	L = 3.2	W = 1.6	H = 1.6
C	L = 6	W = 3.2	H = 2.5
Maximum temperature capability	150°C		
Tolerance	±10%		
Dielectric tpye	Tantalum		

475133

µF	Case size	Order Code	Price Each 1+	10+	100+	250+	500+	2K+
10 Volts d.c.								
4.7	A	SMD 135-8533●	0.650	0.320	0.220	0.165	0.143	0.129
16 Volts d.c.								
22	C	SMD 135-8535●	0.900	0.680	0.570	0.470	0.400	– –

Kemet T499 Series – High Temperature Tantalum



- Operating temperature of up to 175°C
- Self-healing mechanism
- EIA standard case size
- 100% Accelerated Steady-State Aging
- 100% Surge Current Test

Characteristics

Case size	Dimensions (mm)		
A	L = 3.2	W = 1.6	H = 1.6
B	L = 3.5	W = 2.8	H = 1.9
D	L = 7.3	W = 4.3	H = 2.8
X	L = 7.3	W = 4.3	H = 4
Maximum temperature capability	175°C		
Tolerance	±10%		
Dielectric tpye	Tantalum		

475134

µF	Case size	Order Code	Price Each 1+	10+	100+	250+	500+	2K+
16 Volts d.c.								
10	B	SMD 135-8536●	1.000	0.510	0.330	0.260	0.230	0.200
20 Volts d.c.								
4.7	B	SMD 135-8537●	0.910	0.450	0.300	0.230	0.200	0.180
25 Volts d.c.								
1	A	SMD 135-8538●	0.730	0.370	0.250	0.183	0.164	0.146
15	D	SMD 135-8539●	2.700	1.350	0.910	0.680	0.550	– –
35 Volts d.c.								
1	B	SMD 135-8540●	0.910	0.450	0.300	0.230	0.200	0.180
10	D	SMD 135-8541●	2.700	1.350	0.910	0.680	0.550	– –
22	X	SMD 135-8542●	7.960	3.990	2.660	1.990	1.590	– –
50 Volts d.c.								
10	D	SMD 135-8543●	5.510	2.760	1.830	1.380	1.100	– –

Kemet Capacitor Kit

High Temperature Tantalum



- Lab kit for use by design engineers
- Kits can be restocked when required
- 3 pieces for each value

T498 / T499 Kit

Kit contains 10 each of the following:

RL Re-reeling available

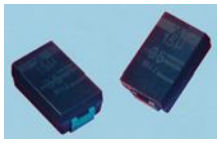
Voltage (V)	Case size	Capacitance µF
T498 Series		
10	A	4.7
16	C	22
T499 Series		
16	B	10
20	B	4.7
25	A	1
25	D	15
35	B	1
35	D	10
35	X	22
50	D	10

477628

Order Code	Price Each
135-8532●	30.90

THJ Series

High Temperature Tantalum Chip Capacitor



New

SMD

The THJ surface mount series combines high temperature operation and higher basic reliability for optimal performance in high temperature automotive and industry applications. The operational temperature is up to +175°C with 50% voltage derating. The level of reliability of this tantalum product is 0.5% / 1000 hours at rated voltage, rated temperature and 0.1Ω/volt circuit impedance. The capacitors are produced in black encapsulation with white polarity marking. The THJ series encompasses the 4 case sizes with dimensions identical to TAJ standard series.

Max. operating temperature +175°C Tolerance ±10%

Capacitance	Case Size	Mftrs. List No.	Order Code
20 Volt d.c			
3.3µF	B	THJB335K020RJN	167-2419
15µF	C	THJC156K020RJN	167-2425
33µF	D	THJD336K020RJN	167-2434
25 Volt d.c			
1µF	A	THJA105K025RJN	167-2409
2.2µF	B	THJB225K025RJN	167-2418
6.8µF	C	THJC685K025RJN	167-2429
10µF	C	THJC106K025RJN	167-2422
22µF	D	THJD226K025RJN	167-2432
33µF	D	THJD336K025RJN	167-2436
470nF	A	THJA474K025RJN	167-2415
680nF	A	THJA684K025RJN	167-2416
35 Volt d.c			
1µF	A	THJA105K035RJN	167-2410
1µF	B	THJB105K035RJN	167-2417
1.5µF	C	THJC155K035RJN	167-2424
1.5µF	D	THJD156K035RJN	167-2431
2.2µF	C	THJC225K035RJN	167-2426
3.3µF	C	THJC335K035RJN	167-2427
4.7µF	C	THJC475K035RJN	167-2428
6.8µF	D	THJD685K035RJN	167-2438
10µF	D	THJD106K035RJN	167-2430
22µF	D	THJD226K035RJN	167-2433
33µF	E	THJE336K035RJN	167-2439
100nF	A	THJA104K035RJN	167-2408
150nF	A	THJA154K035RJN	167-2412
220nF	A	THJA224K035RJN	167-2413
330nF	A	THJA334K035RJN	167-2414
470µF	B	THJB474K035RJN	167-2420
680µF	B	THJB684K035RJN	167-2421
50 Volt d.c			
4.7µF	D	THJD475K050RJN	167-2437

527895

Order Code	1+	50+	Price Each 100+	500+	1K+
20 Volt d.c					
3.3µF SMD 167-2419● RL	0.89	0.65	0.54	0.46	0.40
15µF SMD 167-2425● RL	1.62	1.23	1.03	0.88	0.78
33µF SMD 167-2434● RL	3.67	2.79	2.32	1.99	1.75
25 Volt d.c					
1µF SMD 167-2409● RL	0.72	0.54	0.47	0.38	0.32
2.2µF SMD 167-2418● RL	0.85	0.63	0.51	0.44	0.38
6.8µF SMD 167-2429● RL	1.44	1.10	0.91	0.78	0.69
10µF SMD 167-2422● RL	1.51	1.15	0.96	0.82	0.72
22µF SMD 167-2432● RL	3.44	2.62	2.18	1.87	1.63
33µF SMD 167-2436● RL	3.55	2.70	2.25	1.93	1.69
470nF SMD 167-2415● RL	0.66	0.50	0.44	0.34	0.30
680nF SMD 167-2416● RL	0.72	0.54	0.47	0.38	0.32
35 Volt d.c					
1µF SMD 167-2410● RL	0.77	0.57	0.50	0.40	0.34
1µF SMD 167-2417● RL	0.75	0.56	0.46	0.39	0.34
1.5µF SMD 167-2424● RL	1.14	0.85	0.70	0.58	0.51
1.5µF SMD 167-2431● RL	2.57	1.95	1.63	1.39	1.22
2.2µF SMD 167-2426● RL	1.18	0.87	0.72	0.61	0.53
3.3µF SMD 167-2427● RL	1.31	0.97	0.80	0.67	0.58
4.7µF SMD 167-2428● RL	1.35	0.99	0.82	0.70	0.61
6.8µF SMD 167-2438● RL	1.82	1.38	1.15	0.98	0.86
10µF SMD 167-2430● RL	2.08	1.58	1.31	1.13	0.99
22µF SMD 167-2433● RL	3.78	2.88	2.40	2.06	1.79
33µF SMD 167-2439● RL	5.52	4.19	3.50	2.99	2.63
100nF SMD 167-2408● RL	0.72	0.54	0.47	0.38	0.32
150nF SMD 167-2412● RL	0.72	0.54	0.47	0.38	0.32
220nF SMD 167-2413● RL	0.77	0.57	0.50	0.40	0.34
330nF SMD 167-2414● RL	0.81	0.61	0.53	0.42	0.35
470µF SMD 167-2420● RL	0.81	0.61	0.53	0.42	0.35
680µF SMD 167-2421● RL	0.75	0.56	0.46	0.39	0.34
50 Volt d.c					
4.7µF SMD 167-2437● RL	3.32	2.52	2.10	1.81	1.58

Conformally Coated

VISHAY

SMD



- High CV for case size
- Low leakage current
- To compliment the standard 595D series, 591D offers low ESR, 597D ultra low ESR with dual anode and 592D offers a low profile package

Operating Temperature -55°C to +125°C

µF	Dimensions L	W	H	Tolerance	Case Size	Mftrs. List No.	Order Code
4 Volt d.c							
470	7.3	4.4	2	±20%	V	597D477X0004V2T	156-5106
680	7.3	4.4	4	±20%	E	597D687X0004E2T	156-5109
1000	7.3	4.4	4	±20%	E	597D108X0004E2T	156-5094
1000	7.3	6	3.6	±20%	R	597D108X0004R2T	156-5095
1500	7.3	6	3.6	±20%	R	597D158X0004R2T	156-5098
6.3 Volt d.c							
15	3.5	1.8	1.4	±10%	A	595D156X96R3A2T	116-6792
22	3.8	2.7	1.85	±10%	B	595D226X96R3B2T	116-6795
33	4	2.8	1.2	20%	B	591D336X06R3B2T15H	156-5083
100	6.9	3.2	2.5	±10%	C	595D107X96R3C2T	116-6796
330	7.3	4.4	2	±20%	V	597D337X06R3V2T	156-5105
470	7.1	3.2	2	±20%	C	592D477X06R3C2T20H	156-5093
470	7.3	4.4	4	±20%	E	597D477X06R3E2T	156-5108
680	7.2	6	2	±20%	R	592D687X06R3R2T20H	156-5092
680	7.3	4.4	4	±20%	E	597D687X06R3E2T	156-5111
1000	14.5	7.37	2	±20%	X	592D108X06R3X2T20H	156-5090
1000	7.2	6	2	±20%	R	592D108X06R3R2T20H	156-5091
1000	7.3	6	3.6	±20%	R	597D108X06R3R2T	156-5097
1500	14.5	7.37	2	±20%	X	592D158X06R3X2T20H	156-5088
1500	7.2	6	2	±20%	R	592D158X06R3R2T20H	156-5089
2200	14.5	7.37	2	±20%	X	592D228X06R3X2T20H	156-5087
10 Volt d.c							
2.2	2	8	1.2	±10%	T	595D225X9010T2T	116-6800
10	3.5	1.8	1.4	±10%	A	595D106X9010A2T	116-6801
10	3.7	1.8	1.2	20%	A	591D106X0010A2T15H	156-5082
68	6.9	3.2	2.5	±10%	C	595D686X9010C2T	116-6804
330	7.3	4.4	4	±20%	E	597D337X0010E2T	156-5104
470	7.3	4.4	4	±20%	E	597D477X0010E2T	156-5107
680	7.3	6	3.6	±20%	R	597D687X0010R2T	156-5110
16 Volt d.c							
4.7	3.5	1.8	1.4	±10%	A	595D475X9016A2T	116-6805
10	3.8	2.7	1.8	±10%	B	595D106X9016B2T	116-6806
10	6.8	3.2	1.5	±10%	C	592D106X9016C2T15H	116-6807
33	6.9	3.2	2.5	±10%	C	595D336X9016C2T	116-6808
100	7.2	4.3	2.8	±10%	D	595D107X9016D2T	116-6809
100	7.5	4.3	2	10%	D	591D107X9016D2T20H	156-5085
150	6.9	8	3.5	±10%	R	595D157X9016R2T	116-6810
220	7.3	4.4	4	±20%	E	597D227X0016E2T	156-5101
20 Volt d.c.							
1	2	1.2	1.2	±10%	T	595D105X9020T2T	116-6811
2.2	3.5	1.4	1.2	±10%	A	595D225X9020A2T	116-6812
22	6.9	3.2	2.5	±10%	C	595D226X9020C2T	116-6813
25 Volt d.c							
0.47	2	1.2	1.2	±10%	A	595D474X9025T2T	116-6814
2.2	3.7	2.6	1.5	±10%	A	592D225X9025B2T15H	116-6817
15	6.9	3.2	2.5	±10%	A	595D156X9025C2T	116-6818
68	7.2	6	2	10%	R	591D686X9025R2T20H	156-5086
68	7.3	6	3.6	±20%	R	597D686X0025R2T	156-5117
150	7.3	6	4.7	±20%	F	597D157X0025F2T	156-5118
35 Volt d.c.							
1	3.5	1.8	1.4	±10%	A	595D105X9035A2T	116-6819
1	2.8	1.5	1.2	±10%	A	592D105X9035A2T15H	116-6820
2.2	3.8	2.7	1.8	±10%	B	595D225X9035B2T	116-6821
15	7.2	4.3	2.8	±10%	D	595D156X9035D2T	116-6823
33	6.9	8	3.5	±10%	R	595D336X9035R2T	116-6824
47	7.3	6	3.6	±20%	R	597D476X0035R2T	156-5116
50 Volt d.c.							
15	7.3	4.4	4	±20%	E	597D156X0050E2T	156-5115
22	7.3	6	3.6	±20%	R	597D226X0050R2T	156-5100
33	7.3	6	4.7	±20%	F	597D336X0050F2T	156-5103
47	7.3	6	6	±20%	Z	597D476X0050Z2T	156-5113
63 Volt d.c							
22	7.3	6	4.7	±20%	F	597D226X0063F2T	156-5112

208574

µF	Order Code	1+	50+	Price Each 100+	500+	1K+
4 Volt d.c.						
470	NEW SMC 156-5106● RL	1.50	1.29	1.05	0.96	0.91
680	NEW SMC 156-5109● RL	3.14	2.70	2.19	2.01	1.89
1000	NEW SMC 156-5094● RL	3.28	2.82	2.30	2.10	1.98
1000	NEW SMC 156-5095● RL	3.46	2.97	2.41	2.20	2.07
1500	NEW SMC 156-5098● RL	3.46	2.97	2.41	2.20	2.07
6.3 Volt d.c.						
15	SMC 116-6792● RL	1.53	1.16	0.96	0.78	0.68
22	SMC 116-6795● RL	1.47	1.25	1.10	1.00	0.94
33	NEW SMC 156-5083● RL	3.18	2.47	2.01	1.64	1.43
100	SMC 116-6796● RL	3.65	2.75	2.26	1.87	1.62
330	NEW SMC 156-5105● RL	1.50	1.29	1.05	0.96	0.91
470	NEW SMC 156-5093● RL	1.41	1.19	1.12	0.99	0.91
470	NEW SMC 156-5108● RL	3.14	2.70	2.19	2.01	1.89
680	NEW SMC 156-5092● RL	3.79	3.23	3.01	2.65	2.42
680	NEW SMC 156-5111● RL	3.14	2.70	2.19	2.01	1.89
1000	NEW SMC 156-5090● RL	3.55	3.03	2.83	2.49	2.26
1000	NEW SMC 156-5091● RL	3.79	3.23	3.01	2.65	2.42
1000	NEW SMC 156-5097● RL	3.46	2.97	2.41	2.20	2.07
1500	NEW SMC 156-5088● RL	3.55	3.03	2.83	2.49	2.26
1500	NEW SMC 156-5089● RL	4.12	3.52	3.27	2.89	2.62
2200	NEW SMC 156-5087● RL	4.46	3.82	3.55	3.12	2.84

RL Re-reeling available

Farnell

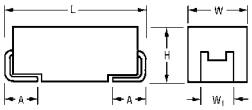
Tantalum - continued

Conformally Coated - continued

µF	Order Code	1+	50+	Price Each 100+	500+	1K+
10 Volt d.c.						
2.2	SMD 116-6800● RL	2.50	1.89	1.53	1.27	1.11
10	SMD 116-6801● RL	1.17	0.89	0.73	0.60	0.52
10	NEW SMD 156-5082● RL	2.24	1.74	1.43	1.10	1.02
68	SMD 116-6804● RL	3.65	2.75	2.26	1.87	1.62
330	NEW SMD 156-5104● RL	3.17	2.72	2.20	2.03	1.90
470	NEW SMD 156-5107● RL	3.28	2.82	2.30	2.10	1.98
680	NEW SMD 156-5110● RL	3.46	2.97	2.41	2.20	2.07
16 Volt d.c.						
4.7	SMD 116-6805● RL	1.53	1.16	0.96	0.78	0.68
10	SMD 116-6806● RL	1.61	1.22	1.00	0.82	0.72
10	SMD 116-6807● RL	3.13	2.37	1.91	1.62	1.37
33	SMD 116-6808● RL	3.65	2.75	2.26	1.87	1.62
100	SMD 116-6809● RL	4.88	3.69	3.01	2.52	2.16
100	NEW SMD 156-5085● RL	4.92	3.83	3.12	2.55	2.21
150	SMD 116-6810● RL	8.02	6.06	4.94	4.14	3.54
220	NEW SMD 156-5101● RL	3.14	2.70	2.19	2.01	1.89
20 Volt d.c.						
1	SMD 116-6811● RL	2.82	2.14	1.73	1.45	1.23
2.2	SMD 116-6812● RL	1.53	1.16	0.96	0.78	0.68
22	SMD 116-6813● RL	3.65	2.75	2.26	1.87	1.62
25 Volt d.c.						
0.47	SMD 116-6814● RL	2.50	1.89	1.53	1.27	1.11
2.2	SMD 116-6817● RL	1.09	0.82	0.68	0.56	0.48
15	SMD 116-6818● RL	1.90	1.62	1.43	1.34	1.23
68	NEW SMD 156-5086● RL	7.59	5.91	4.84	3.94	3.32
68	NEW SMD 156-5117● RL	3.64	3.12	2.54	2.33	2.18
150	NEW SMD 156-5118● RL	5.08	4.35	3.54	3.23	3.05
35 Volt d.c.						
1	SMD 116-6819● RL	1.53	1.16	0.96	0.78	0.68
1	SMD 116-6820● RL	1.52	1.16	0.95	0.77	0.68
2.2	SMD 116-6821● RL	1.61	1.22	1.00	0.82	0.72
15	SMD 116-6823● RL	4.88	3.69	3.01	2.52	2.16
33	SMD 116-6824● RL	8.02	6.06	4.94	4.14	3.54
47	NEW SMD 156-5116● RL	3.79	3.24	2.65	2.42	2.28
50 Volt d.c.						
15	NEW SMD 156-5115● RL	3.86	3.32	2.69	2.46	2.32
22	NEW SMD 156-5100● RL	4.24	3.63	2.97	2.71	2.54
33	NEW SMD 156-5103● RL	5.60	4.80	3.91	3.57	3.37
47	NEW SMD 156-5113● RL	5.44	4.66	3.79	3.47	3.26
63 Volt d.c.						
22	NEW SMD 156-5112● RL	6.62	5.67	4.62	4.22	3.97

TAC Microchip™ Series





Supplied on 8mm embossed tape.
Reel=500pcs

- Tantalum capacitor
- Volumetric efficiency, space and weight saving
- Applications include portable computers and mobile communication
- Enhanced ESR and high frequency operation
- Equivalent high frequency performance to larger sized product

Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1	Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1
A	3.2	1.6	1.6	R	2.05	1.35	1.35
H	2	1.35	1	T	3.5	2.8	1.2
K	1	0.5	0.5	U	2	1.36	0.6
L	1.6	0.85	0.85				

µF @ 120Hz	Voltage d.c.	Leakage µA (Max)	ESR Max (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
2.5 Volt d.c.						
3.3	2	0.5	15	K	TACK335M002QTA	165-8067
3.3	2	0.5	7.5	L	TACL335K002XTA	165-8085
4.7	2	0.5	15	K	TACK475M002QTA	165-8069
4.7	2	0.5	7.5	L	TACL475K002XTA	165-8093
6.8	2	0.5	15	K	TACK685M002QTA	165-8071
6.8	2	0.5	7.5	L	TACL685K002XTA	165-8100
10	2.5	0.5	15	K	TACK106M002QTA	113-5269
10	2	0.5	15	L	TACL106K002XTA	165-8073
10	2.5	0.5	5	U	TACU106M002XTA	165-8134
22	2	0.5	5	R	TACR226K002XTA	165-8114
33	2	0.7	5	R	TACR336K002XTA	165-8121
47	2	0.9	5	R	TACR476K002XTA	165-8126
68	2	1.4	5	R	TACR686M002XTA	165-8132
150	2	3	1	A	TACA157M002XTA	165-8058
3 Volt d.c.						
2.2	3	0.5	15	K	TACK225M003QTA	165-8066
2.2	3	0.5	7.5	L	TACL225K003XTA	165-8081
2.2	3	0.5	10	L	TACL225M3XBJ	121-6603
3.3	3	0.5	15	K	TACK335M003QTA	165-8068
3.3	3	0.5	7.5	L	TACL335K003XTA	165-8087
4.7	3	0.5	15	K	TACK475M003QTA	113-5270
4.7	3	0.5	7.5	L	TACL475K003XTA	165-8094
6.8	3	0.5	7.5	L	TACL685K003XTA	165-8101
10	3	0.5	7.5	L	TACL106K003XTA	165-8075
15	3	0.5	5	R	TACR156K003XTA	165-8110
22	3	0.7	7.5	L	TACL226M003XTA	165-8084
22	3	0.7	5	R	TACR226K003XTA	165-8115
33	3	1	5	R	TACR336K003XTA	165-8122
47	3	1.4	5	H	TACH476M003XTA	165-8064
47	3	1.5	5	R	TACR476K003XTA	165-8127
68	3	2	5	R	TACR686M003XTA	165-8133
100	3	3	1	A	TACA107M003XTA	165-8057
100	3	0.5		R	TACR107M003XTA	113-5276
220	3	0.5	1	T	TACT227M003XTA	113-5285
4 Volt d.c.						
1.5	4	0.5	10	L	TACL155M004XTA	121-6604
1.5	4	0.5	7.5	L	TACL155K004XTA	165-8077
2.2	4	0.5	7.5	L	TACL225K004XTA	165-8082
3.3	4	0.5	7.5	L	TACL335K004XTA	165-8088
4.7	4	0.5	7.5	L	TACL475K004XTA	165-8095
4.7	4	0.5	5	U	TACU475M004XTA	165-8136
6.8	4	0.5	7.5	L	TACL685K004XTA	165-8102
10	4	0.5	7.5	J	TACJ106M004XTA	165-8065
10	4	0.5	7.5	L	TACL106M004XTA	165-8076
10	4	0.5	5	R	TACR106K004XTA	165-8107
15	4	0.6	7.5	L	TACL156M004XTA	165-8080
15	4	0.6	5	R	TACR156K004XTA	165-8111
22	4	0.5	7.5	L	TACL226M004XTA	113-5273
22	4	0.9	5	R	TACR226K004XTA	165-8117
33	4	1.3	5	H	TACH336M004XTA	165-8063
33	4	1.3	5	R	TACR336K004XTA	165-8123
47	4	1.9	5	R	TACR476M004XTA	165-8915
68	4	2.7	1	A	TACA686M004XTA	165-8059
100	4	4	5	R	TACR107M004XTA	165-8109
6.3 Volt d.c.						
1	6.3	0.5	15	K	TACK105M006QTA	165-8904
1	6.3	0.5	7.5	L	TACL105K006XTA	165-8072
1	6.3	0.5	10	L	TACL105M006XTA	121-6605
1.5	6.3	0.5	7.5	L	TACL155K006XTA	165-8078
2.2	6.3	0.5	15	K	TACK225M006QTA	113-5088
2.2	6.3	0.5	7.5	L	TACL225K006XTA	165-8083
3.3	6.3	0.5	7.5	L	TACL335K006XTA	165-8089
3.3	6.3	0.5	5	U	TACU335M006XTA	165-8135
4.7	6.3	0.5	7.5	L	TACL475K006XTA	165-8096
6.8	6.3	0.5	7.5	L	TACL685K006XTA	165-8103
6.8	6.3	0.5	5	R	TACR685K006XTA	165-8129
10	6.3	0.6	5	R	TACR106K006XTA	165-8912
15	6.3	0.9	5	H	TACH156M006XTA	165-8061
15	6.3	0.5	7.5	L	TACL156M006XTA	113-5274
15	6.3	0.9	5	R	TACR156K006XTA	165-8112
22	6.3	0.5	5	H	TACH226M006XTA	113-5093
22	6.3	1.4	5	R	TACR226K006XTA	165-8118
33	6.3	2.1	5	R	TACR336K006XTA	165-8124
47	6.3	3	1	A	TACA476M006XTA	165-8903
47	6.3	0.5	5	R	TACR476M006XTA	113-5094
100	6.3	0.5	1	T	TACT107M006XTA	113-5286
10 Volt d.c.						
0.47	10	0.5	15	K	TACK474M010QTA	165-8905
0.47	10	0.5	7.5	L	TACL474K010XTA	165-8091
0.68	10	0.5	10	L	TACL684M10XBJ	121-6606
0.68	10	0.5	15	K	TACK684M010QTA	165-8070
0.68	10	0.5	7.5	L	TACL684K010XTA	165-8097
1	10	0.5	15	K	TACK105M010QTA	113-5271
1	10	0.5	7.5	L	TACL105K010XTA	165-8907
1.5	10	0.5	7.5	L	TACL155K010XTA	165-8079
2.2	10	0.5	7.5	L	TACL225K010XTA	165-8909
2.2	10	0.5	5	U	TACU225M010XTA	113-5095
3.3	10	0.5	7.5	L	TACL335K010XTA	165-8090
3.3	10	0.5	5	R	TACR335K010XTA	165-8119
4.7	10	0.5	6	L	TACL475M010XTA	165-8911
4.7	10	0.5	6	R	TACR475K010XTA	165-8914
6.8	10	0.7	7.5	L	TACL685K010XTA	165-8105
6.8	10	0.7	5	R	TACR685K010XTA	165-8131
10	10	1	5	H	TACH106M010XTA	165-8060
10	10	0.5	7.5	L	TACL106M010XTA	113-5091
10	10	1	5	R	TACR106K010XTA	165-8913
10	10	1	2	V	TACV106M010XTA	165-8137
15	10	1.5	5	R	TACR156K010XTA	165-8113
22	10	0.5	5	R	TACR226M010XTA	113-5277
33	10	0.5	1	A	TACA336M010XTA	113-5282
33	10	3.3	1	R	TACR336K010XTA	165-8125
47	10	0.5	1	T	TACT476M010XTA	113-5287
16 Volt d.c.						
0.47	16	0.5	7.5	L	TACL474K016XTA	165-8092
0.68	16	0.5	7.5	L	TACL684K016XTA	165-8099
1	16	0.5	7.5	L	TACL105K016XTA	165-8908
1	16.3	0.5	5	U	TACU105M016XTA	113-5283
2.2	16.3	0.5	7.5	L	TACL225M016XTA	113-5275
10	16	1.6	5	R	TACR106K016XTA	165-8108
10	16.3	0.5	5	R	TACR106M016XTA	113-5278
20 Volt d.c.						
3.3	20	0.7	5	R	TACR335M020XTA	165-8120
4.7	20	0.5	5	R	TACR475M020XTA	113-5279
25 Volt d.c.						
1	25	0.5	5	R	TACR105K025XTA	165-8106
1	25	0.5	5	R	TACR105M025XTA	113-5280

208515

µF	Order Code	1+	10+	Price Each 100+	250+	500+	1K+
2.5 Volt d.c.							
3.3	NEW SMD 165-8067● RL	1.13	1.03	0.90	0.79	0.72	0.65
3.3	NEW SMD 165-8085● RL	0.77	0.70	0.61	0.54	0.49	0.44
4.7	NEW SMD 165-8069● RL	1.13	1.03	0.90	0.79	0.72	0.65
4.7	NEW SMD 165-8093● RL	0.77	0.70	0.61	0.54	0.49	0.44
6.8	NEW SMD 165-8071● RL	1.13	1.03	0.90	0.79	0.72	0.65
6.8	NEW SMD 165-8100● RL	0.77	0.70	0.61	0.54	0.49	0.44
10	SMD 113-5269● RL	0.95	0.83	0.76	0.69	0.66	0.63
10	NEW SMD 165-8073● RL	0.98	0.90	0.79	0.69	0.63	0.57
10	NEW SMD 165-8134● RL	1.28	1.18	1.02	0.89	0.82	0.74

RL Re-reeling available

µF	Order Code	Price Each 1+	10+	100+	250+	500+	1K+
2.5 Volt d.c.							
22	NEW SMD 165-8114● RL	1.28	1.18	1.02	0.89	0.82	0.74
33	NEW SMD 165-8121● RL	1.49	1.35	1.19	1.03	0.95	0.87
47	NEW SMD 165-8126● RL	1.93	1.77	1.54	1.34	1.23	1.13
68	NEW SMD 165-8132● RL	1.84	1.67	1.47	1.28	1.18	1.07
150	NEW SMD 165-8058● RL	3.76	3.44	3.02	2.63	2.41	2.19
3 Volt d.c.							
2.2	NEW SMD 165-8066● RL	0.98	0.90	0.79	0.69	0.63	0.57
2.2	NEW SMD 165-8081● RL	0.77	0.70	0.61	0.54	0.49	0.44
2.2	SMD 121-6603●	2.59	2.41	2.13	1.79	1.55	1.39
3.3	NEW SMD 165-8068● RL	1.15	1.05	0.93	0.80	0.73	0.66
3.3	NEW SMD 165-8087● RL	0.77	0.70	0.61	0.54	0.49	0.44
4.7	SMD 113-5270● RL	0.71	0.64	0.57	0.51	0.48	0.47
4.7	NEW SMD 165-8094● RL	0.77	0.70	0.61	0.54	0.49	0.44
6.8	NEW SMD 165-8101● RL	0.77	0.70	0.61	0.54	0.49	0.44
10	NEW SMD 165-8075● RL	0.82	0.74	0.65	0.57	0.53	0.48
15	NEW SMD 165-8110● RL	1.28	1.18	1.02	0.89	0.82	0.74
22	NEW SMD 165-8084● RL	0.86	0.79	0.69	0.59	0.55	0.50
22	NEW SMD 165-8115● RL	1.28	1.18	1.02	0.89	0.82	0.74
33	NEW SMD 165-8122● RL	1.49	1.35	1.19	1.03	0.95	0.87
47	NEW SMD 165-8064● RL	1.29	1.19	1.04	0.90	0.83	0.77
47	NEW SMD 165-8127● RL	1.93	1.77	1.54	1.34	1.23	1.13
68	NEW SMD 165-8133● RL	2.43	2.22	1.94	1.69	1.55	1.42
100	NEW SMD 165-8057● RL	3.76	3.44	3.02	2.63	2.41	2.19
100	SMD 113-5276● RL	1.01	0.90	0.81	0.72	0.68	0.65
220	SMD 113-5285● RL	1.39	1.23	1.11	1.01	0.92	0.88
4 Volt d.c.							
1.5	SMD 121-6604● RL	2.43	2.25	1.98	1.69	1.46	1.29
1.5	NEW SMD 165-8077● RL	0.74	0.67	0.59	0.51	0.48	0.42
2.2	NEW SMD 165-8082● RL	0.77	0.70	0.61	0.54	0.49	0.44
3.3	NEW SMD 165-8088● RL	0.77	0.70	0.61	0.54	0.49	0.44
4.7	NEW SMD 165-8095● RL	0.77	0.70	0.61	0.54	0.49	0.44
4.7	NEW SMD 165-8136● RL	1.09	0.98	0.87	0.74	0.69	0.63
6.8	NEW SMD 165-8102● RL	0.77	0.70	0.61	0.54	0.49	0.44
10	NEW SMD 165-8065● RL	1.26	1.15	1.01	0.88	0.81	0.73
10	NEW SMD 165-8076● RL	0.82	0.74	0.65	0.57	0.53	0.48
10	NEW SMD 165-8107● RL	1.28	1.18	1.02	0.89	0.82	0.74
15	NEW SMD 165-8080● RL	0.79	0.71	0.63	0.55	0.50	0.46
15	NEW SMD 165-8111● RL	1.29	1.19	1.04	0.90	0.83	0.77
22	SMD 113-5273● RL	0.65	0.57	0.51	0.46	0.44	0.42
22	NEW SMD 165-8117● RL	1.38	1.26	1.11	0.95	0.88	0.80
33	NEW SMD 165-8063● RL	1.29	1.19	1.04	0.90	0.83	0.77
33	NEW SMD 165-8123● RL	1.49	1.35	1.19	1.03	0.95	0.87
47	NEW SMD 165-8915● RL	1.55	1.44	1.36	1.31	1.28	1.25
68	NEW SMD 165-8059● RL	3.72	3.41	2.98	2.58	2.39	2.17
100	NEW SMD 165-8109● RL	2.48	2.26	2.00	1.74	1.59	1.45
6.3 Volt d.c.							
1	NEW SMD 165-8904● RL	2.72	2.50	2.36	2.29	2.23	2.17
1	NEW SMD 165-8072● RL	0.74	0.67	0.59	0.51	0.48	0.42
1	SMD 121-6605●	2.41	2.23	1.95	1.66	1.45	1.28
1.5	NEW SMD 165-8078● RL	0.74	0.67	0.59	0.51	0.48	0.42
2.2	SMD 113-5088● RL	0.91	0.82	0.73	0.65	0.62	0.59
2.2	NEW SMD 165-8083● RL	0.77	0.70	0.61	0.54	0.49	0.44
3.3	NEW SMD 165-8089● RL	0.77	0.70	0.61	0.54	0.49	0.44
3.3	NEW SMD 165-8135● RL	1.09	0.98	0.87	0.74	0.69	0.63
4.7	NEW SMD 165-8096● RL	0.77	0.70	0.61	0.54	0.49	0.44
6.8	NEW SMD 165-8103● RL	0.82	0.74	0.65	0.57	0.53	0.48
6.8	NEW SMD 165-8129● RL	1.28	1.18	1.02	0.89	0.82	0.74
10	NEW SMD 165-8912● RL	1.55	1.44	1.36	1.31	1.28	1.25
15	NEW SMD 165-8061● RL	1.28	1.18	1.02	0.89	0.82	0.74
15	SMD 113-5274● RL	0.49	0.42	0.39	0.35	0.32	0.31
15	NEW SMD 165-8112● RL	1.38	1.26	1.11	0.95	0.88	0.80
22	SMD 113-5093● RL	0.57	0.54	0.51	0.49	0.47	0.44
22	NEW SMD 165-8118● RL	1.49	1.35	1.19	1.03	0.95	0.87
33	NEW SMD 165-8124● RL	1.49	1.35	1.19	1.03	0.95	0.87
47	NEW SMD 165-8903● RL	2.02	1.85	1.77	1.70	1.66	1.61
47	SMD 113-5094● RL	0.99	0.89	0.80	0.77	0.72	0.69
100	SMD 113-5286● RL	1.39	1.22	1.10	1.01	0.92	0.88
10 Volt d.c.							
47	SMD 113-5287● RL	1.61	1.43	1.29	1.17	1.06	1.05
0.47	NEW SMD 165-8905● RL	2.72	2.50	2.36	2.29	2.23	2.17
0.47	NEW SMD 165-8091● RL	0.77	0.70	0.61	0.54	0.49	0.44
0.68	SMD 121-6606● RL	2.63	2.43	2.15	1.82	1.57	1.41
0.68	NEW SMD 165-8070● RL	1.13	1.03	0.90	0.79	0.72	0.65
0.68	NEW SMD 165-8097● RL	0.77	0.70	0.61	0.54	0.49	0.44
1	SMD 113-5271● RL	0.65	0.57	0.51	0.46	0.43	0.42
1	NEW SMD 165-8907● RL	1.18	1.10	1.04	1.01	0.98	0.95
1.5	NEW SMD 165-8079● RL	0.74	0.67	0.59	0.51	0.48	0.42
2.2	NEW SMD 165-8909● RL	1.18	1.10	1.04	1.01	0.98	0.95
2.2	SMD 113-5095● RL	0.93	0.82	0.74	0.71	0.67	0.64
3.3	NEW SMD 165-8090● RL	0.77	0.70	0.61	0.54	0.49	0.44
3.3	NEW SMD 165-8119● RL	1.35	1.23	1.09	0.94	0.87	0.79
4.7	NEW SMD 165-8911● RL	1.18	1.10	1.04	1.01	0.98	0.95
4.7	NEW SMD 165-8914● RL	1.55	1.44	1.36	1.31	1.28	1.25
6.8	NEW SMD 165-8105● RL	0.82	0.74	0.65	0.57	0.53	0.48
6.8	NEW SMD 165-8131● RL	1.38	1.26	1.11	0.95	0.88	0.80
10	NEW SMD 165-8060● RL	1.28	1.18	1.02	0.89	0.82	0.74
10	SMD 113-5091● RL	0.63	0.54	0.50	0.48	0.46	0.42
10	NEW SMD 165-8913● RL	1.55	1.44	1.36	1.31	1.28	1.25
10	NEW SMD 165-8137● RL	1.85	1.70	1.49	1.29	1.19	1.09
15	NEW SMD 165-8113● RL	1.38	1.26	1.11	0.95	0.88	0.80
22	SMD 113-5277● RL	0.62	0.55	0.49	0.45	0.42	0.40
33	SMD 113-5282● RL	1.01	0.90	0.81	0.72	0.68	0.64
33	NEW SMD 165-8125● RL	1.78	1.62	1.43	1.23	1.14	1.03
16 Volt d.c.							
0.47	NEW SMD 165-8092● RL	0.77	0.70	0.61	0.54	0.49	0.44
0.68	NEW SMD 165-8099● RL	0.82	0.74	0.65	0.57	0.53	0.48
1	NEW SMD 165-8908● RL	1.18	1.10	1.04	1.01	0.98	0.95
1	SMD 113-5283● RL	1.05	0.93	0.91	0.89	0.88	0.83
2.2	SMD 113-5275● RL	0.51	0.46	0.41	0.37	0.34	0.33
10	NEW SMD 165-8108● RL	1.58	1.44	1.26	1.10	1.01	0.91
10	SMD 113-5278● RL	0.85	0.76	0.67	0.61	0.49	0.47
20 Volt d.c.							

µF	Order Code	Price Each 1+	10+	100+	250+	500+	1K+
20 Volt d.c.							
4.7	SMD 113-5279● RL	0.65	0.57	0.51	0.46	0.44	0.42
3.3	NEW SMD 165-8120● RL	1.58	1.44	1.26	1.10	1.01	0.91
25 Volt d.c.							
1	SMD 113-5280● RL	0.65	0.57	0.51	0.46	0.44	0.42
1	NEW SMD 165-8106● RL	1.58	1.44	1.26	1.10	1.01	0.91

FREE Re-reeling service

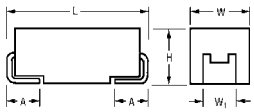


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Surface Mount – TAJ Series

Standard Profile





Supplied on 8mm or 12mm embossed tape

- Tantalum surface mount
- For use with modern soldering and washing processes
- Latest miniature case sizes
- Laser marked and conform to **CECC 30801-005**

Operating temperature -55°C to +85°C ESR measured at 100kHz 25°C
Tolerance ±10%

Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1
A	3.2	1.60	1.6
B	3.5	2.8	1.9
C	6	3.2	2.6
D	7.30	4.30	2.9
E	7.3	4.3	4.1
V	7.30	6.10	3.45

2.5 Volt d.c µF	DC Leakage Current (µA)	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
68	1.4	1.5	A	TAJA686K002R	143-2354
100			A	TAJA107K002R	165-8139
100			B	TAJB107K002R	165-8149
150			B	TAJB157K002R	165-8151
220			D	TAJD227K002R	165-8170
330			D	TAJD337K002R	165-8173
470	9.4	0.2	C	TAJC477K002R	143-2384
470			D	TAJD477K002R	165-8176
680			C	TAJC687K002R	165-8166
680			E	TAJE687K002R	165-8185
1000			D	TAJD108M002R	165-8167
1000	37	0.4	E	TAJE108K002R	143-2404
1500			D	TAJD158K002R	165-8169
1500			E	TAJE158K002R	165-8181
1500			V	TAJV158M002R	165-8308
2200			V	TAJV228M002R	165-8310

2.5 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
68	SMD 143-2354●	0.910	0.770	0.540	0.440	0.380
100	NEW SMD 165-8139● RL	0.570	0.480	0.410	0.310	0.270
100	NEW SMD 165-8149● RL	0.380	0.320	0.270	0.210	0.189
150	NEW SMD 165-8151● RL	0.480	0.400	0.340	0.260	0.240
220	NEW SMD 165-8170● RL	0.870	0.730	0.640	0.500	0.440
330	NEW SMD 165-8173● RL	0.810	0.690	0.590	0.470	0.410
470	NEW SMD 143-2384●	2.070	1.750	1.250	0.990	0.890
470	NEW SMD 165-8176● RL	1.010	0.870	0.740	0.580	0.530
680	NEW SMD 165-8166● RL	1.180	0.980	0.850	0.640	0.570
680	NEW SMD 165-8185● RL	3.990	3.440	3.030	2.380	2.130
1000	NEW SMD 143-2404●	8.910	7.470	5.340	4.320	3.790
1000	NEW SMD 165-8167● RL	1.330	1.130	0.980	0.770	0.670
1500	NEW SMD 165-8169● RL	2.250	1.920	1.670	1.290	1.150
1500	NEW SMD 165-8181● RL	5.720	4.880	4.250	3.290	2.920
1500	NEW SMD 165-8308● RL	9.320	7.310	6.260	5.350	4.880
2200	NEW SMD 165-8310● RL	9.320	7.310	6.260	5.350	4.880

4 Volt d.c µF	DC Leakage Current (µA)	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
22			A	TAJA226K004R	143-2346
33	1.3	3	A	TAJA336K004R	196-952
47			A	TAJA476K004R	165-8921
47	1.9	2.4	B	TAJB476K004R	196-964
68			A	TAJA686K004R	165-8148
68			B	TAJB686K004R	165-8159
68	2.7	1.6	C	TAJC686K004R	196-976
100			A	TAJA107K004R	165-8140
100	4	1.6	B	TAJB107K004R	196-988
150			B	TAJB157K004R	165-8152
150	6	0.3	C	TAJC157K004R	143-2377

RL Re-reeling available

Tantalum - continued

Surface Mount – TAJ Series - continued

Standard Profile - continued

4 Volt d.c µF	DC Leakage	ESR (Ω)			Order
220			B	TAJB227M004R	165-8156
220	8.8	1.2	C	TAJC227K004R	196-990
220			D	TAJD227K004R	165-8171
330	13.2	0.9	C	TAJC337K004R	143-2381
330			D	TAJD337K004R	165-8174
470	18.8	0.9	D	TAJD477K004R	143-2401
470		0.5	E	TAJE477K004R	113-5046
680	27.2	0.5	D	TAJD687K004R	143-2403
680			E	TAJE687K004R	165-8186
1000	40	0.2	D	TAJD108K004R	143-2389
1000		0.4	E	TAJE108K004R	113-5047
1000			V	TAJV108K004R	165-8304
1500	60	0.2	E	TAJE158K004R	143-2407
1500			V	TAJV158M004R	165-8309

4 Volt d.c. µF	Order Code	1+	50+	100+	500+	1K+
22	SMD 143-2346	0.470	0.350	0.300	0.195	0.167
33	SMD 196-952 RL	0.310	0.250	0.200	0.160	0.125
47	NEW SMD 165-8921 RL	0.310	0.260	0.230	0.166	0.155
47	SMD 196-964 RL	0.930	0.680	0.550	0.430	0.370
68	NEW SMD 165-8148 RL	0.340	0.300	0.250	0.189	0.166
68	NEW SMD 165-8159 RL	0.510	0.420	0.370	0.290	0.250
68	SMD 196-976 RL	0.410	0.310	0.250	0.188	0.159
100	NEW SMD 165-8140 RL	0.770	0.640	0.550	0.410	0.370
100	SMD 196-988 RL	0.910	0.700	0.580	0.470	0.370
150	NEW SMD 165-8152 RL	0.440	0.370	0.320	0.250	0.210
150	SMD 143-2377	1.730	1.360	1.130	0.730	0.630
220	NEW SMD 165-8156 RL	0.510	0.420	0.370	0.290	0.250
220	SMD 196-990 RL	1.300	1.000	0.840	0.800	0.760
220	NEW SMD 165-8171 RL	1.550	1.330	1.150	0.900	0.800
330	SMD 143-2381	2.140	1.660	1.390	1.310	1.250
330	NEW SMD 165-8174 RL	2.340	2.000	1.740	1.340	1.200
470	SMD 143-2401	2.960	2.290	1.900	1.490	1.190
470	SMD 113-5046 RL	2.840	2.520	2.260	2.150	2.040
680	SMD 143-2403	3.230	2.480	2.070	1.630	1.300
680	NEW SMD 165-8186 RL	3.990	3.440	3.030	2.380	2.130
1000	SMD 143-2389	4.640	3.880	2.780	2.240	1.960
1000	SMD 113-5047 RL	5.590	4.950	4.440	4.230	4.020
1000	NEW SMD 165-8304 RL	9.320	7.310	6.260	5.350	4.880
1500	SMD 143-2407	8.910	7.470	5.340	4.320	3.790
1500	NEW SMD 165-8309 RL	9.320	7.310	6.260	5.350	4.880

6.3 Volt d.c. µF	DC Leakage Current (µA)	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
4.7			A	TAJA475K006R	143-2350
10	0.6	4	A	TAJA106K006R	197-014
15			A	TAJA156K006R	165-8143
15			B	TAJB156K006R	143-2359
22	1.3	3	A	TAJA226K006R	197-038
22			B	TAJB226K006R	143-2361
22			C	TAJC226K006R	143-2379
33	2.1	2.5	A	TAJA336K006R	143-2348
33	2.1	2.2	B	TAJB336K006R	197-040
47	2.8	1.6	A	TAJA476K006R	143-2351
47			B	TAJB476K006R	165-8926
47	3	1.6	C	TAJC476K006R	197-051
68	4.2	1.8	B	TAJB686K006R	197-063
68	4.3	1.5	C	TAJC686K006R	143-2386
100		1.7	B	TAJB107K006R	113-5048
100	6.3	0.9	C	TAJC107K006R	143-2373
100			D	TAJD107K006R	143-2388
150			B	TAJB157M006R	165-8154
150	9.5	1.3	C	TAJC157K006R	197-075
150			D	TAJD157K006R	165-8168
220	13.9	1.2	C	TAJC227K006R	197-087
220			D	TAJD227K006R	165-8172
220			E	TAJE227K006R	165-8182
330			D	TAJD337K006R	165-8175
330	20.8	0.9	E	TAJE337K006R	143-2410
470		0.4	D	TAJD477K006R	113-5049
470			E	TAJE477K006R	165-8184
470			V	TAJV477K006R	165-8314
680	42.8	0.5	E	TAJE687K006R	143-2414
680	42.8	0.5	V	TAJV687K006R	143-2486
1000			V	TAJV108M006R	165-8305

6.3 Volt d.c. µF	Order Code	1+	50+	100+	500+	1K+
4.7	SMD 143-2350	0.400	0.320	0.260	0.172	0.147
10	SMD 197-014 RL	0.350	0.270	0.230	0.172	0.137
15	NEW SMD 165-8143 RL	0.250	0.210	0.178	0.143	0.119
15	SMD 143-2359	0.610	0.480	0.400	0.260	0.220
22	SMD 197-038 RL	0.134	0.105	0.088	0.077	0.075
22	SMD 143-2361	0.480	0.370	0.300	0.250	0.192
22	SMD 143-2379	0.950	0.740	0.620	0.400	0.340
33	SMD 143-2348	0.560	0.410	0.370	0.270	0.220
33	SMD 197-040 RL	0.900	0.660	0.540	0.410	0.340
47	SMD 143-2351	0.640	0.500	0.420	0.270	0.240
47	NEW SMD 165-8926 RL	0.390	0.330	0.290	0.210	0.189
47	SMD 197-051 RL	1.410	1.040	0.830	0.640	0.540
68	SMD 197-063 RL	0.670	0.530	0.420	0.340	0.270
68	SMD 143-2386	1.140	0.900	0.720	0.490	0.400
100	SMD 113-5048 RL	0.510	0.460	0.420	0.360	0.340
100	SMD 143-2373	1.050	0.810	0.670	0.640	0.620
100	SMD 143-2388	1.710	1.310	1.120	1.050	0.990
150	NEW SMD 165-8154 RL	0.510	0.420	0.370	0.290	0.250
150	SMD 197-075 RL	1.530	1.170	1.000	0.940	0.890
150	NEW SMD 165-8168 RL	1.250	1.050	0.930	0.710	0.630
220	SMD 197-087 RL	1.850	1.430	1.190	1.130	1.070

6.3 Volt d.c. µF	Order Code	1+	50+	100+	500+	1K+
220	NEW SMD 165-8172 RL	1.550	1.330	1.150	0.900	0.800
220	NEW SMD 165-8182 RL	2.340	2.000	1.740	1.340	1.200
330	NEW SMD 165-8175 RL	2.340	2.000	1.740	1.340	1.200
330	SMD 143-2410	2.150	1.850	1.700	1.580	1.380
470	SMD 113-5049 RL	1.720	1.540	1.370	1.310	1.230
470	NEW SMD 165-8184 RL	3.990	3.440	3.030	2.380	2.130
470	NEW SMD 165-8314 RL	9.320	7.310	6.260	5.350	4.880
680	SMD 143-2414	6.850	5.260	4.400	4.170	3.960
680	SMD 143-2486	11.070	9.300	6.660	5.370	4.710
1000	NEW SMD 165-8305 RL	9.320	7.310	6.260	5.350	4.880

10 Volt d.c. µF	DC Leakage Current (µA)	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
2.2	0.5	7	A	TAJA225K010R	498-646
3.3	0.5	5.5	A	TAJA335K010R	197-117
4.7	0.5	5	A	TAJA475K010R	498-658
4.7			B	TAJB475K010R	143-2365
6.8			A	TAJA685K010R	165-8922
6.8	0.7	3	B	TAJB685K010R	197-129
10	1	3	A	TAJA106K010R	197-130
10	1	2.5	B	TAJB106K010R	498-660
10			C	TAJC106K010R	143-2372
15	1.5	3.2	A	TAJA156K010R	143-2342
15	1.6	2.8	B	TAJB156K010R	197-142
22		3	A	TAJA226K010R	113-5050
22	2.2	2.4	B	TAJB226K010R	197-154
22	2.2	1.8	C	TAJC226K010R	498-671
33			A	TAJA336K010R	165-8145
33	3.3	1.8	B	TAJB336K010R	143-2363
33			C	TAJC336K010R	165-8929
47	4.7	1	3528-21	TAJB476K010R	143-2366
47	4.7	1.2	C	TAJC476K010R	197-166
47	4.7	0.9	D	TAJD476K010R	498-683
68	6.8	1.4	B	TAJB686K010R	143-2371
68	6.8	1.3	C	TAJC686K010R	197-178
100			B	TAJB107M010R	165-8150
100	10	1.2	C	TAJC107K010R	197-180
100	10	0.9	D	TAJD107K010R	498-695
150		0.9	C	TAJC157K010R	113-5051
150	15	0.9	D	TAJD157K010R	143-2392
150			E	TAJE157K010R	165-8179
220	22	0.9	D	TAJD227K010R	197-191
220	22	0.5	E	TAJE227K010R	143-2408
330		0.9	D	TAJD337K010R	113-5052
330	33	0.9	E	TAJE337K010R	197-208
330	33	0.9	V	TAJV337K010R	143-2482
470	47	0.5	7343-43	TAJE477K010R	143-2411
470	47	0.5	V	TAJV477K010R	143-2483

10 Volt d.c. µF	Order Code	1+	50+	100+	500+	1K+
2.2	SMD 498-646 RL	0.420	0.320	0.270	0.210	0.161
3.3	SMD 197-117 RL	0.340	0.260	0.220	0.172	0.137
4.7	SMD 498-658 RL	0.370	0.290	0.240	0.183	0.149
4.7	SMD 143-2365	0.440	0.350	0.290	0.230	0.179
6.8	NEW SMD 165-8922 RL	0.270	0.230	0.200	0.155	0.130
6.8	SMD 197-129 RL	0.730	0.540	0.440	0.330	0.300
10	SMD 197-130 RL	0.380	0.290	0.250	0.186	0.152
10	SMD 498-660 RL	0.470	0.350	0.300	0.230	0.187
10	SMD 143-2372	0.290	0.250	0.240	0.220	0.193
15	SMD 143-2342	0.440	0.350	0.290	0.230	0.179
15	SMD 197-142 RL	0.800	0.620	0.530	0.400	0.310
22	SMD 113-5050 RL	0.440	0.350	0.290	0.230	0.179
22	SMD 197-154 RL	0.500	0.370	0.310	0.240	0.191
22	SMD 498-671 RL	0.820	0.640	0.540	0.420	0.330
33	NEW SMD 165-8145 RL	0.320	0.260	0.230	0.178	0.155
33	SMD 143-2363	0.470	0.420	0.380	0.340	0.330
33	NEW SMD 165-8929 RL	0.650	0.550	0.480	0.350	0.320
47	SMD 143-2366	0.790	0.610	0.510	0.390	0.310
47	SMD 197-166 RL	0.320	0.250	0.210	0.200	0.196
47	SMD 498-683 RL	0.730	0.570	0.480	0.460	0.420
68	SMD 143-2371	0.730	0.570	0.480	0.380	0.300
68	SMD 197-178 RL	1.130	0.870	0.720	0.690	0.650
100	NEW SMD 165-8150 RL	0.540	0.460	0.390	0.300	0.260
100	SMD 197-180 RL	1.130	0.870	0.720	0.690	0.650
100	SMD 498-695 RL	1.690	1.290	1.100	1.030	0.980
150	SMD 113-5051 RL	0.860	0.750	0.660	0.640	0.610
150	SMD 143-2392	2.090	1.610	1.360	1.290	1.210
150	NEW SMD 165-8179 RL	2.080	1.770	1.540	1.200	1.070
220	SMD 197-191 RL	2.500	1.930	1.620	1.540	1.450
220	SMD 143-2408	6.900	5.450	4.510	2.940	2.510
330	SMD 113-5052 RL	1.820	1.610	1.450	1.380	1.300
330	SMD 197-208 RL	4.640	3.560	2.980	2.820	2.690
330	SMD 143-2482	11.070	9.300	6.660	5.370	4.710
470	SMD 143-2411	6.260	4.820	4.020	3.820	3.630
470	SMD 143-2483	11.070	9.300	6.660	5.370	4.710

16 Volt d.c. µF	DC Leakage Current (µA)	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
1	0.5	11	A	TAJA105K016R	498-701
1.5	0.5	8	A	TAJA155K016R	197-221
2.2	0.5	6.5	A	TAJA225K016R	197-233
2.2	0.5	5.5	B	TAJB225K016R	197-245
3.3	0.5	5	A	TAJA335K016R	197-257
3.3			B	TAJB335K016R	165-8924
4.7	0.8	3.5	B	TAJB475K016R	498-725
6.8			A	TAJA685K016R	165-8923
6.8			B	TAJB685K016R	165-8158
10	1.6	3	3216-18	TAJA106K016R	143-2339
10	1.6	2.8	B	TAJB106K016R	498-737
10	1.6	2	C	TAJC106K016R	197-270
15			A	TAJA156M016R	165-8144
15	2.4	2.5	B	TAJB156K016R	197-282
15			C	TAJC156K016R	165-8927
22	3.5	2.3	B	TAJB226K016R	197-294

RL Re-reeling available

16 Volt d.c. µF	DC Leakage Current (µA)	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
22	3.5	1.6	C	TAJC226K016R	197-300
22	3.5	1.1	D	TAJD226K016R	498-749
33		2.1	B	TAJB336K016R	113-5054
33	5.2	1.5	C	TAJC336K016R	197-312
33	5.3	0.9	D	TAJD336K016R	498-750
47	7.5	1.4	C	TAJC476K016R	197-324
47	7.5	0.9	D	TAJD476K016R	498-762
68		1.3	C	TAJC686K016R	113-5055
68	10.8	0.9	D	TAJD686K016R	197-336
100	16	0.9	D	TAJD107K016R	197-348
100	16	1	E	TAJE107K016R	498-774
150	24	0.9	D	TAJD157K016R	197-350
150			E	TAJE157K016R	165-8180
150	24	0.5	V	TAJV157K016R	143-2479
220		0.5	E	TAJE227K016R	113-5056
220	35.2	0.9	V	TAJV227K016R	143-2481

16 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
1	SMD 498-7016 RL	0.380	0.300	0.240	0.196	0.149
1.5	SMD 197-2216 RL	0.340	0.240	0.200	0.154	0.134
2.2	SMD 197-2336 RL	0.380	0.290	0.250	0.186	0.152
2.2	SMD 197-2456 RL	0.730	0.540	0.440	0.330	0.300
3.3	SMD 197-2576 RL	0.340	0.260	0.220	0.166	0.136
3.3	NEW SMD 165-8924 RL	0.330	0.290	0.250	0.189	0.166
4.7	SMD 197-2696 RL	0.350	0.270	0.230	0.172	0.137
4.7	SMD 498-7256 RL	0.470	0.350	0.300	0.230	0.187
6.8	NEW SMD 165-8923 RL	0.290	0.240	0.200	0.155	0.143
6.8	NEW SMD 165-8158 RL	0.320	0.260	0.230	0.178	0.155
10	SMD 143-2339	0.440	0.350	0.290	0.230	0.179
10	SMD 498-7376 RL	0.490	0.370	0.310	0.240	0.188
10	SMD 197-2706 RL	0.440	0.350	0.300	0.270	0.260
15	NEW SMD 165-8144 RL	0.380	0.320	0.270	0.210	0.189
15	SMD 197-2826 RL	0.530	0.400	0.340	0.280	0.210
15	NEW SMD 165-8927 RL	0.580	0.490	0.410	0.320	0.290
22	SMD 197-2946 RL	0.660	0.500	0.420	0.330	0.270
22	SMD 197-3006 RL	0.210	0.161	0.139	0.135	0.132
22	SMD 498-7496 RL	1.390	1.070	0.890	0.850	0.800
33	SMD 113-5054 RL	0.580	0.520	0.450	0.430	0.380
33	SMD 197-3126 RL	0.930	0.720	0.620	0.570	0.540
33	SMD 498-7506 RL	0.330	0.310	0.290	0.270	0.250
47	SMD 197-3246 RL	1.500	1.160	0.960	0.910	0.870
47	SMD 498-7626 RL	0.730	0.570	0.480	0.460	0.420
68	SMD 113-5055 RL	0.860	0.750	0.660	0.600	0.530
68	SMD 197-3366 RL	2.030	1.570	1.300	1.230	1.180
100	SMD 197-3486 RL	1.150	0.880	0.720	0.680	0.650
100	SMD 498-7746 RL	1.150	0.970	0.950	0.910	0.890
150	SMD 197-3506 RL	4.080	3.120	2.610	2.470	2.360
150	NEW SMD 165-8180 RL	2.340	2.000	1.740	1.340	1.200
150	SMD 143-2479	11.070	9.300	6.660	5.370	4.710
220	SMD 113-5056 RL	4.830	4.300	3.870	3.670	3.480
220	SMD 143-2481	11.070	9.300	6.660	5.370	4.710

20 Volt d.c. µF	DC Leakage Current (µA)	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
0.1		25	R	TAJR104K020R	113-5082
1	0.5	9	A	TAJA105K020R	197-361
1.5	0.5	6.5	A	TAJA155K020R	143-2341
2.2			A	TAJA225K020R	165-8916
2.2	0.5	3.5	B	TAJB225K020R	197-373
3.3			A	TAJA335K020R	165-8917
3.3	0.7	3	B	TAJB335K020R	197-385
4.7	1	4	A	TAJA475K020R	197-397
4.7	1	3	B	TAJB475K020R	197-403
6.8	1.4	2.5	A	TAJA685K020R	143-2353
6.8	1.4	2.5	B	TAJB685K020R	143-2368
6.8	1.4	2	C	TAJC685K020R	498-786
10	2	2.1	B	TAJB106K020R	197-427
10	2	1.9	C	TAJC106K020R	498-798
15	3	2	B	TAJB156K020R	197-439
15	3	1.7	C	TAJC156K020R	143-2375
22		1.8	B	TAJB226K020R	113-5057
22	4.4	1.6	C	TAJC226K020R	197-440
22	4	0.9	D	TAJD226K020R	498-804
33	6.6	1.5	C	TAJC336K020R	197-452
33			D	TAJD336K020R	165-8932
47			C	TAJC476K020R	165-8930
47	9.4	0.9	D	TAJD476K020R	197-464
47	9.4	1	E	TAJE476K020R	498-816
68	13.6	0.9	D	TAJD686K020R	143-2402
68			E	TAJE686K020R	165-8935
100		0.9	D	TAJD107K020R	113-5058
100			E	TAJE107K020R	165-8933
100			V	TAJV107K020R	165-8303
150	30	0.3	E	TAJE157K020R	143-2406
150			V	TAJV157K020R	165-8307

20 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
0.1	SMD 113-5082 RL	0.300	0.240	0.200	0.191	0.173
1	SMD 197-3616 RL	0.390	0.300	0.260	0.199	0.164
1.5	SMD 143-2341	0.300	0.240	0.199	0.158	0.124
2.2	NEW SMD 165-8916 RL	0.270	0.230	0.200	0.155	0.130
2.2	SMD 197-3736 RL	0.169	0.132	0.112	0.088	0.080
3.3	NEW SMD 165-8917 RL	0.290	0.250	0.210	0.166	0.143
3.3	SMD 197-3856 RL	0.390	0.320	0.260	0.200	0.160
4.7	SMD 197-3976 RL	0.420	0.330	0.280	0.210	0.161
4.7	SMD 197-4036 RL	0.450	0.350	0.290	0.240	0.180
6.8	SMD 143-2353	0.390	0.300	0.260	0.193	0.160
6.8	SMD 143-2368	0.500	0.380	0.310	0.250	0.192
6.8	SMD 498-7866 RL	0.490	0.370	0.310	0.300	0.270
10	SMD 197-4276 RL	0.460	0.350	0.290	0.220	0.176
10	SMD 498-7986 RL	0.400	0.310	0.260	0.250	0.230
15	SMD 197-4396 RL	0.330	0.260	0.210	0.171	0.137
15	SMD 143-2375	0.790	0.610	0.510	0.490	0.470

20 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
22	SMD 113-5057 RL	0.580	0.480	0.430	0.330	0.260
22	SMD 197-4406 RL	1.480	1.120	0.930	0.880	0.840
22	SMD 498-8046 RL	1.030	0.800	0.660	0.640	0.610
33	SMD 197-4526 RL	0.830	0.630	0.530	0.510	0.480
33	NEW SMD 165-8932 RL	0.940	0.800	0.690	0.540	0.490
47	NEW SMD 165-8930 RL	1.170	1.010	0.880	0.660	0.590
47	SMD 197-4646 RL	0.800	0.600	0.500	0.480	0.460
47	SMD 498-8166 RL	4.670	3.450	2.800	2.130	1.830
68	SMD 143-2402	1.920	1.490	1.230	1.180	1.120
68	NEW SMD 165-8935 RL	3.520	3.080	2.700	2.090	1.910
100	SMD 113-5058 RL	1.820	1.610	1.450	1.380	1.300
100	NEW SMD 165-8933 RL	4.240	3.660	3.200	2.510	2.420
100	NEW SMD 165-8303 RL	9.320	7.310	6.260	5.350	4.880
150	SMD 143-2406	4.840	3.780	3.120	2.970	2.810
150	NEW SMD 165-8307 RL	9.320	7.310	6.260	5.350	4.880

25 Volt d.c. µF	DC Leakage Current (µA)	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
3.3			A	TAJA335K025R	143-2347
0.47	0.5	14	A	TAJA474K025R	498-828
0.68	0.5	10	A	TAJA684K025R	498-830
1	5	8	A	TAJA105K025R	197-476
1.5	0.5	7.5	A	TAJA155K025R	197-488
1.5	0.5	5	B	TAJB155K025R	498-841
2.2	0.5	7	A	TAJA225K025R	197-490
2.2	0.6	4.5	B	TAJB225K025R	498-853
3.3			B	TAJB335K025R	165-8925
4.7			A	TAJA475K025R	165-8146
4.7	1.1	2.8	B	TAJB475K025R	197-506
4.7	1.2	2.4	C	TAJC475K025R	498-877
6.8		2.8	B	TAJB685K025R	113-5059
6.8			C	TAJC685K025R	165-8163
10	2.5	1.8	C	TAJC106K025R	197-518
10	2.5	1.2	D	TAJD106K025R	498-890
15			C	TAJC156K025R	165-8161
15	3.8	1	D	TAJD156K025R	498-907
22		1.4	C	TAJC226K025R	113-5060
22	5.5	0.9	D	TAJD226K025R	197-520
33	8.3	0.9	D	TAJD336K025R	143-2397
33			E	TAJE336K025R	165-8934
47	11.7	0.9	D	TAJD476K025R	197-531
47			E	TAJE476K025R	165-8183
68	17	0.9	E	TAJE686K025R	143-2413
68	17	0.9	V	TAJV686K025R	143-2484
100	25	0.4	V	TAJV107K025R	143-2477

25 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
3.3	SMD 143-2347	0.470	0.340	0.290	0.230	0.220
0.47	SMD 498-8286 RL	1.200	0.860	0.720	0.550	0.480
0.68	SMD 498-8306 RL	0.550	0.390	0.330	0.250	0.220
1	SMD 197-4766 RL	0.420	0.330	0.270	0.220	0.165
1.5	SMD 197-4886 RL	0.400	0.300	0.250	0.172	0.160
1.5	SMD 498-8416 RL	0.530	0.390	0.310	0.240	0.210
2.2	SMD 197-4906 RL	0.550	0.400	0.350	0.270	0.200
2.2	SMD 498-8536 RL	0.163	0.130	0.108	0.085	0.078
3.3	NEW SMD 165-8925 RL	0.470	0.380	0.330	0.250	0.230
4.7	NEW SMD 165-8146 RL	0.320	0.260	0.230	0.178	0.155
4.7	SMD 197-5066 RL	0.500	0.370	0.310	0.240	0.191
4.7	SMD 498-8776 RL	0.380	0.300	0.240	0.230	0.220
6.8	SMD 113-5059 RL	0.400	0.350	0.310	0.290	0.270
6.8	NEW SMD 165-8163 RL	0.510	0.420	0.370	0.290	0.250
10	SMD 197-5186 RL	0.550	0.430	0.350	0.340	0.330
10	SMD 498-8906 RL	1.450	1.120	0.940	0.890	0.850
15	NEW SMD 165-8161 RL	1.230	1.030	0.890	0.670	0.610
15	SMD 498-9076 RL	0.550	0.410	0.350	0.330	0.320
22	SMD 113-5060 RL	0.950	0.820	0.730	0.690	0.670
22	SMD 197-5206 RL	0.740	0.570	0.490	0.470	0.440
33	SMD 143-2397	2.870	2.210	1.840	1.750	1.660
33	NEW SMD 165-8934 RL	3.120	2.660	2.320	1.790	1.600
47	SMD 197-5316 RL	3.240	2.500	2.100	1.980	1.890
47	NEW SMD 165-8183 RL	3.990	3.440	3.030	2.380	2.130
68	SMD 143-2413	7.290	5.600	4.680	4.440	4.230
68	SMD 143-2484	11.070	9.300	6.660	5.370	4.710
100	SMD 143-2477	8.130	6.270	5.240	4.980	4.730

35 Volt d.c. µF	DC Leakage Current (µA)	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
0.1	0.5	24	A	TAJA104K035R	197-543
0.15			A	TAJA154K035R	165-8142
0.22	0.5	18	A	TAJA224K035R	197-555
0.33	0.5	15	A	TAJA334K035R	498-919
0.47			A	TAJA474K035R	165-8919
0.68			A	TAJA684K035R	165-8147
0.68			B	TAJB684K035R	165-8157
1		7.5	A	TAJA105K035R	113-5061
1	0.5	6.5	B	TAJB105K035R	498-920
1.5	0.5	5.2	A	TAJA155K035R	197-580
1.5	0.5	5.2	B	TAJB155K035R	143-2358
1.5			C	TAJC155K035R	165-8160
2.2			A	TAJA225K035R	143-2344
2.2	0.8	4.2	B	TAJB225K035R	143-2360
2.2	0.8	3.5	C	TAJC225K035R	498-932
3.3	1.2	3.5	B	TAJB335K035R	143-2362
3.3			C	TAJC335K035R	165-8928
4.7	1.6	3.1	B	TAJB475K035R	197-592
4.7	1.6	1.5	C	TAJC475K035R	197-609
4.7	1.6	1.5	D	TAJD475K035R	498-944
6.8	2.4	1.8	C	TAJC685K035R	197-610
6.8	2.4	1.3	D	TAJD685K035R	197-622
10	3.5	1.6	C	TAJC106K035R.	197-634
10	3.5	1	D	TAJD106K035R	498-956
10			E	TAJE106K035R	165-8178
15	5.3	1.4	C	TAJC156K035R	143-2376
15	5.2	1.4	D	TAJD156K035R	197-646

RL Re-reeling available

Tantalum - continued

Surface Mount – TAJ Series - continued

Standard Profile - continued

35 Volt d.c.	DC Leakage	ESR (Ω)			Order
22	7.7	0.9	D	TAJD226K035R	197-658
22	7.7	0.9	E	TAJE226K035R	498-968
33	11.5	0.9	D	TAJD336K035R	197-671
33	11.6	0.5	E	TAJE336K035R	143-2409
33			V	TAJV336K035R	165-8312
47		0.9	E	TAJE476K035R	113-5062
47			V	TAJV476K035R	165-8313
68			V	TAJV686M035R	165-8315

35 Volt d.c.			Price Each				
µF		Order Code	1+	50+	100+	500+	1K+
0.1		SMD 197-543● RL	0.890	0.670	0.560	0.440	0.350
0.15	NEW	SMD 165-8142● RL	0.410	0.340	0.300	0.230	0.200
0.22		SMD 197-555● RL	0.950	0.700	0.570	0.460	0.370
0.47	NEW	SMD 165-8919● RL	0.610	0.510	0.440	0.330	0.300
0.47		SMD 197-579● RL	0.770	0.560	0.460	0.350	0.300
0.68	NEW	SMD 165-8147● RL	0.410	0.340	0.300	0.230	0.200
0.68	NEW	SMD 165-8157● RL	0.510	0.420	0.370	0.290	0.250
1		SMD 113-5061● RL	0.191	0.162	0.147	0.133	0.117
1		SMD 498-920● RL	0.440	0.340	0.290	0.230	0.176
1.5		SMD 197-580● RL	0.960	0.770	0.620	0.480	0.400
1.5		SMD 143-2358●	0.530	0.400	0.340	0.270	0.220
1.5	NEW	SMD 165-8160● RL	0.480	0.400	0.340	0.260	0.240
2.2		SMD 143-2344●	0.620	0.500	0.420	0.270	0.240
2.2		SMD 143-2360●	0.480	0.370	0.300	0.230	0.190
2.2		SMD 498-932● RL	0.490	0.370	0.310	0.300	0.270
3.3		SMD 143-2362●	0.500	0.380	0.310	0.250	0.192
3.3	NEW	SMD 165-8928● RL	0.510	0.420	0.370	0.290	0.250
4.7		SMD 197-592● RL	0.760	0.580	0.500	0.390	0.320
4.7		SMD 197-609● RL	0.610	0.460	0.380	0.370	0.360
4.7		SMD 498-944● RL	0.490	0.380	0.320	0.300	0.290
6.8		SMD 197-610● RL	0.920	0.690	0.600	0.560	0.540
6.8		SMD 197-622● RL	0.490	0.380	0.320	0.300	0.290
10		SMD 197-634● RL	0.860	0.650	0.550	0.530	0.500
10		SMD 498-956● RL	0.790	0.590	0.500	0.480	0.460
10	NEW	SMD 165-8178● RL	2.340	2.000	1.740	1.340	1.200
15		SMD 143-2376●	1.120	0.870	0.700	0.660	0.640
15		SMD 197-646● RL	0.660	0.510	0.440	0.410	0.390
22		SMD 197-658● RL	2.250	1.740	1.450	1.380	1.310
22		SMD 498-968● RL	3.750	2.870	2.380	2.250	2.140
33		SMD 197-671● RL	3.640	2.800	2.340	2.200	2.100
33		SMD 143-2409●	8.910	7.470	5.340	4.320	3.790
33	NEW	SMD 165-8312● RL	9.320	7.310	6.260	5.350	4.880
47		SMD 113-5062● RL	4.830	4.300	3.870	3.310	2.650
47	NEW	SMD 165-8313● RL	9.320	7.310	6.260	5.350	4.880
68	NEW	SMD 165-8315● RL	9.320	7.310	6.260	5.350	4.880

50 Volt d.c	DC Leakage	ESR (Ω)			Order
µF	Current (µA)	@ 100kHz	Case Size	Mftrs. List No.	Code
0.1	0.5	22	A	TAJA104K050R	143-2337
0.15	0.5	15	A	TAJA154K050R	143-2340
0.15	0.5	17	B	TAJB154K050R	143-2356
0.22	0.5	18	A	TAJA224K050R	143-2343
0.22			B	TAJB224K050R	165-8155
0.33		12	B	TAJB334K050R	113-5063
0.47	0.5	9.5	A	TAJA474K050R	143-2349
0.47	0.7	9.5	B	TAJB474K050R	143-2364
0.47	0.5	8	C	TAJC474K050R	143-2383
0.68	0.5	7.9	A	TAJA684K050R	143-2352
0.68	0.5	8	B	TAJB684K050R	143-2367
0.68	0.5	7	C	TAJC684K050R	143-2385
1			A	TAJA105M050R	165-8138
1	0.5	7	B	TAJB105K050R	143-2355
1		5.5	C	TAJC105K050R	113-5064
1.5	0.8	4.5	C	TAJC155K050R	143-2374
1.5	0.8	4	D	TAJD155K050R	143-2390
2.2	1.1	3	C	TAJC225K050R	143-2378
3.3	1.7	2.5	C	TAJC335K050R	143-2380
3.3	1.7	2	D	TAJD335K050R	143-2396
4.7			C	TAJC475K050R	165-8162
4.7	2.4	1.4	D	TAJD475K050R	143-2398
6.8			C	TAJC685K050R	165-8164
6.8		1	D	TAJD685K050R	113-5066
10	5	0.8	D	TAJD106K050R	143-2387
10		1	E	TAJE106K050R	113-5067
10			V	TAJV106K050R	165-8302
15	7.5	0.6	D	TAJD156K050R	143-2391
15	7.5	0.6	E	TAJE156K050R	143-2405
15			V	TAJV156K050R	165-8306
22	11	0.6	V	TAJV226K050R	143-2480

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50 Volt d.c.			Price Each				
µF		Order Code	1+	50+	100+	500+	1K+
0.1		SMD 143-2337●	0.66	0.51	0.42	0.33	0.27
0.15		SMD 143-2340●	0.87	0.67	0.56	0.44	0.35
0.15		SMD 143-2356●	0.95	0.83	0.74	0.66	0.62
0.22		SMD 143-2343●	0.87	0.67	0.56	0.44	0.35
0.22	NEW	SMD 165-8155● RL	0.66	0.56	0.49	0.37	0.32
0.33		SMD 113-5063● RL	0.89	0.79	0.69	0.63	0.54
0.47		SMD 143-2349●	0.67	0.61	0.54	0.49	0.46
0.47		SMD 143-2364●	1.19	1.02	0.86	0.67	0.54
0.47		SMD 143-2383●	1.19	1.04	0.95	0.85	0.79
0.68		SMD 143-2352●	0.67	0.61	0.54	0.49	0.46
0.68		SMD 143-2367●	1.19	1.02	0.86	0.67	0.54
0.68		SMD 143-2385●	1.51	1.30	1.19	1.13	1.07
1	NEW	SMD 165-8138● RL	0.59	0.50	0.44	0.33	0.30
1		SMD 143-2355●	1.19	0.91	0.77	0.61	0.49
1		SMD 113-5064● RL	0.69	0.54	0.44	0.43	0.40
1.5		SMD 143-2374●	1.51	1.30	1.19	1.13	1.07

50 Volt d.c.			Price Each				
µF		Order Code	1+	50+	100+	500+	1K+
1.5		SMD 143-2390●	3.51	3.07	2.62	2.48	2.36
2.2		SMD 143-2378●	1.19	1.04	0.95	0.85	0.79
3.3		SMD 143-2380●	1.51	1.30	1.15	0.90	0.73
3.3		SMD 143-2396●	1.28	1.19	1.16	1.13	1.10
4.7	NEW	SMD 165-8162● RL	1.14	0.96	0.82	0.63	0.56
4.7		SMD 143-2398●	1.31	1.25	1.19	1.13	1.07
6.8	NEW	SMD 165-8164● RL	1.23	1.03	0.89	0.67	0.61
6.8		SMD 113-5066● RL	1.77	1.57	1.41	1.34	1.27
10		SMD 143-2387●	3.51	3.07	2.79	2.66	2.51
10		SMD 113-5067● RL	4.83	4.30	3.87	3.67	3.48
10	NEW	SMD 165-8302● RL	9.32	7.31	6.26	5.35	4.88
15		SMD 143-2391●	2.78	2.42	2.21	1.96	1.82
15		SMD 143-2405●	6.76	5.91	5.36	5.11	4.84
15	NEW	SMD 165-8306● RL	9.32	7.31	6.26	5.35	4.88
22		SMD 143-2480●	11.07	9.30	6.66	5.37	4.71

FOR MORE INFORMATION & CHOICE

Product Search

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Surface Mount – TAJ Series Full Reels

Standard Profile

- Tantalum surface mount capacitors supplied on full reels

6.3 Volt d.c.					Price Per Reel	
µF	Case Size	Mfts. List No.	Order Code	Reel Quantity	1+	3+
22	A	TAJA226K006R	SMD 476-5230●	2000	210.49	205.79
220	C	TAJC227K006R	SMD 476-5473●	500	234.79	229.53

10 Volt d.c.					Price Per Reel	
µF	Case Size		Order Code	Reel Quantity	1+	3+
10	A	TAJA106K010R	SMD 476-5229▲	2000	173.09	169.22
47	C	TAJC476K010R	SMD 476-5503▲	500	115.79	113.18
100	C	TAJC107K010R	SMD 476-5369●	500	188.83	184.60

16 Volt d.c.					Price Per Reel	
µF	Case Size	Mfts. List No.	Order Code	Reel Quantity	1+	3+
4.7	A	TAJA475K016R	SMD 476-5357●	2000	166.74	163.02
10	C	TAJC106K016R	SMD 476-5280●	500	78.72	76.96
22	B	TAJB226K016R	SMD 476-5394●	2000	299.15	292.44
22	C	TAJC226K016R	SMD 476-5552●	500	89.70	87.69
47	C	TAJC476K016R	SMD 476-5412●	500	162.10	158.46
47	D	TAJD476K016R	SMD 476-5564●	500	186.09	181.93
100	D	TAJD107K016R	SMD 476-5382●	500	238.78	233.45

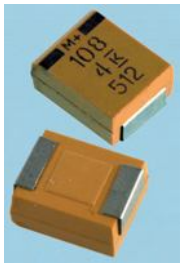
20 Volt d.c.					Price Per Reel	
µF	Case Size	Mfts. List No.	Order Code	Reel Quantity	1+	3+
2.2	B	TAJB225K020R	SMD 476-5606●	2000	214.26	209.46
10	B	TAJB106K020R	SMD 476-5254●	2000	258.22	252.46

25 Volt d.c.					Price Per Reel	
µF	Case Size	Mfts. List No.	Order Code	Reel Quantity	1+	3+
10	C	TAJC106K025R	SMD 476-5308●	500	89.70	87.69

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35 Volt d.c.					Price Per Reel	
µF	Case Size		Order Code	Reel Quantity	1+	3+
4.7	B	TAJB475K035R	SMD 476-5448●	2000	299.15	292.44
10	C	TAJC106K035R	SMD 476-5424●	500	132.28	129.30
10	D	TAJD106K035R	SMD 476-5540●	500	186.09	181.93

T510 Series–Multi Anode Low ESR Tantalum



- Ultra-Low ESR
- New E/7260 Case with ESR
- Up to 4 amps Ripple Current
- 100% Surge Current Test
- 100% Accelerated Steady-State Aging

Characteristics	Dimensions (mm)		
Case size			
E	L = 7.3	W = 4.3	H = 7.3
X	L = 7.3	W = 6	H = 7.3
Tolerance		±20%	

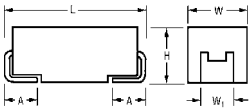
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RL Re-reeling available

µF	Resistance (ESR)	Case size	Order Code	Price Each 1+	25+	50+	100+
4 Volts d.c.							
1000	18mohm	E	SMD 922-9450● RL	5.25	4.66	4.46	4.19
6 Volts d.c.							
470	30mohm	X	SMD 922-9485● RL	4.02	3.56	3.41	3.21
680	23mohm	E	SMD 922-9469● RL	5.25	4.66	4.46	4.19
10 Volts d.c.							
330	35mohm	X	SMD 922-9477● RL	4.02	3.56	3.41	3.21
35 Volts d.c.							
22	80mohm	X	SMD 110-8339● RL	5.24	4.65	4.45	4.18
47	50mohm	E	SMD 110-8341● RL	5.24	4.65	4.45	4.18

TAJ Series – Low Profile





- Surface mount tantalum chip capacitors
- Latest low profile case sizes
- For use with modern soldering and washing processes
- Laser marked and conform to **CECC 30801-005**
- S & T case sizes have same footprint A & B
- W & Y case sizes have same footprint as C & D

Case sizes S, T, W, Y are low profile versions of A, B, C, D case sizes respectively
Operating temperature -55°C to +85°C ESR measured at 100kHz 25°C

Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1		L	W	H
K	3.2	1.60	1	W	6.00	3.20	1.5
P	2.05	1.35	1.5	X	7.30	4.30	1.5
R	2.05	1.30	1.2	Y	7.30	4.30	2
S	3.2	1.6	1.2				

2.5 Volt d.c. µF	Tolerance	DC Leakage Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
4.7	10%			R	TAJR475K002R	165-8237
6.8	10%			R	TAJR685K002R	165-8240
10	10%			R	TAJR106K002R	165-8212
10	10%			S	TAJS106K002R	165-8246
15	10%			R	TAJR156K002R	165-8221
22	10%			P	TAJP226K002R	165-8205
22	10%			R	TAJR226K002R	165-8228
33	±10%	0.8	1.7	K	TAJK336K002R	143-2419
33	±10%	0.7	3.5	P	TAJP336K002R	143-2426
33	10%			S	TAJS336K002R	165-8262
47	20%			P	TAJP476M002R	165-8209
47	10%			S	TAJS476K002R	165-8271
68	10%			T	TAJT686K002R	165-8299
100	10%			T	TAJT107K002R	165-8279
100	10%			W	TAJW107K002R	165-8317
150	20%			T	TAJT157M002R	165-8285
150	10%			W	TAJW157K002R	165-8324
220	10%			W	TAJW227K002R	165-8328
220	10%			Y	TAJY227K002R	165-8352
330	20%			W	TAJW337M002R	165-8333
330	10%			Y	TAJY337K002R	165-8357
470	10%			F	TAJF477K002R	165-8193
470	10%			Y	TAJY477K002R	165-8363
680	±10%	17	0.2	Y	TAJY687K002R	143-2517
1000	20%			Y	TAJY108M002R	165-8344

Order Multiple=5 µF	Order Code	Price Each 5+	50+	100+	500+	1K+
2.5 Volt d.c.						
4.7	NEW SMD 165-8237● RL	0.340	0.300	0.250	0.189	0.166
6.8	NEW SMD 165-8240● RL	0.340	0.300	0.250	0.189	0.166
10	NEW SMD 165-8212● RL	0.320	0.260	0.230	0.178	0.155
10	NEW SMD 165-8246● RL	0.410	0.340	0.300	0.230	0.200
15	NEW SMD 165-8221● RL	0.340	0.300	0.250	0.189	0.166
22	NEW SMD 165-8205● RL	0.380	0.320	0.270	0.210	0.189
22	NEW SMD 165-8228● RL	0.410	0.340	0.300	0.230	0.200
33	SMD 143-2419●	2.290	2.030	1.810	1.550	1.430
33	SMD 143-2426●	0.740	0.650	0.590	0.500	0.470
33	NEW SMD 165-8262● RL	0.410	0.340	0.300	0.230	0.200
47	NEW SMD 165-8209● RL	0.440	0.370	0.320	0.250	0.210
47	NEW SMD 165-8271● RL	0.570	0.480	0.410	0.310	0.270
68	NEW SMD 165-8299● RL	0.610	0.510	0.440	0.340	0.300
100	NEW SMD 165-8279● RL	0.770	0.640	0.560	0.420	0.380
100	NEW SMD 165-8317● RL	0.880	0.730	0.640	0.500	0.440
150	NEW SMD 165-8285● RL	0.900	0.780	0.660	0.510	0.460
150	NEW SMD 165-8324● RL	0.880	0.730	0.640	0.500	0.440
220	NEW SMD 165-8328● RL	0.850	0.710	0.620	0.480	0.420
220	NEW SMD 165-8352● RL	1.550	1.330	1.150	0.900	0.800
330	NEW SMD 165-8333● RL	1.040	0.930	0.800	0.620	0.550
330	NEW SMD 165-8357● RL	1.590	1.350	1.180	0.910	0.810
470	NEW SMD 165-8193● RL	1.590	1.350	1.180	0.910	0.810
470	NEW SMD 165-8363● RL	1.760	1.500	1.300	1.010	0.900
680	SMD 143-2517●	3.810	3.360	3.020	2.570	2.360
1000	NEW SMD 165-8344● RL	2.480	2.110	1.840	1.430	1.270

4 Volt d.c. µF	Tolerance	DC Leakage Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
2.2	10%			R	TAJR225K004R	165-8225
2.2	±10%	0.5	25	S	TAJS225K004R	121-6561
3.3	10%			R	TAJR335K004R	165-8231
4.7	20%			J	TAJJ475M004R	165-8199
4.7	±10%	0.5	12	R	TAJR475K004R	143-2442
4.7	10%			S	TAJS475K004R	165-8266
6.8	10%			R	TAJR685K004R	165-8241
6.8	10%			T	TAJT685K004R	165-8297
10	±10%	0.5	7	R	TAJR106K004R	143-2431
10	10%			S	TAJS106K004R	165-8247
10	10%			T	TAJT106K004R	165-8277
15	10%			R	TAJR156K004R	165-8222
15	±10%	0.6	4	S	TAJS156K004R	143-2452
15	10%			T	TAJT156K004R	165-8283
22	±10%	0.9	1.8	K	TAJK226K004R	143-2417
22	±10%		5	P	TAJP226K004R	113-5069
22	±10%	0.9	3.8	R	TAJR226K004R	143-2438
22	10%			S	TAJS226K004R	165-8258
22	10%			T	TAJT226K004R	165-8286
33	10%			K	TAJK336K004R	165-8201
33	20%			P	TAJP336M004R	165-8208
33	10%			S	TAJS336K004R	165-8263
33	10%			T	TAJT336K004R	165-8291
33	10%			W	TAJW336K004R	165-8331
47	±10%	1.9	2	T	TAJT476K004R	143-2474
47	10%			W	TAJW476K004R	165-8336
68	10%			T	TAJT686K004R	165-8301
68	10%			W	TAJW686K004R	165-8339
100	20%			T	TAJT107M004R	165-8280
100	10%			W	TAJW107K004R	165-8318
150	10%			W	TAJW157K004R	165-8325
150	10%			Y	TAJY157K004R	165-8346
220	±10%	8.8	1.2	W	TAJW227K004R	143-2491
220	10%			X	TAJX227K004R	165-8341
220	10%			Y	TAJY227K004R	165-8353
330	10%			F	TAJF337K004R	165-8192
330	±10%	13.2	0.1	X	TAJX337K004R	143-2501
330	10%			Y	TAJY337K004R	165-8358
470	±10%	18.8	0.9	Y	TAJY477K004R	143-2513
680	20%			Y	TAJY687M004R	165-8368

Order Multiple=5 µF	Order Code	Price Each 5+	50+	100+	500+	1K+
4 Volt d.c.						
2.2	NEW SMD 165-8225● RL	0.340	0.300	0.250	0.189	0.166
2.2	SMD 121-6561●	1.220	0.890	0.690	0.550	0.510
3.3	NEW SMD 165-8231● RL	0.340	0.300	0.250	0.189	0.166
4.7	NEW SMD 165-8199● RL	1.410	1.210	1.050	0.810	0.730
4.7	SMD 143-2442●	0.400	0.260	0.220	0.200	0.133
4.7	NEW SMD 165-8266● RL	0.410	0.340	0.300	0.230	0.200
6.8	NEW SMD 165-8241● RL	0.340	0.300	0.250	0.189	0.166
6.8	NEW SMD 165-8297● RL	0.410	0.350	0.310	0.240	0.210
10	SMD 143-2431●	0.740	0.650	0.590	0.500	0.470
10	NEW SMD 165-8247● RL	0.410	0.340	0.300	0.230	0.200
10	NEW SMD 165-8277● RL	0.410	0.350	0.310	0.240	0.210
15	NEW SMD 165-8222● RL	0.340	0.300	0.250	0.189	0.166
15	SMD 143-2452●	0.910	0.800	0.720	0.620	0.560
15	NEW SMD 165-8283● RL	0.410	0.350	0.310	0.240	0.210
22	SMD 143-2417●	2.290	2.030	1.810	1.550	1.430
22	SMD 113-5069● RL	0.197	0.171	0.151	0.140	0.129
22	SMD 143-2438●	0.740	0.650	0.590	0.500	0.470
22	NEW SMD 165-8258● RL	0.410	0.340	0.300	0.230	0.200
22	NEW SMD 165-8286● RL	0.550	0.470	0.400	0.310	0.270
33	NEW SMD 165-8201● RL	0.660	0.570	0.490	0.380	0.340
33	NEW SMD 165-8208● RL	0.440	0.370	0.320	0.250	0.210
33	NEW SMD 165-8263● RL	0.570	0.480	0.410	0.310	0.270
33	NEW SMD 165-8291● RL	0.410	0.350	0.310	0.240	0.210
33	NEW SMD 165-8331● RL	0.770	0.640	0.560	0.420	0.380
47	SMD 143-2474●	1.150	1.020	0.930	0.790	0.720
47	NEW SMD 165-8336● RL	0.770	0.640	0.560	0.420	0.380
68	NEW SMD 165-8301● RL	0.610	0.510	0.440	0.340	0.300
68	NEW SMD 165-8339● RL	0.880	0.730	0.640	0.500	0.440
100	NEW SMD 165-8280● RL	0.880	0.730	0.640	0.500	0.440
100	NEW SMD 165-8318● RL	1.100	0.930	0.800	0.620	0.550
150	NEW SMD 165-8325● RL	1.040	0.930	0.800	0.620	0.550
150	NEW SMD 165-8346● RL	1.550	1.330	1.150	0.900	0.800
220	SMD 143-2491●	2.860	2.520	2.250	1.930	1.770
220	NEW SMD 165-8341● RL	1.470	1.260	1.100	0.850	0.740
220	NEW SMD 165-8353● RL	1.590	1.350	1.180	0.910	0.810
330	NEW SMD 165-8192● RL	1.590	1.350	1.180	0.910	0.810
330	SMD 143-2501●	4.320	3.810	3.410	2.920	2.690
330	NEW SMD 165-8358● RL	1.670	1.430	1.250	0.960	0.860
470	SMD 143-2513●	3.810	3.360	3.020	2.570	2.360
680	NEW SMD 165-8368● RL	2.270	1.940	1.700	1.310	1.170

6.3 Volt d.c. µF	Tolerance	DC Leakage Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
1.5	10%			R	TAJR155K006R	165-8216
1.5	10%			S	TAJS155K006R	165-8250
2.2	±10%	0.5	9	R	TAJR225K006R	197-002
2.2	±10%	0.5	18	S	TAJS225K006R	121-6564
3.3	20%			J	TAJJ335M006R	165-8198
3.3	10%			R	TAJR335K006R	165-8233
3.3	10%			S	TAJS335K006R	165-8260
4.7	±10%		7	R	TAJR475K006R	113-5070
4.7	10%			S	TAJS475K006R	165-8267
4.7	10%			T	TAJT475K006R	165-8294
6.8	±10%	0.5	7	R	TAJR685K006R	143-2444
6.8	10%			S	TAJS685K006R	165-8275
6.8	±10%	0.5	5	T	TAJT685K006R	121-6565
10	10%			P	TAJP106K006R	165-8203
10	±10%		6	R	TAJR106K006R	113-5071
10	10%			S	TAJS106K006R	165-8937
10	10%			T	TAJT106K006R	165-8278
15	±10%	0.9	2	K	TAJK156K006R	143-2416
15	±10%		3.5	P	TAJP156K006R	113-5072
15	±10%	0.9	4.1	R	TAJR156K006R	143-2434
15	±10%		4	S	TAJS156K006R	113-5073
22	10%			K	TAJK226K006R	165-8200
22	±20%	1.3	1.8	K	TAJK226M006R	143-2418
22	20%			P	TAJP226M006R	165-8206
22	±10%	1.3	1.8	S	TAJS226K006R	143-2455
22	10%			T	TAJT226K006R	165-8287

RL Re-reeling available

Tantalum - continued

TAJ Series – Low Profile - continued

6.3 Volt d.c.

µF	Tolerance	DC Leakage Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
22	10%			W	TAJW226K006R	165-8326
33	±10%	2.1	2.5	T	TAJT336K006R	143-2470
33	±10%	4.3	1.8	W	TAJW336K006R	121-6567
47	±10%		1.6	T	TAJT476K006R	113-5074
47	10%			W	TAJW476K006R	165-8337
68	±10%	4.3	1.5	W	TAJW686K006R	121-6568
100	10%			W	TAJW107K006R	165-8319
100	10%			Y	TAJY107K006R	165-8343
150	±10%			W	TAJW157K006R	143-2489
150	±10%	9.5	0.9	X	TAJX157K006R	143-2498
150	10%			Y	TAJY157K006R	165-8348
220	10%			F	TAJF227K006R	165-8191
220	±10%	13.2	0.3	X	TAJX227K006R	143-2499
220	10%			Y	TAJY227K006R	165-8354
330	±10%		0.9	Y	TAJY337K006R	113-5075
470	10%			Y	TAJY477K006R	165-8364

Order Multiple=5				Price Each		
µF	Order Code	5+	50+	100+	500+	1K+
6.3 Volt d.c.						
1.5	NEW SMD 165-8216● RL	0.340	0.300	0.250	0.189	0.166
1.5	NEW SMD 165-8250● RL	0.410	0.340	0.300	0.230	0.200
2.2	SMD 197-002● RL	0.980	0.720	0.590	0.460	0.380
2.2	SMD 121-6564●	0.820	0.770	0.620	0.530	0.480
3.3	NEW SMD 165-8198● RL	1.060	0.900	0.790	0.610	0.540
3.3	NEW SMD 165-8233● RL	0.340	0.300	0.250	0.189	0.166
3.3	NEW SMD 165-8260● RL	0.410	0.340	0.300	0.230	0.200
4.7	SMD 113-5070● RL	0.300	0.260	0.230	0.210	0.196
4.7	NEW SMD 165-8267● RL	0.410	0.340	0.300	0.230	0.200
4.7	NEW SMD 165-8294● RL	0.410	0.350	0.310	0.240	0.210
6.8	SMD 143-2444●	0.740	0.650	0.590	0.500	0.470
6.8	NEW SMD 165-8275● RL	0.410	0.340	0.300	0.230	0.200
6.8	SMD 121-6565●	1.230	0.860	0.710	0.550	0.510
10	NEW SMD 165-8203● RL	0.320	0.260	0.230	0.178	0.155
10	SMD 113-5071● RL	0.240	0.200	0.184	0.163	0.150
10	NEW SMD 165-8937● RL	0.730	0.620	0.540	0.400	0.350
10	NEW SMD 165-8278● RL	0.410	0.350	0.310	0.240	0.210
15	SMD 143-2416●	2.290	2.030	1.810	1.550	1.430
15	SMD 113-5072● RL	0.270	0.240	0.200	0.191	0.175
15	SMD 143-2434●	0.740	0.650	0.590	0.500	0.470
15	SMD 113-5073● RL	0.340	0.300	0.270	0.240	0.220
22	NEW SMD 165-8200● RL	0.660	0.570	0.490	0.380	0.340
22	SMD 143-2418●	1.570	0.980	0.890	0.790	0.690
22	NEW SMD 165-8206● RL	0.440	0.370	0.320	0.250	0.210
22	SMD 143-2455●	0.690	0.440	0.380	0.340	0.310
22	NEW SMD 165-8287● RL	0.410	0.350	0.310	0.240	0.210
22	NEW SMD 165-8326● RL	0.770	0.640	0.560	0.420	0.380
33	SMD 143-2470●	1.150	1.020	0.930	0.790	0.720
33	SMD 121-6567●	1.620	1.470	1.420	1.120	1.050
47	SMD 113-5074● RL	0.320	0.270	0.250	0.230	0.210
47	NEW SMD 165-8337● RL	1.040	0.930	0.800	0.620	0.550
68	SMD 121-6568●	2.270	2.070	1.980	1.570	1.470
100	NEW SMD 165-8319● RL	1.100	0.930	0.800	0.620	0.550
100	NEW SMD 165-8343● RL	1.390	1.180	1.030	0.800	0.710
150	SMD 143-2489●	2.860	2.520	2.250	1.930	1.770
150	SMD 143-2498●	4.320	3.810	3.410	2.920	2.690
150	NEW SMD 165-8348● RL	1.420	1.200	1.040	0.820	0.720
220	NEW SMD 165-8191● RL	1.590	1.350	1.180	0.910	0.810
220	SMD 143-2499●	4.320	3.810	3.410	2.920	2.690
220	NEW SMD 165-8354● RL	1.390	1.180	1.030	0.800	0.710
330	SMD 113-5075● RL	1.040	0.930	0.830	0.750	0.720
470	NEW SMD 165-8364● RL	2.140	1.820	1.590	1.230	1.100

10 Volt d.c.

µF	Tolerance	DC Leakage Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
1	20%			J	TAJJ105M010R	165-8195
1	±10%	0.5	25	R	TAJR105K010R	197-099
1	±10%	0.5	25	S	TAJS105K010R	121-6571
1.5	20%			J	TAJJ155M010R	165-8196
1.5	10%			R	TAJR155K010R	165-8217
1.5	10%			S	TAJS155K010R	165-8251
2.2	20%			J	TAJJ225M010R	165-8197
2.2	10%			R	TAJR225K010R	165-8226
3.3	10%			R	TAJR335K010R	165-8234
3.3	10%			S	TAJS335K010R	165-8261
3.3	10%			T	TAJT335K010R	165-8289
4.7	±10%		9	R	TAJR475K010R	113-5076
4.7	10%			S	TAJS475K010R	165-8269
4.7	±10%	0.5	5	T	TAJT475K010R	121-6574
6.8	±10%	0.7	5	P	TAJP685K010R	143-2429
6.8	10%			R	TAJR685K010R	165-8242
6.8	±10%	0.7	4	S	TAJS685K010R	143-2462
10	±10%	1	2.2	K	TAJK106K010R	143-2415
10	±20%		6	P	TAJP106M010R	113-5078
10	20%			R	TAJR106M010R	165-8213
10	±10%	1	4	S	TAJS106K010R	143-2447
10	±10%	1	3	T	TAJT106K010R	121-6576
15	10%			S	TAJS156K010R	165-8253
15	±10%	1.5	2.8	T	TAJT156K010R	143-2466
15	10%			W	TAJW156K010R	165-8321
22	±10%	2.2	2.2	T	TAJT226K010R	143-2468
22	10%			W	TAJW226K010R	165-8327
33	10%			W	TAJW336K010R	165-8332
47	±10%		1.4	W	TAJW476K010R	113-5079
47	10%			Y	TAJY476K010R	165-8361
68	±10%	6.8	1.3	W	TAJW686K010R	143-2495
100	±10%	10	0.4	W	TAJW107K010R	143-2488
100	±10%	10	0.9	Y	TAJY107K010R	121-6578

10 Volt d.c.

µF	Tolerance	DC Leakage Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
100	±10%		0.9	X	TAJX107K010R	113-5080
150	10%			F	TAJF157K010R	165-8188
150	20%			X	TAJX157M010R	165-8340
150	±10%	15	1.2	Y	TAJY157K010R	121-6579
220	±10%		0.5	Y	TAJY227K010R	113-5081

Order Multiple=5				Price Each		
µF	Order Code	5+	50+	100+	500+	1K+
10 Volt d.c.						
1	NEW SMD 165-8195● RL	1.410	1.210	1.050	0.810	0.730
1	SMD 197-099● RL	0.960	0.770	0.620	0.490	0.400
1	SMD 121-6571● RL	0.570	0.480	0.420	0.350	0.330
1.5	NEW SMD 165-8217● RL	0.340	0.300	0.250	0.189	0.166
1.5	NEW SMD 165-8251● RL	0.410	0.340	0.300	0.230	0.200
2.2	NEW SMD 165-8197● RL	1.410	1.210	1.050	0.810	0.730
2.2	NEW SMD 165-8226● RL	0.340	0.300	0.250	0.189	0.166
3.3	NEW SMD 165-8234● RL	0.340	0.300	0.250	0.189	0.166
3.3	NEW SMD 165-8261● RL	0.410	0.340	0.300	0.230	0.200
3.3	NEW SMD 165-8289● RL	0.410	0.350	0.310	0.240	0.210
4.7	SMD 113-5076● RL	0.300	0.260	0.230	0.210	0.196
4.7	NEW SMD 165-8269● RL	0.410	0.340	0.300	0.230	0.200
4.7	SMD 121-6574●	0.450	0.370	0.330	0.290	0.250
6.8	SMD 143-2429●	0.830	0.720	0.640	0.550	0.510
6.8	NEW SMD 165-8242● RL	0.340	0.300	0.250	0.189	0.166
6.8	SMD 143-2462●	0.690	0.440	0.380	0.340	0.310
10	SMD 113-5078● RL	0.330	0.300	0.260	0.250	0.210
10	NEW SMD 165-8213● RL	0.510	0.420	0.370	0.290	0.250
10	SMD 143-2447●	1.020	0.900	0.810	0.690	0.630
10	SMD 121-6576●	0.560	0.400	0.350	0.310	0.260
15	NEW SMD 165-8253● RL	0.570	0.480	0.410	0.310	0.270
15	SMD 143-2466●	1.150	1.020	0.930	0.790	0.720
15	NEW SMD 165-8321● RL	0.770	0.640	0.560	0.420	0.380
22	SMD 143-2468●	1.150	1.020	0.930	0.790	0.720
22	NEW SMD 165-8327● RL	0.880	0.730	0.640	0.500	0.440
33	NEW SMD 165-8332● RL	1.040	0.930	0.800	0.620	0.550
47	SMD 113-5079● RL	1.130	0.990	0.900	0.820	0.790
47	NEW SMD 165-8361● RL	1.550	1.330	1.150	0.900	0.800
68	SMD 143-2495●	2.860	2.520	2.250	1.930	1.770
100	SMD 143-2488●	2.860	2.520	2.250	1.930	1.770
100	SMD 121-6578● RL	1.840	1.340	1.060	0.840	0.610
100	SMD 113-5080● RL	1.650	1.470	1.310	1.170	1.110
150	NEW SMD 165-8188● RL	1.530	1.300	1.140	0.880	0.790
150	NEW SMD 165-8340● RL	1.550	1.330	1.150	0.900	0.800
150	SMD 121-6579● RL	2.800	2.040	1.610	1.280	0.590
220	SMD 113-5081● RL	1.490	1.310	1.190	1.090	1.030

16 Volt d.c.

µF	Tolerance	DC Leakage Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
0.68	10%			R	TAJR684K016R	165-8238
0.68	10%			S	TAJS684K016R	165-8272
1	10%			R	TAJR105K016R	165-8936
1	±10%	0.5	15	S	TAJS105K016R	121-6580
1.5	±10%	0.5	10	R	TAJR155K016R	143-2433
2.2	±10%	0.5	6.5	R	TAJR225K016R	143-2437
2.2	10%			S	TAJS225K016R	165-8257
3.3	±10%	0.5	5	R	TAJR335K016R	143-2440
3.3	±10%	0.5	5	S	TAJS335K016R	143-2457
3.3	±10%	0.5	5	T	TAJT335K016R	121-6586
4.7	±10%	0.8	3.1	K	TAJK475K016R	143-2421
4.7	±10%	0.8	5	P	TAJP475K016R	143-2427
4.7	±10%	0.8	4.5	S	TAJS475K016R	143-2459
4.7	10%			T	TAJT475K016R	165-8295
6.8	10%			S	TAJS685K016R	165-8276
6.8	±10%	1.1	3.5	T	TAJT685K016R	143-2476
10	±10%	1.6	2.2	T	TAJT106K016R	143-2464
10	±10%	1.6	2	W	TAJW106K016R	121-6587
15	20%			T	TAJT156M016R	165-8284
15	10%			W	TAJW156K016R	165-8322
33	±10%	5.3	1.5	W	TAJW336K016R	121-6589
33	10%			Y	TAJY336K016R	165-8355
47	10%			W	TAJW476K016R	165-8338
47	±10%	7.5	0.9	X	TAJX476K016R	143-2502
47	10%			Y	TAJY476K016R	165-8362
68	10%			F	TAJF686K016R	165-8194
68	±10%	10.9	0.6	X	TAJX686K016R	143-2504
68	10%			Y	TAJY686K016R	165-8367
100	20%			F	TAJF107M016R	165-8187
100	±10%	16		Y	TAJY107K016R	143-2506
150	20%			Y	TAJY157M016R	165-8349

Order Multiple=5				Price Each		
µF	Order Code	5+	50+	100+	500+	1K+
16 Volt d.c.						
0.68	NEW SMD 165-8238● RL	0.340	0.300	0.250	0.189	0.166
0.68	NEW SMD 165-8272● RL	0.410	0.340	0.300	0.230	0.200
1	NEW SMD 165-8936● RL	0.670	0.570	0.490	0.370	0.330
1	SMD 121-6580● RL	0.510	0.470	0.380	0.320	0.310
1.5	SMD 143-2433●	0.740	0.650	0.590	0.500	0.470
2.2	SMD 143-2437●	0.500	0.320	0.290	0.250	0.230
2.2	NEW SMD 165-8257● RL	0.410	0.340	0.300	0.230	0.200
3.3	SMD 143-2440●	0.740	0.650	0.590	0.500	0.470
3.3	SMD 143-2457●	1.020	0.900	0.810	0.690	0.630
3.3	SMD 121-6586●	1.250	0.950	0.800	0.630	0.500
4.7	SMD 143-2421●	2.290	2.030	1.810	1.550	1.430
4.7	SMD 143-2427●	0.830	0.720	0.640	0.550	0.510
4.7	SMD 143-2459●	1.020	0.900	0.810	0.690	0.630
4.7	NEW SMD 165-8295● RL	0.490	0.400	0.350	0.270	0.240
6.8	NEW SMD 165-8276● RL	0.570	0.480	0.410	0.310	0.270
6.8	SMD 143-2476●	1.150	1.020	0.930	0.790	0.720
10	SMD 143-2464●	1.250	0.950	0.800	0.630	0.500
10	SMD 121-6587● RL	1.260	0.950	0.760	0.600	0.410
15	NEW SMD 165-8284● RL	0.770	0.640	0.560	0.420	0.380
15	NEW SMD 165-8322● RL	0.880	0.730	0.640	0.500	0.440
33	SMD 121-6589● RL	1.320	1.000	0.800	0.630	0.470
33	NEW SMD 165-8355● RL	1.390	1.180	1.030	0.800	0.710

RL Re-reeling available

Order Multiple=5			Price Each			
µF	Order Code	5+	50+	100+	500+	1K+
16 Volt d.c.						
47	NEW SMD 165-8338● RL	1.250	1.110	0.950	0.730	0.650
47	SMD 143-2502●	4.320	3.810	3.410	2.920	2.690
47	NEW SMD 165-8362● RL	1.390	1.180	1.030	0.800	0.710
68	NEW SMD 165-8194● RL	1.590	1.350	1.180	0.910	0.810
68	SMD 143-2504●	4.320	3.810	3.410	2.920	2.690
68	NEW SMD 165-8367● RL	1.390	1.180	1.030	0.800	0.710
100	NEW SMD 165-8187● RL	1.590	1.350	1.180	0.910	0.810
100	SMD 143-2506●	3.810	3.360	3.020	2.570	2.360
150	NEW SMD 165-8349● RL	2.480	2.110	1.840	1.430	1.270

20 Volt d.c.		DC Leakage				
µF	Tolerance	Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
0.1	±10%		25	R	TAJR104K020R	113-5082
0.1	±10%	0.5	25	S	TAJS104K020R	121-6590
0.15	±10%	0.5	25	R	TAJR154K020R	143-2432
0.15	10%			S	TAJS154K020R	165-8248
0.22	±10%	0.5	25	R	TAJR224K020R	143-2435
0.22	10%			S	TAJS224K020R	165-8254
0.33	±10%	0.5	25	R	TAJR334K020R	143-2439
0.33	±10%	0.5	25	S	TAJS334K020R	121-6592
0.47	±10%	0.5	25	R	TAJR474K020R	143-2441
0.68	±10%	0.5	20	R	TAJR684K020R	143-2443
0.68	10%			S	TAJS684K020R	165-8273
0.68	10%			T	TAJT684K020R	165-8296
1	±10%	0.5	20	R	TAJR105K020R	143-2430
1	±10%	0.5	9	T	TAJT105K020R	121-6598
1.5	10%			P	TAJP155K020R	165-8204
1.5	10%			R	TAJR155K020R	165-8218
1.5	10%			S	TAJS155K020R	165-8252
2.2	±10%	0.5		P	TAJP225K020R	143-2425
2.2	10%			R	TAJR225K020R	165-8227
2.2	±10%	0.5	4.5	S	TAJS225K020R	143-2454
3.3	10%			T	TAJT335K020R	165-8290
4.7	±10%	0.9	3.1	T	TAJT475K020R	143-2472
6.8	10%			T	TAJT685K020R	165-8298
10	±10%	2	1.9	W	TAJW106K020R	143-2487
22	±10%	4.4	1.6	W	TAJW226K020R	143-2490
22	10%			Y	TAJY226K020R	165-8350
33	±10%	6.6	0.5	X	TAJX336K020R	143-2500
33	10%			Y	TAJY336K020R	165-8356
47	10%			X	TAJX476K020R	165-8342
47	±10%	9.4	0.9	Y	TAJY476K020R	143-2512
68	±10%	13.6	0.9	Y	TAJY686K020R	143-2516

Order Multiple=5			Price Each			
µF	Order Code	5+	50+	100+	500+	1K+
20 Volt d.c.						
0.1	SMD 113-5082● RL	0.300	0.240	0.200	0.191	0.173
0.1	SMD 121-6590●	0.680	0.530	0.420	0.330	0.260
0.15	SMD 143-2432●	0.740	0.650	0.590	0.500	0.470
0.22	SMD 143-2435●	0.500	0.320	0.290	0.250	0.230
0.33	SMD 143-2439●	0.240	0.194	0.173	0.153	0.133
0.33	SMD 121-6592● RL	1.250	1.120	1.020	0.870	0.850
0.47	SMD 143-2441●	0.740	0.650	0.590	0.500	0.470
0.68	SMD 143-2443●	0.740	0.650	0.590	0.500	0.470
1	SMD 143-2430●	0.400	0.260	0.220	0.200	0.173
1	SMD 121-6598●	0.530	0.380	0.330	0.300	0.250
2.2	SMD 143-2425●	0.740	0.650	0.590	0.500	0.470
2.2	SMD 143-2454●	1.020	0.900	0.810	0.690	0.630
4.7	SMD 143-2472●	1.150	1.020	0.930	0.790	0.720
10	SMD 143-2487●	2.860	2.520	2.250	1.930	1.770
22	SMD 143-2490●	2.860	2.520	2.250	1.930	1.770
33	SMD 143-2500●	4.320	3.810	3.410	2.920	2.690
47	SMD 143-2512●	3.810	3.360	3.020	2.570	2.360
68	SMD 143-2516●	3.810	3.360	3.020	2.570	2.360

25 Volt d.c.		DC Leakage				
µF	Tolerance	Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
0.15	10%			R	TAJR154K025R	165-8214
0.22	10%			R	TAJR224K025R	165-8223
0.33	10%			R	TAJR334K025R	165-8229
0.47	10%			R	TAJR474K025R	165-8235
0.47	10%			S	TAJS474K025R	165-8264
0.68	10%			R	TAJR684K025R	165-8239
0.68	10%			S	TAJS684K025R	165-8274
1	10%			P	TAJP105K025R	165-8202
1	10%			R	TAJR105K025R	165-8211
1	10%			S	TAJS105K025R	165-8245
1.5	±10%	0.5	9.6	P	TAJP155K025R	143-2423
1.5	±10%	0.5	5.4	S	TAJS155K025R	143-2451
1.5	10%			T	TAJT155K025R	165-8282
2.2	±10%	0.6	4.5	T	TAJT225K025R	143-2467
3.3	±10%	0.8	3.5	T	TAJT335K025R	143-2469
3.3	10%			W	TAJW335K025R	165-8329
4.7	10%			W	TAJW475K025R	165-8334
6.8	±10%	1.7	2	W	TAJW685K025R	143-2494
10	±10%		1.8	W	TAJW106K025R	113-5083
15	±10%	3.8	1	Y	TAJY156K025R	143-2507
22	10%			Y	TAJY226K025R	165-8351
33	±10%	8.3	0.5	Y	TAJY336K025R	143-2510

Order Multiple=5			Price Each			
µF	Order Code	5+	50+	100+	500+	1K+
25 Volt d.c.						
0.15	NEW SMD 165-8214● RL	0.380	0.320	0.270	0.210	0.189
0.22	NEW SMD 165-8223● RL	0.380	0.320	0.270	0.210	0.189
0.33	NEW SMD 165-8229● RL	0.380	0.320	0.270	0.210	0.189
0.47	NEW SMD 165-8235● RL	0.380	0.320	0.270	0.210	0.189
0.47	NEW SMD 165-8264● RL	0.410	0.340	0.300	0.230	0.200
0.68	NEW SMD 165-8239● RL	0.380	0.320	0.270	0.210	0.189
0.68	NEW SMD 165-8274● RL	0.410	0.340	0.300	0.230	0.200
1	NEW SMD 165-8202● RL	0.440	0.370	0.320	0.250	0.210

Order Multiple=5			Price Each			
µF	Order Code	5+	50+	100+	500+	1K+
25 Volt d.c.						
1	NEW SMD 165-8211● RL	0.380	0.320	0.270	0.210	0.189
1	NEW SMD 165-8245● RL	0.410	0.340	0.300	0.230	0.200
1.5	SMD 143-2423●	0.830	0.720	0.640	0.550	0.510
1.5	SMD 143-2451●	0.690	0.440	0.380	0.340	0.310
1.5	NEW SMD 165-8282● RL	0.410	0.350	0.310	0.240	0.210
2.2	SMD 143-2467●	1.150	1.020	0.930	0.790	0.720
3.3	SMD 143-2469●	1.150	1.020	0.930	0.790	0.720
3.3	NEW SMD 165-8329● RL	0.820	0.690	0.590	0.470	0.400
4.7	NEW SMD 165-8334● RL	0.940	0.800	0.690	0.530	0.470
6.8	SMD 143-2494●	2.860	2.520	2.250	1.930	1.770
10	SMD 113-5083● RL	1.130	0.990	0.900	0.820	0.790
15	SMD 143-2507●	3.810	3.360	3.020	2.570	2.360
22	NEW SMD 165-8351● RL	1.390	1.180	1.030	0.800	0.710
33	SMD 143-2510●	3.810	3.360	3.020	2.570	2.360

35 Volt d.c.		DC Leakage				
µF	Tolerance	Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
0.1	10%			R	TAJR104K035R	165-8210
0.1	±10%	0.5	24	S	TAJS104K035R	143-2445
0.15	10%			R	TAJR154K035R	165-8215
0.15	±10%	0.5	21	S	TAJS154K035R	143-2449
0.22	10%			R	TAJR224K035R	165-8224
0.22	±10%	0.5	18	S	TAJS224K035R	143-2453
0.33	10%			R	TAJR334K035R	165-8230
0.33	10%			S	TAJS334K035R	165-8259
0.47	10%			R	TAJR474K035R	165-8236
0.47	10%			S	TAJS474K035R	165-8265
0.47	±10%	0.5	10	T	TAJT474K035R	143-2471
0.68	±10%	0.5	13	P	TAJP684K035R	143-2428
0.68	±10%	0.5	8	S	TAJS684K035R	143-2460
0.68	±10%	0.5	8	T	TAJT684K035R	143-2475
1	±10%	0.5	11	P	TAJP105K035R	143-2422
1	±10%	0.5	7.5	S	TAJS105K035R	143-2446
1	±10%	5	6.5	T	TAJT105K035R	143-2463
1.5	±10%	0.5	5.2	T	TAJT155K035R	143-2465
2.2	±10%		4.2	T	TAJT225K035R	113-5084
3.3	10%			W	TAJW335K035R	165-8330
4.7	±10%	1.6	2.2	W	TAJW475K035R	143-2492
6.8	10%			Y	TAJY685K035R	165-8365
10	±10%	3.5	0.7	X	TAJX106K035R	143-2496
10	±10%	3.5	1	Y	TAJY106K035R	143-2505
15	10%			Y	TAJY156K035R	165-8345
22	±10%	7.7	0.5	Y	TAJY226K035R	143-2508

Order Multiple=5			Price Each			
µF	Order Code	5+	50+	100+	500+	1K+
35 Volt d.c.						
0.1	NEW SMD 165-8210● RL	0.340	0.300	0.250	0.189	0.166
0.1	SMD 143-2445●	1.020	0.900	0.810	0.690	0.630
0.15	NEW SMD 165-8215● RL	0.340	0.300	0.250	0.189	0.166
0.15	SMD 143-2449●	1.020	0.900	0.810	0.690	0.630
0.22	NEW SMD 165-8224● RL	0.340	0.300	0.250	0.189	0.166
0.22	SMD 143-2453●	0.690	0.440	0.380	0.340	0.310
0.33	NEW SMD 165-8230● RL	0.340	0.300	0.250	0.189	0.166
0.33	NEW SMD 165-8259● RL	0.410	0.340	0.300	0.230	0.200
0.47	NEW SMD 165-8236● RL	0.380	0.320	0.270	0.210	0.189
0.47	NEW SMD 165-8265● RL	0.410	0.340	0.300	0.230	0.200
0.47	SMD 143-2471●	1.150	1.020	0.930	0.790	0.720
0.68	SMD 143-2428●	0.740	0.650	0.590	0.500	0.470
0.68	SMD 143-2460●	1.020	0.900	0.810	0.690	0.630
0.68	SMD 143-2475●	1.150	1.020	0.930	0.790	0.720
1	SMD 143-2422●	0.740	0.650	0.590	0.500	0.470
1	SMD 143-2446●	0.910	0.810	0.720	0.610	0.560
1	SMD 143-2463●	1.150	1.020	0.930	0.790	0.720
1.5	SMD 143-2465●	0.800	0.490	0.440	0.380	0.340
2.2	SMD 113-5084● RL	0.420	0.350	0.330	0.300	0.270
3.3	NEW SMD 165-8330● RL	0.990	0.850	0.730	0.560	0.500
4.7	SMD 143-2492●	1.940	1.230	1.110	0.960	0.870
6.8	NEW SMD 165-8365● RL	1.390	1.180	1.030	0.800	0.710
10	SMD 143-2496●	2.950	1.850	1.650	1.460	1.300
10	SMD 143-2505●	2.590	1.620	1.460	1.280	1.150
15	NEW SMD 165-8345● RL	2.080	1.770	1.540	1.200	1.070
22	SMD 143-2508●	2.590	1.620	1.460	1.280	1.150

50 Volt d.c.		DC Leakage				
µF	Tolerance	Current (µA)	ESR (Ω)	Case Size	Mftrs. List No.	Order Code
0.1	10%			S	TAJS104K050R	165-8243
0.15	10%			S	TAJS154K050R	165-8249
0.22	10%			S	TAJS224K050R	165-8255
0.33	±10%	0.5	11	S	TAJS334K050R	143-2456
0.33	10%			T	TAJT334K050R	165-8288
0.47	±10%	0.5	9.5	S	TAJS474K050R	143-2458
0.47	10%			T	TAJT474K050R	165-8292
1	10%			W	TAJW105K050R	165-8316
1.5	10%			W	TAJW155K050R	165-8320
3.3	±10%	1.7	1.7	Y	TAJY335K050R	143-2509
4.7	±10%	2.4	1.2	Y	TAJY475K050R	143-2511
6.8	±10%	3.4	0.9	Y	TAJY685K050R	143-2514

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Order Multiple=5			Price Each			
µF	Order Code	5+	50+	100+	500+	1K+
50 Volt d.c.						
0.1	NEW SMD 165-8243● RL	0.41	0.34	0.30	0.23	0.20
0.15	NEW SMD 165-8249● RL	0.41	0.34	0.30	0.23	0.20
0.22	NEW SMD 165-8255● RL	0.57	0.48	0.41	0.31	0.27
0.33	SMD 143-2456●	1.02	0.90	0.81	0.69	0.63
0.33	NEW SMD 165-8288● RL	0.57	0.49	0.41	0.32	0.29
0.47	SMD 143-2458●	1.02	0.90	0.81	0.69	0.63
0.47	NEW SMD 165-8292● RL	0.72	0.62	0.54	0.40	0.35

RL Re-reeling available

Tantalum - continued

TAJ Series – Low Profile - continued

Order Multiple=5			Price Each				
µF	Order Code		5+	50+	100+	500+	1K+
50 Volt d.c.							
1	NEW SMD 165-8316● RL		0.90	0.78	0.66	0.51	0.46
1.5	NEW SMD 165-8320● RL		0.95	0.85	0.73	0.56	0.50
3.3	SMD 143-2509●		3.81	3.36	3.02	2.57	2.36
4.7	SMD 143-2511●		3.81	3.36	3.02	2.57	2.36
6.8	SMD 143-2514●		3.81	3.36	3.02	2.57	2.36

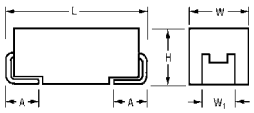
FREE Re-reeling service



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TPS Series – Low ESR





- Low ESR (equivalent series resistance)
- For use in power supply and other low ESR applications
- Higher ripple current handling
- ESR clearly marked on the case

Operating temperature -55°C to 125°C
Tolerance 10%

Case Code	L ±0.2	W +0.2 -0.1	H +0.2 -0.1
A	3.2	1.6	1.6
B	3.5	2.8	1.9
C	2.6	6	3.2
D	7.3	4.3	2.9
E	7.3	4.3	4.1
R	2.05	1.3	1.2
S	3.2	1.6	1.2
T	3.5	2.8	1.2
V	7.3	6.1	3.45
W	6.0	3.2	1.5
X	7.3	4.3	1.5
Y	7.3	4.3	2

µF	ESR Max. (mΩ) @ 100kHz	DC Leakage Current (µA)	Case Size	Mftrs. List No.	Order Code
2.5 Volt d.c.					
220	600	4.4	B	TPSB227K002R0600	143-2584
4 Volt d.c.					
47	500	1.9	A	TPSA476K004R0500	143-2573
100	350	4	B	TPSB107K004R0350	143-2578
220	50	8.8	D	TPSD227K004R0050	113-5097
470	45	18.8	D	TPSD477K004R0045	143-2619
680	100	18.8	D	TPSD687K004R0100	143-2623
1000	60	40	E	TPSE108K004R0060	143-2626
1000	35	40	V	TPSV108K004R0035	113-5098
1500	50	60	E	TPSE158K004R0050	143-2629
6.3 Volt d.c.					
4.7	4000	0.5	S	TPSS475K006R4000	143-2641
10	1000	0.6	R	TPSR106K006R1000	143-2638
22	500	1.4	A	TPSA226K006R0500	143-2569
22	900	1.4	A	TPSA226K006R0900	113-5099
33	600	2.1	A	TPSA336K006R0600	143-2571
33	800	2.1	T	TPST336K006R0800	143-2646
47	250	3	B	TPSB476K006R0250	113-5100
68	500	4.3	B	TPSB686K006R0500	143-2593
100	400	6.3	B	TPSB107K006R0400	143-2579
100	150	6.3	C	TPSC107K6R0150	301-8490
100	75	6.3	C	TPSC107K006R0075	113-5101
150	150	9.5	C	TPSC157K006R0150	143-2598
150	50	9.5	D	TPSD157K006R0050	143-2611
150	125	9.5	D	TPSD157K6R0125	570-333
220	100	13.9	C	TPSC227K006R0100	143-2601
220	100	13.9	Y	TPSY227K006R0100	143-2663
330	45	20.8	D	TPSD337K006R0045	113-5198
330	100	20.8	E	TPSE337K6R0100	570-345
470	100	29.6	D	TPSD477K006R0100	113-5102
470	45	29.6	E	TPSE477K006R0045	113-5103
470	40	29.6	V	TPSV477K006R0040	143-2652
680	45	42.8	E	TPSE687K006R0045	143-2636
680	35	42.8	V	TPSV687K006R0035	143-2654
1000	40	60	V	TPSV108M006R0040	143-2649
10 Volt d.c					
4.7	1400	0.5	A	TPSA475K010R1400	113-5104
4.7	3000	0.5	R	TPSR475K010R3000	143-2639
6.8	1800	0.7	T	TPST685K010R1800	143-2647
10	900	1	A	TPSA106K010R0900	143-2565
10	1800	1	A	TPSA106K010R1800	113-5105
15	1000	1.5	A	TPSA156K010R1000	143-2567
15	600	1.5	B	TPSB156K010R0600	143-2581
22	400	2.2	B	TPSB226K010R0400	143-2583
22	700	2.2	B	TPSB226K010R0700	113-5106
22	800	2.2	T	TPST226K010R0800	143-2645
33	425	3.3	B	TPSB336K010R0425	143-2586
33	375	3.3	C	TPSC336K10R0375	570-357
33	150	3.3	C	TPSC336K010R0150	113-5201
47	350	4.7	B	TPSB476K010R0350	143-2591
47	200	4.7	C	TPSC476K010R0200	143-2604
47	350	4.7	C	TPSC476K10R0350	570-369
47	250	4.7	W	TPSW476K010R0250	143-2659
68	100	6.8	Y	TPSY686K010R0100	143-2665
100	75	10	C	TPSC107K010R0075	113-5108
100	100	10	D	TPSD107K10R0100	570-370
100	50	10	D	TPSD107K010R0050	113-5109
100	150	10	X	TPSX107K010R0150	143-2660
150	85	15	D	TPSD157K010R0085	143-2612
150	100	15	D	TPSD157K10R0100	301-8507
150	50	15	D	TPSD157K010R0050	113-5202
150	100	15	E	TPSE157K010R0100	143-2628
150	100	15	Y	TPSY157K010R0100	143-2662
220	50	22	D	TPSD227K010R0050	143-2614
220	100	22	D	TPSD227K010R0100	113-5110
220	100	22	E	TPSE227K10R0100	570-382
220	50	22	E	TPSE227K010R0050	113-5111
330	50	33	E	TPSE337K010R0050	143-2633
330	60	33	E	TPSE337K010R0060	301-8520
330	40	33	V	TPSV337K010R0040	143-2651
470	45	47	E	TPSE477K010R0045	143-2635
470	40		V	TPSV477K010R0040	143-2653
16 Volt d.c.					
2.2	1800	0.5	A	TPSA225K016R1800	143-2568
4.7	800	0.8	B	TPSB475K016R0800	143-2587
6.8	1500	1.1	A	TPSA685K016R1500	143-2574
6.8	1200	1.1	B	TPSB685K016R1200	143-2592
10	800	1.6	B	TPSB106K016R0800	113-5112
10	800	1.6	T	TPST106K016R0800	143-2644
10	600	1.6	W	TPSW106K016R0600	143-2656
22	250	3.5	C	TPSC226K016R0250	143-2600
22	375	3.5	C	TPSC226K16R0375	570-394
22	500	3.5	W	TPSW226K016R0500	143-2657
33	225	5.3	C	TPSC336K016R0225	143-2603
33	300	5.3	C	TPSC336K16R0300	301-8544
33	140		W	TPSW336K016R0140	143-2658
33	175	5.3	W	TPSW336K016R0175	113-5204
47	350	7.5	C	TPSC476K016R0350	113-5113
47	80	7.5	D	TPSD476K016R0080	113-5205
47	150	8.1	D	TPSD476K16R0150	570-400
47	250	7.5	Y	TPSY476K016R0250	143-2664
68	200	10.9	C	TPSC686K016R0200	143-2607
68	70	10.9	D	TPSD686K016R0070	143-2622
68	150	10.9	D	TPSD686K16R0150	301-8556
68	200	10.9	Y	TPSY686K016R0200	143-2666
100	60	16	D	TPSD107K016R0060	143-2609
150	100	24	D	TPSD157K016R0100	113-5114
100	150	16	D	TPSD107K16R0150	301-8568
100	55		E	TPSE107K016R0055	143-2625
100	100	16	E	TPSE107K16R0100	570-412
100	100	24	Y	TPSY107K016R0100	143-2661
150	45	24	V	TPSV157K016R0045	143-2650
220	100	35.2	E	TPSE227K016R0100	143-2630
220	50	35.2	V	TPSV227K016R0050	113-5208
220	75	35.2	V	TPSV227K016R0075	113-5115
20 Volt d.c.					
1	6000	0.5	R	TPSR105K020R6000	143-2637
1	6000	0.5	S	TPSS105K020R6000	143-2640
1	2000	0.5	T	TPST105K020R2000	143-2642
3.3	2500	0.7	A	TPSA335K020R2500	143-2570
3.3	1300	0.7	B	TPSB335K020R1300	143-2585
4.7	1800	0.9	A	TPSA475K020R1800	143-2572
10	1000	2	B	TPSB106K020R1000	143-2577
15	450	3	C	TPSC156K20R0450	570-424
22	150	4.4	C	TPSC226K020R0150	113-5209
33	200	6.6	D	TPSD336K20R0200	No Order Code
47	100	6.6	D	TPSD476K020R0100	113-5210
47	70	9.4	E	TPSE476K020R0070	143-2634
47	150	9.4	E	TPSE476K20R0150	301-8570
68	125	13.6	E	TPSE686K20R0125	301-8581
68	200	13.6	E	TPSE686K20R0200	570-448
100	150	20	E	TPSE107K020R0150	113-5116
100	60	20	V	TPSV107K020R0060	113-5117
25 Volt d.c.					
1.5	3000	0.5	A	TPSA155K025R3000	143-2566
1.5	1800	0.5	B	TPSB155K025R1800	143-2580
2.2	1200	0.6	B	TPSB225K025R1200	143-2582
4.7	900	1.2	B	TPSB475K025R0900	143-2589
6.8	600	1.7	C	TPSC685K025R0600	143-2605
10	300	2.5	C	TPSC106K025R0300	143-2595
10	500	2.5	C	TPSC106K25R0500	570-450
15	300	3.8	C	TPSC156K025R0300	143-2597
22	200	5.5	D	TPSD226K25R0200	570-461
22	100	5.5	D	TPSD226K025R0100	113-5118
33	100	8.3	D	TPSD336K025R0100	113-5213
33	175	8.3	E	TPSE336K025R0175	143-2632
33	200	8.3	E	TPSE336K25R0200	570-473

RL Re-reeling available

µF	ESR Max. (mΩ) @ 100kHz	DC Leakage Current (µA)	Case Size	Mftrs. List No.	Order Code
25 Volt d.c.					
47	150	11.8	D	TPSD476K025R0150	143-2617
47	250	11.8	D	TPSD476K25R0250	301-8593
68	200	17	E	TPSE686K025R0200	113-5121
68	125	17	E	TPSE686K025R0125	113-5214
68	95	17	V	TPSV686K025R0095	113-5122
35 Volt d.c.					
1	3000	0.5	A	TPSA105K035R3000	113-5123
1	2000	0.5	B	TPSB105K035R2000	143-2575
2.2	1000	0.8	C	TPSC225K035R1000	143-2599
3.3	700	1.2	C	TPSC335K035R0700	143-2602
4.7	600	1.6	C	TPSC475K35R0600	No Order Code
68	125	17	E	TPSE686K025R0125	113-5214
10	300	3.5	D	TPSD106K035R0300	143-2608
10	200	3.5	E	TPSE106K35R0200	301-8600
15	100	5.3	D	TPSD156K035R0100	143-2610
15	300	5.3	D	TPSD156K35R0300	570-497
22	400	7.7	D	TPSD226K35R0400	301-8611
22	300	7.7	E	TPSE226K35R0200	570-503
22	125	7.7	E	TPSE226K035R0125	113-5124
33	200	11.6	D	TPSD336K035R0200	143-2616
33	300	11.6	D	TPSD336K35R0300	301-8623
33	100	11.6	E	TPSE336K035R0100	113-5217
47	200	16.5	E	TPSE476K035R0200	113-5125
50 Volt d.c.					
1	2500	0.5	C	TPSC105K050R2500	143-2594
1.5	1500	0.8	C	TPSC155K050R1500	143-2596
2.2	1200	1.1	D	TPSD225K050R1200	143-2613
3.3	800	1.7	D	TPSD335K050R0800	143-2615
4.7	300	2.4	D	TPSD475K050R0300	113-5218
6.8	500	3.4	D	TPSD685K050R0500	143-2621
10	500	5	E	TPSE106K050R0500	143-2624
15	250	5	E	TPSE156M050R0250	143-2627

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µF	Order Code	Price Each 1+	10+	100+	250+	500+
2.5 Volt d.c.						
220	SMD 143-2584●	0.990	0.870	0.630	0.500	0.440
4 Volt d.c.						
47	SMD 143-2573●	0.830	0.670	0.560	0.440	0.350
100	SMD 143-2578●	0.990	0.870	0.630	0.500	0.440
220	SMD 113-5097● RL	1.220	1.080	0.980	0.900	0.660
470	SMD 143-2619●	6.890	6.020	4.390	4.170	3.960
680	SMD 143-2623●	6.890	6.020	4.390	4.170	3.960
1000	SMD 143-2626●	9.620	8.420	6.120	4.890	4.270
1000	SMD 113-5098● RL	4.430	3.920	3.530	3.200	2.550
1500	SMD 143-2629●	11.780	10.290	7.480	5.980	5.220
6.3 Volt d.c						
4.7	SMD 143-2641●	0.660	0.580	0.420	0.340	0.300
10	SMD 143-2638●	0.530	0.460	0.340	0.280	0.240
22	SMD 143-2569●	0.810	0.690	0.500	0.410	0.350
22	SMD 113-5099● RL	0.320	0.290	0.260	0.240	0.164
33	SMD 143-2571●	0.890	0.670	0.560	0.440	0.350
33	SMD 143-2646●	0.600	0.510	0.370	0.290	0.260
47	SMD 113-5100● RL	0.390	0.350	0.310	0.290	0.260
68	SMD 143-2593●	0.730	0.640	0.460	0.370	0.330
100	SMD 143-2579●	0.990	0.870	0.630	0.500	0.440
100	SMD 301-8490● RL	1.080	0.920	0.810	0.710	0.630
100	SMD 113-5101● RL	0.910	0.810	0.720	0.660	0.530
150	SMD 143-2598●	1.820	1.580	1.170	1.110	1.040
150	SMD 143-2611●	2.270	2.010	1.460	1.170	1.010
150	SMD 570-333● RL	4.660	3.500	2.860	2.210	1.900
220	SMD 143-2601●	1.480	1.300	0.950	0.760	0.660
220	SMD 143-2663●	4.470	3.900	2.850	2.260	1.960
330	SMD 113-5198● RL	1.390	1.230	1.110	1.010	0.870
330	SMD 570-345● RL	2.880	2.510	2.020	1.660	1.500
470	SMD 113-5102● RL	1.940	1.710	1.540	1.410	1.340
470	SMD 113-5103● RL	2.490	2.200	1.990	1.820	1.440
470	SMD 143-2652●	7.270	6.260	5.050	4.390	3.850
680	SMD 143-2636●	12.140	9.830	7.730	7.360	6.990
680	SMD 143-2654●	8.650	7.580	5.510	4.390	3.850
1000	SMD 143-2649●	10.430	9.130	6.640	5.300	4.630
10 Volt d.c						
4.7	SMD 113-5104● RL	0.260	0.240	0.200	0.194	0.173
4.7	SMD 143-2639●	0.530	0.460	0.340	0.280	0.240
6.8	SMD 143-2647●	0.850	0.730	0.530	0.420	0.370
10	SMD 143-2565●	0.620	0.490	0.400	0.310	0.250
10	SMD 113-5105● RL	0.260	0.240	0.200	0.194	0.184
15	SMD 143-2567●	0.520	0.400	0.340	0.260	0.184
15	SMD 143-2581●	0.670	0.590	0.440	0.340	0.310
22	SMD 143-2583●	1.120	0.870	0.700	0.560	0.440
22	SMD 113-5106● RL	0.300	0.260	0.240	0.200	0.195
22	SMD 143-2645●	0.850	0.730	0.530	0.420	0.370
33	SMD 143-2586●	1.050	0.810	0.670	0.540	0.420
33	SMD 570-357● RL	1.860	1.410	1.140	0.880	0.770
33	SMD 113-5201● RL	0.620	0.550	0.490	0.450	0.360
47	SMD 143-2591●	0.580	0.510	0.470	0.420	0.380
47	SMD 143-2604●	1.440	1.260	0.930	0.730	0.640
47	SMD 570-369● RL	1.080	0.920	0.810	0.710	0.630
47	SMD 143-2659●	2.060	1.790	1.300	1.050	0.910
68	SMD 143-2665●	2.750	2.400	1.740	1.410	1.230
100	SMD 113-5108● RL	0.910	0.810	0.720	0.660	0.530
100	SMD 570-370● RL	1.680	1.420	1.270	1.110	0.990
100	SMD 113-5109● RL	1.100	0.980	0.880	0.810	0.630
100	SMD 143-2660●	3.820	3.350	2.420	1.930	1.700
150	SMD 143-2612●	2.270	2.010	1.460	1.170	1.010
150	SMD 301-8507● RL	5.800	4.390	3.560	2.730	2.390
150	SMD 113-5202● RL	1.080	0.970	0.870	0.800	0.590
150	SMD 143-2628●	2.830	2.470	1.790	1.440	1.260
150	SMD 143-2662●	3.810	3.350	2.420	1.930	1.700
220	SMD 143-2614●	2.650	2.270	2.020	1.650	1.450
220	SMD 113-5110● RL	1.100	0.980	0.880	0.810	0.630

µF	Order Code	Price Each 1+	10+	100+	250+	500+
2.5 Volt d.c.						
10 Volt d.c						
220	SMD 570-382● RL	3.600	3.060	2.690	2.380	1.780
220	SMD 113-5111● RL	2.490	2.200	1.990	1.820	1.440
330	SMD 143-2633●	3.980	3.420	3.020	2.850	2.590
330	SMD 301-8520● RL	15.840	11.940	9.710	7.450	6.470
330	SMD 143-2651●	5.510	4.970	4.420	4.020	3.660
470	SMD 143-2635●	4.550	4.080	3.630	3.340	3.020
470	SMD 143-2653●	8.740	7.640	5.560	4.440	3.880
16 Volt d.c.						
2.2	SMD 143-2568●	0.730	0.650	0.480	0.380	0.330
4.7	SMD 143-2587●	0.930	0.810	0.580	0.470	0.410
6.8	SMD 143-2574●	0.800	0.620	0.530	0.400	0.310
6.8	SMD 143-2592●	0.750	0.650	0.470	0.390	0.200
10	SMD 113-5112● RL	0.470	0.430	0.390	0.350	0.340
10	SMD 143-2644●	0.850	0.730	0.530	0.420	0.370
10	SMD 143-2656●	2.060	1.790	1.300	1.050	0.910
22	SMD 143-2600●	1.440	1.260	0.930	0.730	0.640
22	SMD 570-394● RL	1.080	0.920	0.810	0.710	0.630
22	SMD 143-2657●	2.270	2.010	1.460	1.170	1.010
33	SMD 143-2603●	1.360	1.190	0.870	0.690	0.610
33	SMD 301-8544● RL	0.600	0.530	0.430	0.360	0.330
33	SMD 143-2658●	2.660	2.240	1.850	1.470	1.280
33	SMD 113-5204● RL	1.100	0.980	0.880	0.810	0.560
47	SMD 113-5113● RL	0.620	0.550	0.490	0.450	0.360
47	SMD 113-5205● RL	0.970	0.870	0.780	0.710	0.680
47	SMD 570-400● RL	1.680	1.420	1.270	1.110	0.990
47	SMD 143-2664●	2.810	2.450	1.780	1.430	1.250
68	SMD 143-2607●	1.180	1.040	0.740	0.610	0.530
68	SMD 143-2622●	2.700	2.270	1.870	1.500	1.300
68	SMD 301-8556● RL	2.140	1.820	1.600	1.420	1.260
68	SMD 143-2666●	2.750	2.400	1.740	1.410	1.230
100	SMD 143-2609●	2.950	2.570	1.870	1.500	1.300
150	SMD 113-5114● RL	2.070	1.820	1.600	1.420	1.150
100	SMD 301-8568● RL	2.140	1.820	1.600	1.420	1.330
100	SMD 143-2625●	3.950	3.420	3.030	2.490	2.170
100	SMD 570-412● RL	3.100	2.720	2.180	1.900	1.530
100	SMD 143-2661●	4.470	3.900	2.850	2.260	1.960
150	SMD 143-2650●	10.430	9.130	6.640	5.300	4.630
220	SMD 143-2630●	6.500	5.680	4.120	3.920	3.720
220	SMD 113-5208● RL	4.430	3.920	3.530	3.200	2.550
220	SMD 113-5115● RL	4.120	3.660	3.310	3.010	2.390
20 Volt d.c.						
1	SMD 143-2637●	0.500	0.440	0.320	0.260	0.220
1	SMD 143-2640●	0.660	0.580	0.420	0.340	0.300
1	SMD 143-2642●	0.850	0.730	0.530	0.420	0.370
3.3	SMD 143-2570●	0.610	0.520	0.410	0.340	0.184
3.3	SMD 143-2585●	0.670	0.590	0.440	0.340	0.310
4.7	SMD 143-2572●	0.520	0.450	0.330	0.270	0.184
10	SMD 143-2577●	0.650	0.590	0.440	0.350	0.260
15	SMD 570-424● RL	1.380	1.170	1.030	0.910	0.660
22	SMD 113-5209● RL	0.910	0.810	0.720	0.660	0.530
33	SMD 570-436●	1.680	1.420	1.270	1.110	0.990
47	SMD 113-5210● RL	0.970	0.870	0.780	0.710	0.560
47	SMD 143-2634●	3.790	3.310	2.410	1.930	1.680
47	SMD 301-8570● RL	3.210	2.730	2.410	2.120	1.430
68	SMD 301-8581● RL	6.580	6.390	5.380	4.550	3.940
68	SMD 570-448● RL	3.050	2.600	2.290	2.020	1.430
100	SMD 113-5116● RL	2.490	2.200	1.990	1.820	1.440
100	SMD 113-5117● RL	3.990	3.560	3.200	2.900	2.320
25 Volt d.c.						
1.5	SMD 143-2566●	0.570	0.510	0.370	0.300	0.184
1.5	SMD 143-2580●	0.990	0.870	0.630	0.500	0.440
2.2	SMD 143-2582●	0.990	0.870	0.630	0.500	0.440
4.7	SMD 143-2589●	1.000	0.780	0.620	0.500	0.390
6.8	SMD 143-2605●	1.270	0.970	0.810	0.770	0.730
10	SMD 143-2595●	1.710	1.510	1.100	0.890	0.780
10	SMD 570-450● RL	1.080	0.920	0.810	0.710	0.630
15	SMD 143-2597●	1.360	1.190	0.870	0.690	0.610
22	SMD 570-461● RL	2.140	1.820	1.600	1.420	1.170
22	SMD 113-5118● RL	1.150	1.030	0.930	0.850	0.780
33	SMD 113-5213● RL	1.230	1.100	0.980	0.910	0.820
33	SMD 143-2632●	3.320	2.890	2.100	1.690	1.470
33	SMD 570-473● RL	3.600	3.060	2.690	2.380	1.650
47	SMD 143-2617●	3.410	3.260	2.880	2.740	2.620
47	SMD 301-8593● RL	8.590	6.460	5.260	4.030	3.500
68	SMD 113-5121● RL	2.490	2.200	1.990	1.820	1.380
68	SMD 113-5214● RL	2.360	2.090	1.890	1.710	1.370
68	SMD 113-5122● RL	4.120	3.660	3.310	3.010	2.390
35 Volt d.c.						
1	SMD 113-5123● RL	0.300	0.260	0.240	0.200	0.184
1	SMD 143-2575●	0.830	0.770	0.560	0.440	0.390
2.2	SMD 143-2599●	2.150	1.890	1.380	1.100	0.950
3.3	SMD 143-2602●	1.150	0.990	0.730	0.700	0.660
4.7	SMD 570-485●	1.080	0.920	0.810	0.710	0.630
68	SMD 113-5214● RL	2.360	2.090	1.890	1.710	1.370
10	SMD 143-2608●	1.260	0.960	0.810	0.780	0.730
10	SMD 301-8600● RL	12.690	9.580	7.770	5.970	5.150
15	SMD 143-2610●	2.700	2.270	1.870	1.500	1.300
15	SMD 570-497● RL	1.680	1.420	1.270	1.110	0.990
22	SMD 301-8611● RL	9.570	7.210	5.860	4.520	3.910
22	SMD 570-503● RL	3.600	3.060	2.690	2.380	1.840
22	SMD 113-5124● RL	2.320	2.060	1.840	1.670	1.360
33	SMD 143-2616●	3.790	3.630	3.210	2.960	2.690
33	SMD 301-8623● RL	12.420	9.350	7.600	5.830	5.060
33	SMD 113-5217● RL	2.490	2.200	1.990	1.820	1.170
47	SMD 113-5125● RL	2.790	2.470	2.220	2.030	1.420
50 Volt d.c.						
1	SMD 143-2594●	2.150	1.890	1.380	1.100	0.950
1.5	SMD 143-2596●	2.150	1.890	1.380	1.100	0.950
2.2	SMD 143-2613●	6.170	4.730	3.930	3.740	3.550
3.3	SMD 143-2615●	6.180	4.920	3.930	3.740	3.550

RL Re-reeling available

Farnell

Tantalum - continued

TPS Series – Low ESR - continued

2.5 Volt d.c.		Price Each				
µF	Order Code	1+	10+	100+	250+	500+
50 Volt d.c.						
4.7	SMD 113-5218● RL	2.070	1.820	1.600	1.420	1.330
6.8	SMD 143-2621●	3.540	2.720	2.290	2.170	2.070
10	SMD 143-2624●	10.130	8.870	6.440	6.120	5.820
15	SMD 143-2627●	8.020	7.020	5.110	4.070	3.550

AVX TRJ Series

Professional Tantalum Chip Capacitor



New

SMD

The TRJ surface mount series employs established Tantalum technology together with new process improvements and advanced manufacturing techniques. This robust series enables extension of the guaranteed 0.5% reliability level to 1000 hours at rated voltage, rated temperature and 0.1Ω/volt circuit impedance. The moisture penetration barrier, thicker external dielectric layer and modified manganising process make the capacitor more robust against higher thermo-mechanical stresses during assembly process (lead-free" soldering) and also more robust against more severe working conditions in Automotive, Medical, Aerospace, Military and other applications.Lower ESR options are now available within the professional TRJ while achieving reliability levels twice that of standard tantalum devices. This enables designers of power supplies in long life expectancy applications to use tantalum capacitors with the combined benefits of enhanced reliability (0.5%/1000hrs) and low ESR.

Operating temperature -25°C to +125°C Tolerance ±10%

6.3 Volt d.c

µF	ESR (mΩ) max. @ 100kHz	Case Size	Mftrs. List No.	Order Code
10	2200	A	TRJA106K006R	167-2448
10	1500	A	TRJA106K006R1500	167-2449
15	2030	A	TRJA156K006R	167-2462
15	1500	A	TRJA156K006R1500	167-2463
15	2030	B	TRJB156K006R	167-2520
15	700	B	TRJB156K006R0700	167-2521
22	1700	A	TRJA226K006R	167-2477
22	900	A	TRJA226K006R0900	167-2478
22	1880	B	TRJB226K006R	167-2533
22	600	B	TRJB226K006R0600	167-2534
33	1740	B	TRJB336K006R	167-2547
33	600	B	TRJB336K006R0600	167-2548
47	1620	B	TRJB476K006R	167-2561
47	500	B	TRJB476K006R0500	167-2562
47	540	C	TRJC476K006R	167-2612
47	250	C	TRJC476K006R0250	167-2613
68	490	C	TRJC686K006R	167-2623
68	200	C	TRJC686K006R0200	167-2624
100	440	C	TRJC107K006R	167-2579
100	300	C	TRJC107K006R0300	167-2580
150	500	C	TRJC157K006R	167-2590
150	300	C	TRJC157K006R0300	167-2591
150	400	D	TRJD157K006R	167-2639
150	150	D	TRJD157K006R0150	167-2640
220	360	D	TRJD227K006R	167-2650
220	150	D	TRJD227K006R0150	167-2651
330	330	E	TRJE337K006R	167-2686
330	150	E	TRJE337K006R0150	167-2687
470	250	E	TRJE477K006R	167-2692
470	200	E	TRJE477K006R0200	167-2693

6.3 Volt d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
10	SMD 167-2448● RL	0.47	0.35	0.31	0.24	0.21
10	SMD 167-2449● RL	0.69	0.51	0.45	0.35	0.30
15	SMD 167-2462● RL	0.47	0.35	0.31	0.24	0.21
15	SMD 167-2463● RL	0.73	0.55	0.48	0.38	0.32
15	SMD 167-2520● RL	0.56	0.42	0.37	0.29	0.24
15	SMD 167-2521● RL	0.86	0.64	0.56	0.45	0.38
22	SMD 167-2477● RL	0.51	0.39	0.33	0.26	0.23
22	SMD 167-2478● RL	0.73	0.55	0.48	0.38	0.32
22	SMD 167-2533● RL	0.59	0.45	0.39	0.31	0.26
22	SMD 167-2534● RL	0.90	0.67	0.58	0.47	0.40
33	SMD 167-2547● RL	0.69	0.51	0.45	0.35	0.30
33	SMD 167-2548● RL	0.98	0.74	0.64	0.51	0.44
47	SMD 167-2561● RL	0.73	0.55	0.48	0.38	0.32
47	SMD 167-2562● RL	0.95	0.70	0.57	0.49	0.42
47	SMD 167-2612● RL	0.90	0.67	0.55	0.47	0.40
47	SMD 167-2613● RL	1.50	1.12	0.97	0.78	0.66
68	SMD 167-2623● RL	0.95	0.70	0.57	0.49	0.42
68	SMD 167-2624● RL	1.54	1.15	1.01	0.80	0.67
100	SMD 167-2579● RL	1.06	0.78	0.64	0.55	0.47
100	SMD 167-2580● RL	1.42	1.07	0.90	0.77	0.67
150	SMD 167-2590● RL	1.28	0.95	0.78	0.66	0.57
150	SMD 167-2591● RL	1.66	1.26	1.05	0.90	0.79
150	SMD 167-2639● RL	1.35	1.04	0.87	0.75	0.64
150	SMD 167-2640● RL	1.95	1.51	1.27	1.09	0.94
220	SMD 167-2650● RL	1.74	1.28	1.05	0.89	0.78
220	SMD 167-2651● RL	2.91	2.18	1.90	1.51	1.28
330	SMD 167-2686● RL	2.50	1.93	1.61	1.39	1.19
330	SMD 167-2687● RL	3.66	2.81	2.36	2.03	1.74
470	SMD 167-2692● RL	3.02	2.32	1.94	1.68	1.44
470	SMD 167-2693● RL	4.43	3.41	2.86	2.46	2.11

10 Volt d.c

µF	ESR (mΩ) max. @ 100kHz	Case Size	Mftrs. List No.	Order Code
4.7	3160	A	TRJA475K010R	167-2491
4.7	2000	A	TRJA475K010R2000	167-2492
6.8	2650	A	TRJA685K010R	167-2503
6.8	1800	A	TRJA685K010R1800	167-2504
10	2200	A	TRJA106K010R	167-2450
10	1800	A	TRJA106K010R1800	167-2451
10	2200	B	TRJB106K010R	167-2511
10	800	B	TRJB106K010R0800	167-2512
15	1800	A	TRJA156K010R	167-2464
15	1000	A	TRJA156K010R1000	167-2465
15	2030	B	TRJB156K010R	167-2522
15	600	B	TRJB156K010R0600	167-2523
22	1800	B	TRJB226K010R	167-2535
22	700	B	TRJB226K010R0700	167-2536
33	1000	B	TRJB336K010R	167-2549
33	650	B	TRJB336K010R0650	167-2550
33	590	C	TRJC336K010R	167-2603
33	300	C	TRJC336K010R0300	167-2604
47	540	C	TRJC476K010R	167-2614
47	300	C	TRJC476K010R0300	167-2615
68	490	C	TRJC686K010R	167-2625
68	300	C	TRJC686K010R0300	167-2626
100	500	C	TRJC107K010R	167-2581
100	200	C	TRJC107K010R0200	167-2582
100	440	D	TRJD107K010R	167-2631
100	150	D	TRJD107K010R0150	167-2632
150	400	D	TRJD157K010R	167-2641
150	150	D	TRJD157K010R0150	167-2643
150	440	E	TRJE157K010R	167-2677
150	150	E	TRJE157K010R0150	167-2679
220	360	E	TRJE227K010R	167-2683
220	150	E	TRJE227K010R0150	167-2684
330	300	E	TRJE337K010R	167-2688

10 Volt d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
4.7	SMD 167-2491● RL	0.420	0.320	0.270	0.220	0.194
4.7	SMD 167-2492● RL	0.690	0.510	0.450	0.350	0.300
6.8	SMD 167-2503● RL	0.470	0.350	0.310	0.240	0.210
6.8	SMD 167-2504● RL	0.690	0.510	0.450	0.350	0.300
10	SMD 167-2450● RL	0.470	0.350	0.310	0.240	0.210
10	SMD 167-2451● RL	0.730	0.550	0.480	0.380	0.320
10	SMD 167-2511● RL	0.560	0.420	0.370	0.290	0.240
10	SMD 167-2512● RL	0.860	0.640	0.560	0.450	0.380
15	SMD 167-2464● RL	0.510	0.390	0.330	0.260	0.230
15	SMD 167-2465● RL	0.730	0.550	0.480	0.380	0.320
15	SMD 167-2522● RL	0.590	0.450	0.390	0.310	0.260
15	SMD 167-2523● RL	0.900	0.670	0.580	0.470	0.400
22	SMD 167-2535● RL	0.640	0.480	0.420	0.330	0.290
22	SMD 167-2536● RL	0.830	0.620	0.500	0.420	0.380
33	SMD 167-2549● RL	0.730	0.550	0.480	0.380	0.320
33	SMD 167-2550● RL	0.950	0.700	0.570	0.490	0.420
33	SMD 167-2603● RL	0.900	0.670	0.550	0.470	0.400
33	SMD 167-2604● RL	1.330	0.970	0.800	0.690	0.590
47	SMD 167-2614● RL	0.950	0.700	0.570	0.490	0.420
47	SMD 167-2615● RL	1.540	1.150	1.010	0.800	0.670
68	SMD 167-2625● RL	1.100	0.810	0.660	0.560	0.490
68	SMD 167-2626● RL	1.840	1.380	1.200	0.950	0.810
100	SMD 167-2581● RL	1.250	0.930	0.750	0.640	0.560
100	SMD 167-2582● RL	1.620	1.230	1.030	0.880	0.770
100	SMD 167-2631● RL	1.710	1.280	1.120	0.880	0.750
100	SMD 167-2632● RL	2.520	1.900	1.650	1.300	1.110
150	SMD 167-2641● RL	1.440	1.110	0.940	0.800	0.690
150	SMD 167-2643● RL	2.110	1.630	1.370	1.180	1.010
150	SMD 167-2677● RL	2.270	1.750	1.470	1.270	1.090
150	SMD 167-2679● RL	3.340	2.570	2.150	1.850	1.590
220	SMD 167-2683● RL	2.570	1.980	1.660	1.430	1.220
220	SMD 167-2684● RL	3.760	2.890	2.420	2.090	1.790
330	SMD 167-2688● RL	2.950	2.270	1.910	1.650	1.410

16 Volt d.c

µF	ESR (mΩ) max. @ 100kHz	Case Size	Mftrs. List No.	Order Code
2.2	4550	A	TRJA225K016R	167-2470
2.2	3500	A	TRJA225K016R3500	167-2471
3.3	3740	A	TRJA335K016R	167-2482
3.3	3500	A	TRJA335K016R3500	167-2483
4.7	3160	A	TRJA475K016R	167-2493
4.7	2000	A	TRJA475K016R2000	167-2494
4.7	3160	B	TRJB475K016R	167-2553
4.7	1500	B	TRJB475K016R1500	167-2554
6.8	2000	A	TRJA685K016R	167-2505
6.8	1500	A	TRJA685K016R1500	167-2506
6.8	2000	B	TRJB685K016R	167-2566
6.8	1200	B	TRJB685K016R1200	167-2567
10	2200	B	TRJB106K016R	167-2513
10	800	B	TRJB106K016R0800	167-2515
15	2030	B	TRJB156K016R	167-2524
15	800	B	TRJB156K016R0800	167-2525
22	1100	B	TRJB226K016R	167-2537
22	600	B	TRJB226K016R0600	167-2539
22	700	C	TRJC226K016R	167-2594
22	350	C	TRJC226K016R0350	167-2595
33	590	C	TRJC336K016R	167-2606
33	300	C	TRJC336K016R0300	167-2607
47	540	C	TRJC476K016R	167-2616
47	350	C	TRJC476K016R0350	167-2618
47	540	D	TRJD476K016R	167-2661
47	200	D	TRJD476K016R0200	167-2662
68	490	D	TRJD686K016R	167-2667
68	150	D	TRJD686K016R0150	167-2668
100	440	D	TRJD107K016R	167-2633
100	150	D	TRJD107K016R0150	167-2634
100	440	E	TRJE107K016R	167-2673
100	150	E	TRJE107K016R0150	167-2674
150	300	E	TRJE157K016R	167-2681
150	150	E	TRJE157K016R0150	167-2682

RL Re-reeling available

Farnell

16 Volt d.c.

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
2.2	SMD 167-2470● RL	0.420	0.320	0.270	0.220	0.194
2.2	SMD 167-2471● RL	0.590	0.450	0.390	0.310	0.260
3.3	SMD 167-2482● RL	0.470	0.350	0.310	0.240	0.210
3.3	SMD 167-2483● RL	0.690	0.510	0.450	0.350	0.300
4.7	SMD 167-2493● RL	0.470	0.350	0.310	0.240	0.210
4.7	SMD 167-2494● RL	0.730	0.550	0.480	0.380	0.320
4.7	SMD 167-2553● RL	0.560	0.420	0.370	0.290	0.240
4.7	SMD 167-2554● RL	0.770	0.580	0.500	0.400	0.340
6.8	SMD 167-2505● RL	0.470	0.350	0.310	0.240	0.210
6.8	SMD 167-2506● RL	0.730	0.550	0.480	0.380	0.320
6.8	SMD 167-2566● RL	0.560	0.420	0.370	0.290	0.240
6.8	SMD 167-2567● RL	0.860	0.640	0.560	0.450	0.380
10	SMD 167-2513● RL	0.590	0.450	0.390	0.310	0.260
10	SMD 167-2515● RL	0.900	0.670	0.580	0.470	0.400
15	SMD 167-2524● RL	0.690	0.510	0.450	0.350	0.300
15	SMD 167-2525● RL	0.870	0.640	0.530	0.450	0.390
22	SMD 167-2537● RL	0.810	0.610	0.530	0.420	0.350
22	SMD 167-2539● RL	1.020	0.750	0.620	0.530	0.460
22	SMD 167-2594● RL	0.900	0.670	0.550	0.470	0.400
22	SMD 167-2595● RL	1.330	0.970	0.800	0.690	0.590
33	SMD 167-2606● RL	1.020	0.750	0.620	0.530	0.460
33	SMD 167-2607● RL	1.310	1.010	0.830	0.720	0.630
47	SMD 167-2616● RL	1.130	0.830	0.690	0.580	0.500
47	SMD 167-2618● RL	1.490	1.130	0.940	0.810	0.710
47	SMD 167-2661● RL	1.620	1.220	1.060	0.850	0.720
47	SMD 167-2662● RL	1.790	1.380	1.150	0.990	0.860
68	SMD 167-2667● RL	1.620	1.200	0.980	0.830	0.730
68	SMD 167-2668● RL	2.060	1.580	1.330	1.140	0.980
100	SMD 167-2633● RL	2.180	1.630	1.430	1.130	0.960
100	SMD 167-2634● RL	3.160	2.380	2.070	1.630	1.390
100	SMD 167-2673● RL	3.040	2.270	1.980	1.580	1.340
100	SMD 167-2674● RL	3.340	2.570	2.150	1.850	1.590
150	SMD 167-2681● RL	2.890	2.220	1.860	1.600	1.370
150	SMD 167-2682● RL	4.270	3.280	2.750	2.380	2.030

20 Volt d.c

µF	ESR (mΩ) max. @ 100kHz	Case Size	Mftrs. List No.	Order Code
1	6630	A	TRJA105K020R	167-2441
1	3000	A	TRJA105K020R3000	167-2442
1.5	5460	A	TRJA155K020R	167-2454
1.5	3000	A	TRJA155K020R3000	167-2455
2.2	4550	A	TRJA225K020R	167-2473
2.2	3000	A	TRJA225K020R3000	167-2474
3.3	3740	A	TRJA335K020R	167-2485
3.3	3500	A	TRJA335K020R3500	167-2486
3.3	3740	B	TRJB335K020R	167-2541
3.3	1300	B	TRJB335K020R1300	167-2542
4.7	2500	A	TRJA475K020R	167-2495
4.7	1800	A	TRJA475K020R1800	167-2497
4.7	3160	B	TRJB475K020R	167-2555
4.7	1000	B	TRJB475K020R1000	167-2556
6.8	2650	B	TRJB685K020R	167-2568
6.8	1000	B	TRJB685K020R1000	167-2569
10	22000	B	TRJB106K020R	167-2516
10	1000	B	TRJB106K020R1000	167-2517
10	800	C	TRJC106K020R	167-2572
10	500	C	TRJC106K020R0500	167-2573
15	1400	B	TRJB156K020R	167-2527
15	500	B	TRJB156K020R0500	167-2528
15	720	C	TRJC156K020R	167-2585
15	400	C	TRJC156K020R0400	167-2586
22	650	C	TRJC226K020R	167-2596
22	400	C	TRJC226K020R0400	167-2597
22	650	D	TRJD226K020R	167-2644
22	300	D	TRJD226K020R0300	167-2645
33	590	C	TRJC336K020R	167-2608
33	300	C	TRJC336K020R0300	167-2609
33	590	D	TRJD336K020R	167-2655
33	250	D	TRJD336K020R0250	167-2656
47	540	D	TRJD476K020R	167-2663
68	490	D	TRJD686K020R	167-2669
68	200	D	TRJD686K020R0200	167-2670
68	490	E	TRJE686K020R	167-2694
68	200	E	TRJE686K020R0200	167-2695
100	300	E	TRJE107K020R	167-2675
100	150	E	TRJE107K020R0150	167-2676

20 Volt d.c.

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
1	SMD 167-2441● RL	0.420	0.320	0.270	0.220	0.194
1	SMD 167-2442● RL	0.590	0.450	0.390	0.310	0.260
1.5	SMD 167-2454● RL	0.420	0.320	0.270	0.220	0.194
1.5	SMD 167-2455● RL	0.690	0.510	0.450	0.350	0.300
2.2	SMD 167-2473● RL	0.470	0.350	0.310	0.240	0.210
2.2	SMD 167-2474● RL	0.690	0.510	0.450	0.350	0.300
3.3	SMD 167-2485● RL	0.470	0.350	0.310	0.240	0.210
3.3	SMD 167-2486● RL	0.730	0.550	0.480	0.380	0.320
3.3	SMD 167-2541● RL	0.560	0.420	0.370	0.290	0.240
3.3	SMD 167-2542● RL	0.860	0.640	0.560	0.450	0.380
4.7	SMD 167-2495● RL	0.470	0.350	0.310	0.240	0.210
4.7	SMD 167-2497● RL	0.730	0.550	0.480	0.380	0.320
4.7	SMD 167-2555● RL	0.560	0.420	0.370	0.290	0.240
4.7	SMD 167-2556● RL	0.860	0.640	0.560	0.450	0.380
6.8	SMD 167-2568● RL	0.590	0.450	0.390	0.310	0.260
6.8	SMD 167-2569● RL	0.900	0.670	0.580	0.470	0.400
10	SMD 167-2516● RL	0.690	0.510	0.450	0.350	0.300
10	SMD 167-2517● RL	0.870	0.640	0.530	0.450	0.390
10	SMD 167-2572● RL	0.830	0.620	0.500	0.420	0.380
10	SMD 167-2573● RL	1.250	0.930	0.750	0.640	0.560
15	SMD 167-2527● RL	0.770	0.580	0.500	0.400	0.340
15	SMD 167-2528● RL	0.980	0.730	0.590	0.500	0.440
15	SMD 167-2585● RL	0.900	0.670	0.550	0.470	0.400
15	SMD 167-2586● RL	1.500	1.120	0.970	0.780	0.660
22	SMD 167-2596● RL	1.060	0.780	0.640	0.550	0.470

20 Volt d.c.

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
22	SMD 167-2597● RL	1.710	1.280	1.120	0.880	0.750
22	SMD 167-2644● RL	1.060	0.810	0.690	0.580	0.500
22	SMD 167-2645● RL	1.540	1.190	0.990	0.860	0.730
33	SMD 167-2608● RL	1.170	0.870	0.710	0.610	0.530
33	SMD 167-2609● RL	1.550	1.180	0.980	0.850	0.740
33	SMD 167-2655● RL	1.540	1.150	1.010	0.800	0.670
33	SMD 167-2656● RL	2.000	1.470	1.210	1.030	0.890
47	SMD 167-2663● RL	1.820	1.340	1.100	0.940	0.810
68	SMD 167-2669● RL	1.930	1.430	1.170	0.990	0.860
68	SMD 167-2670● RL	2.380	1.830	1.530	1.310	1.130
68	SMD 167-2694● RL	2.340	1.810	1.510	1.300	1.120
68	SMD 167-2695● RL	3.440	2.640	2.220	1.910	1.630
100	SMD 167-2675● RL	2.630	2.020	1.700	1.460	1.260
100	SMD 167-2676● RL	3.850	2.960	2.480	2.140	1.840

25 Volt d.c

µF	ESR (mΩ) max. @ 100kHz	Case Size	Mftrs. List No.	Order Code
0.47	9530	A	TRJA474K025R	167-2487
0.47	7000	A	TRJA474K025R7000	167-2488
0.68	7980	A	TRJA684K025R	167-2498
0.68	6000	A	TRJA684K025R6000	167-2499
1	6630	A	TRJA105K025R	167-2443
1	3000	A	TRJA105K025R3000	167-2444
1.5	5460	A	TRJA155K025R	167-2456
1.5	3000	A	TRJA155K025R3000	167-2457
2.2	2900	A	TRJA225K025R	167-2475
2.2	1600	A	TRJA225K025R1600	167-2476
2.2	4550	B	TRJB225K025R	167-2529
2.2	1200	B	TRJB225K025R1200	167-2530
3.3	3740	B	TRJB335K025R	167-2543
3.3	2000	B	TRJB335K025R2000	167-2544
4.7	3160	B	TRJB475K025R	167-2557
4.7	1000	B	TRJB475K025R1000	167-2558
6.8	1500	B	TRJB685K025R	167-2570
6.8	1000	B	TRJB685K025R1000	167-2571
6.8	1070	C	TRJC685K025R	167-2619
6.8	600	C	TRJC685K025R0600	167-2620
10	800	C	TRJC106K025R	167-2574
10	600	C	TRJC106K025R0600	167-2576
15	720	C	TRJC156K025R	167-2588
15	500	C	TRJC156K025R0500	167-2589
15	720	D	TRJD156K025R	167-2635
15	300	D	TRJD156K025R0300	167-2636
22	650	D	TRJD226K025R	167-2646
22	300	D	TRJD226K025R0300	167-2647
33	590	D	TRJD336K025R	167-2657
33	400	D	TRJD336K025R0400	167-2658
47	540	E	TRJE476K025R	167-2689
47	150	E	TRJE476K025R0150	167-2690

25 Volt d.c.

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
0.47	SMD 167-2487● RL	0.47	0.35	0.31	0.24	0.21
0.47	SMD 167-2488● RL	0.69	0.51	0.45	0.35	0.30
0.68	SMD 167-2498● RL	0.47	0.35	0.31	0.24	0.21
0.68	SMD 167-2499● RL	0.69	0.51	0.45	0.35	0.30
1	SMD 167-2443● RL	0.47	0.35	0.31	0.24	0.21
1	SMD 167-2444● RL	0.73	0.55	0.48	0.38	0.32
1.5	SMD 167-2456● RL	0.56	0.42	0.37	0.29	0.24
1.5	SMD 167-2457● RL	0.77	0.58	0.50	0.40	0.34
2.2	SMD 167-2475● RL	0.51	0.39	0.33	0.26	0.23
2.2	SMD 167-2476● RL	0.77	0.58	0.50	0.40	0.34
2.2	SMD 167-2529● RL	0.64	0.48	0.42	0.33	0.29
2.2	SMD 167-2530● RL	0.94	0.71	0.62	0.49	0.41
3.3	SMD 167-2543● RL	0.73	0.55	0.48	0.38	0.32
3.3	SMD 167-2544● RL	0.95	0.70	0.57	0.49	0.42
4.7	SMD 167-2557● RL	0.77	0.58	0.50	0.40	0.34
4.7	SMD 167-2558● RL	0.98	0.73	0.59	0.50	0.44
6.8	SMD 167-2570● RL	0.81	0.61	0.53	0.42	0.35
6.8	SMD 167-2571● RL	1.02	0.75	0.62	0.53	0.46
6.8	SMD 167-2619● RL	0.95	0.70	0.57	0.49	0.42
6.8	SMD 167-2620● RL	1.54	1.15	1.01	0.80	0.67
10	SMD 167-2574● RL	0.95	0.70	0.57	0.49	0.42
10	SMD 167-2576● RL	1.54	1.15	1.01	0.80	0.67
15	SMD 167-2588● RL	1.62	1.22	1.06	0.85	0.72
15	SMD 167-2589● RL	1.90	1.44	1.20	1.03	0.90
15	SMD 167-2635● RL	1.49	1.13	0.94	0.81	0.71
15	SMD 167-2636● RL	2.06	1.58	1.33	1.14	0.98
22	SMD 167-2646● RL	1.74	1.34	1.12	0.96	0.82
22	SMD 167-2647● RL	2.54	1.95	1.63	1.41	1.21
33	SMD 167-2657● RL	2.47	1.90	1.60	1.37	1.18
33	SMD 167-2658● RL	3.62	2.79	2.34	2.01	1.73
47	SMD 167-2689● RL	3.34	2.57	2.15	1.85	1.59
47	SMD 167-2690● RL	4.91	3.78	3.16	2.73	2.34

35 Volt d.c

µF	ESR (mΩ) max. @ 100kHz	Case Size	Mftrs. List No.	Order Code
0.1	20000	A	TRJA104K035R	167-2440
0.15	16470	A	TRJA154K035R	167-2452
0.15	6000	A	TRJA154K035R6000	167-2453
0.22	13710	A	TRJA224K035R	167-2466
0.22	6000	A	TRJA224K035R6000	167-2467
0.33	11280	A	TRJA334K035R	167-2479
0.33	6000	A	TRJA334K035R6000	167-2480
0.47	9530	A	TRJA474K035R	167-2489
0.47	4000	A	TRJA474K035R4000	167-2490
0.68	7980	A	TRJA684K035R	167-2500
0.68	6000	A	TRJA684K035R6000	167-2501
1	6630	A	TRJA105K035R	167-2445
1	3000	A	TRJA105K035R3000	167-2446
1	3400	B	TRJB105K035R	167-2507
1	2000	B	TRJB105K035R2000	167-2508
1.5	3100	A	TRJA155K035R	167-2458
1.5	2000	A	TRJA155K035R2000	167-2461
1.5	5460	B	TRJB155K035R	167-2518

RL Re-reeling available

Tantalum - continued

AVX TRJ Series - continued

Professional Tantalum Chip Capacitor - continued

1.5	2500	B	TRJB155K035R2500	167-2519
2.2	4550	B	TRJB225K035R	167-2531
2.2	2000	B	TRJB225K035R2000	167-2532
3.3	3740	B	TRJB335K035R	167-2545
3.3	1000	B	TRJB335K035R1000	167-2546
3.3	1840	C	TRJC335K035R	167-2598
3.3	800	C	TRJC335K035R0800	167-2600
4.7	2200	B	TRJB475K035R	167-2559
4.7	1500	B	TRJB475K035R1500	167-2560
4.7	1410	C	TRJC475K035R	167-2610
4.7	600	C	TRJC475K035R0600	167-2611
6.8	1070	C	TRJC685K035R	167-2621
6.8	600	C	TRJC685K035R0600	167-2622
10	800	C	TRJC106K035R	167-2577
10	600	C	TRJC106K035R0600	167-2578
10	800	D	TRJD106K035R	167-2627
10	400	D	TRJD106K035R0400	167-2628
15	720	D	TRJD156K035R	167-2637
15	350	D	TRJD156K035R0350	167-2638
22	650	D	TRJD226K035R	167-2648
22	400	D	TRJD226K035R0400	167-2649
33	250	E	TRJE336K035R0250	167-2685

35 Volt d.c.

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
0.1	SMD 167-2440● RL	0.51	0.39	0.33	0.26	0.23
0.15	SMD 167-2452● RL	0.56	0.42	0.37	0.29	0.24
0.15	SMD 167-2453● RL	0.86	0.64	0.56	0.45	0.38
0.22	SMD 167-2466● RL	0.47	0.35	0.31	0.24	0.21
0.22	SMD 167-2467● RL	0.69	0.51	0.45	0.35	0.30
0.33	SMD 167-2479● RL	0.47	0.35	0.31	0.24	0.21
0.33	SMD 167-2480● RL	0.69	0.51	0.45	0.35	0.30
0.47	SMD 167-2489● RL	0.51	0.39	0.33	0.26	0.23
0.47	SMD 167-2490● RL	0.73	0.55	0.48	0.38	0.32
0.68	SMD 167-2500● RL	0.47	0.35	0.31	0.24	0.21
0.68	SMD 167-2501● RL	0.73	0.55	0.48	0.38	0.32
1	SMD 167-2445● RL	0.51	0.39	0.33	0.26	0.23
1	SMD 167-2446● RL	0.73	0.55	0.48	0.38	0.32
1	SMD 167-2507● RL	0.59	0.45	0.39	0.31	0.26
1	SMD 167-2508● RL	0.86	0.64	0.56	0.45	0.38
1.5	SMD 167-2458● RL	0.56	0.42	0.37	0.29	0.24
1.5	SMD 167-2461● RL	0.86	0.64	0.56	0.45	0.38
1.5	SMD 167-2518● RL	0.69	0.51	0.45	0.35	0.30
1.5	SMD 167-2519● RL	0.95	0.70	0.57	0.49	0.42
2.2	SMD 167-2531● RL	0.69	0.51	0.45	0.35	0.30
2.2	SMD 167-2532● RL	0.95	0.70	0.57	0.49	0.42
3.3	SMD 167-2545● RL	0.81	0.61	0.53	0.42	0.35
3.3	SMD 167-2546● RL	1.15	0.87	0.75	0.59	0.51
3.3	SMD 167-2598● RL	0.95	0.70	0.57	0.49	0.42
3.3	SMD 167-2600● RL	1.62	1.22	1.06	0.85	0.72
4.7	SMD 167-2559● RL	0.77	0.58	0.50	0.40	0.34
4.7	SMD 167-2560● RL	1.15	0.87	0.75	0.59	0.51
4.7	SMD 167-2610● RL	1.15	0.87	0.75	0.59	0.51
4.7	SMD 167-2611● RL	1.35	1.03	0.86	0.73	0.64
6.8	SMD 167-2621● RL	1.17	0.87	0.71	0.61	0.53
6.8	SMD 167-2622● RL	1.55	1.18	0.98	0.85	0.74
10	SMD 167-2577● RL	1.54	1.15	1.01	0.80	0.67
10	SMD 167-2578● RL	1.76	1.34	1.11	0.95	0.83
10	SMD 167-2627● RL	1.52	1.15	0.96	0.82	0.72
10	SMD 167-2628● RL	2.78	2.09	1.82	1.44	1.22
15	SMD 167-2637● RL	1.90	1.45	1.22	1.05	0.90
15	SMD 167-2638● RL	2.76	2.13	1.78	1.53	1.31
22	SMD 167-2648● RL	2.38	1.83	1.53	1.31	1.13
22	SMD 167-2649● RL	3.46	2.66	2.24	1.93	1.65
33	SMD 167-2685● RL	5.87	4.51	3.79	3.27	2.80

50 Volt d.c

µF	ESR (mΩ) max. @ 100kHz	Case Size	Mftrs. List No.	Order Code
0.22	7500	A	TRJA224K050R	167-2468
0.22	7000	A	TRJA224K050R7000	167-2469
0.33	7000	A	TRJA334K050R	167-2481
0.47	5000	B	TRJB474K050R	167-2552
0.68	4000	B	TRJB684K050R	167-2564
0.68	2000	B	TRJB684K050R2000	167-2565
1	3400	B	TRJB105K050R	167-2509
1	2000	B	TRJB105K050R2000	167-2510
1.5	2500	C	TRJC155K050R	167-2583
1.5	1500	C	TRJC155K050R1500	167-2584
2.2	1700	C	TRJC225K050R	167-2592
2.2	1000	C	TRJC225K050R1000	167-2593
3.3	1400	C	TRJC335K050R	167-2601
3.3	1000	C	TRJC335K050R1000	167-2602
3.3	1100	D	TRJD335K050R	167-2652
3.3	800	D	TRJD335K050R0800	167-2653
4.7	900	D	TRJD475K050R	167-2659
4.7	600	D	TRJD475K050R0600	167-2660
6.8	700	D	TRJD685K050R	167-2665
10	700	E	TRJE106K050R	167-2671
10	400	E	TRJE106K050R0400	167-2672

527897

50 Volt d.c.

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
0.22	SMD 167-2468● RL	0.56	0.42	0.37	0.29	0.24
0.22	SMD 167-2469● RL	0.77	0.58	0.50	0.40	0.34
0.33	SMD 167-2481● RL	0.59	0.45	0.39	0.31	0.26
0.47	SMD 167-2552● RL	0.77	0.58	0.50	0.40	0.34
0.68	SMD 167-2564● RL	0.90	0.67	0.58	0.47	0.40
0.68	SMD 167-2565● RL	1.13	0.83	0.69	0.58	0.50
1	SMD 167-2509● RL	0.77	0.58	0.50	0.40	0.34
1	SMD 167-2510● RL	0.98	0.73	0.59	0.50	0.44

50 Volt d.c.

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
1.5	SMD 167-2583● RL	1.17	0.87	0.71	0.61	0.53
1.5	SMD 167-2584● RL	1.55	1.18	0.98	0.85	0.74
2.2	SMD 167-2592● RL	1.28	0.95	0.78	0.66	0.57
2.2	SMD 167-2593● RL	1.66	1.26	1.05	0.90	0.79
3.3	SMD 167-2601● RL	1.71	1.28	1.12	0.88	0.75
3.3	SMD 167-2602● RL	2.52	1.90	1.65	1.30	1.11
3.3	SMD 167-2652● RL	1.82	1.34	1.10	0.94	0.81
3.3	SMD 167-2653● RL	2.99	2.25	1.95	1.55	1.33
4.7	SMD 167-2659● RL	1.79	1.38	1.15	0.99	0.86
4.7	SMD 167-2660● RL	2.63	2.02	1.70	1.46	1.26
6.8	SMD 167-2665● RL	2.22	1.70	1.43	1.23	1.05
10	SMD 167-2671● RL	3.02	2.32	1.94	1.68	1.44
10	SMD 167-2672● RL	4.43	3.41	2.86	2.46	2.11

AVX Engineering Designer Kits

Tantalum and Oxicap™ (Niobium Oxide)



A range of 12 engineering kits giving the user maximum range choice with enough samples to be useful during test and development. Once used, each product in the kits can be replenished through Farnell InOne using the order code printed on each sample bag. Also included with the kit is a full range card and a data CD Rom.

Description	No. of Values	Resistance Values	Mftrs List No.	Order Code
TPS + TPM series	28 Values	1µF to 1000µF	TANTLOWESR001F	113-5224
TAC microchip series	22 values	1µF to 220µF	TANTTAC001F	113-5268
TAJ series	30 Values	4.7µF to 1000µF	TANTTAJ001F	113-5043
TPM series	22 values	22µF to 1500µF	TANTTPM001F	113-5239
TPS series	30 Values	1µF to 1000µF	TANTTPS001F	113-5096
Low profile TAJ, TAC + NOJ series	30 Values	0.47µF to 330µF	TANTLOWPROF001F	113-5068
TPS, TPM, NOS + NOM series	30 Values	10µF to 1500µF	TANTPOWER001F	113-5194
NOS series	30 Values	10µF to 1000µF	OXICAPNOS001F	113-5151
NOJ series	30 Values	4.7µF to 1000µF	OXICAPNOJ001F	113-5126
NOS + NOJ series	22 values	4.7µF to 1000µF	OXICAPMIX001F	113-5187
TCJ series	12 values	22µF to 100µF	TANTTCJ001F	113-5225
TLJ + TLC series	12 values	4.7µF to 150µF	TANTTLJTLC001F	113-5253

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Order Code	Price Each 1+	3+
113-5224●	43.93	37.19
113-5268●	24.37	22.75
113-5043●	43.93	37.19
113-5239●	32.90	27.84
113-5096●	32.90	27.84
113-5068●	43.93	37.19
113-5194●	43.93	37.19
113-5151●	32.90	27.84
113-5126●	32.90	27.84
113-5187●	32.90	27.84
113-5225●	32.90	27.84
113-5253●	29.38	24.87

CB Series



- General purpose
- Wide temperature range
- Resin dipped tantalum capacitors

Lead dia. = 0.5, Lead pitch = 5.0

Operating temperature -55125°C to +°C
-55°C to +85°C (6.3V)

Tolerance ±20%

6.3 Volt d.c. µF	Dimensions H	Dia.	DC Leakage Current (µA)	Impedance (Ω) @ 100kHz 20°C	Mftrs. List No.	Order Code
10	7	4.5	0.5	6	CB0J106M2CCB	970-8200
22	8	5	1.1	3.7	CB0J226M2FCB	970-8219
47	9	6	2.4	2.0	CB0J476M2HCB	970-8227
68	11	7.5	3.4	1.8	CB0J686M2JCB	970-8235
100	12	8	5.0	1.6	CB0J107M2KCB	970-8243

Order Multiple = 5

6.3 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
10	970-8200●	0.195	0.174	0.136	0.125	0.112
22	970-8219●	0.280	0.210	0.186	0.148	0.136
47	970-8227●	0.460	0.380	0.350	0.280	0.250
68	970-8235●	0.760	0.640	0.560	0.450	0.420
100	970-8243●	1.010	0.850	0.730	0.580	0.550

10 Volt d.c. µF	Dimensions H	Dia.	DC Leakage Current (µA)	Impedance (Ω) @ 100kHz 20°C	Mftrs. List No.	Order Code
4.7	6.5	4.5	0.5	8.0	CB1A475M2BCB	970-8251
10	7	5	0.8	5.0	CB1A106M2DCB	970-8260
22	8.5	5.5	1.7	2.7	CB1A226M2GCB	970-8278
33	9	6	2.6	2.1	CB1A336M2HCB	970-8286
47	11	7.5	3.7	1.7	CB1A476M2JCB	970-8294
100	14	9	8.0	1.0	CB1A107M2LCB	970-8308

RL Re-reeling available

Order Multiple = 5
10 Volt d.c.

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
4.7	970-8251●	0.171	0.125	0.112	0.100	0.088
10	970-8260●	0.290	0.220	0.199	0.149	0.136
22	970-8278●	0.370	0.300	0.280	0.210	0.199
33	970-8286●	0.460	0.380	0.350	0.280	0.250
47	970-8294●	0.540	0.460	0.400	0.320	0.300
100	970-8308●	1.580	1.290	1.120	0.920	0.810

16 Volt d.c. µF	Dimensions H	Dia.	DC Leakage Current (µA)	Impedance (Ω) @ 100kHz 20°C	Mftrs. List No.	Order Code
2.2	6	4	0.5	8.0	CB1C225M2ACB	970-8316
4.7	7	4.5	0.6	5.0	CB1C475M2CCB	970-8324
6.8	7	5	0.8	4.0	CB1C685M2DCB	970-8332
10	8	5	1.2	3.2	CB1C106M2FCB	970-8340
22	9	6	2.8	2.0	CB1C226M2HCB	970-8359
33	11	7.5	4.2	1.6	CB1C336M2JCB	970-8367
47	12	8	6.0	1.3	CB1C476M2KCB	970-8375
68	14	9	8.7	1.0	CB1C686M2LCB	970-8383
100	15	10	12.8	0.8	CB1C107M2MCB	970-8391

Order Multiple = 5
16 Volt d.c.

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
2.2	970-8316●	0.171	0.125	0.113	0.100	0.074
4.7	970-8324●	0.171	0.125	0.112	0.100	0.074
6.8	970-8332●	0.171	0.125	0.113	0.100	0.074
10	970-8340●	0.290	0.220	0.199	0.148	0.136
22	970-8359●	0.370	0.300	0.280	0.210	0.199
33	970-8367●	0.460	0.380	0.350	0.280	0.250
47	970-8375●	0.760	0.640	0.560	0.450	0.420
68	970-8383●	1.320	1.040	0.900	0.740	0.650
100	970-8391●	1.580	1.290	1.120	0.920	0.810

25 Volt d.c. µF	Dimensions H	Dia.	DC Leakage Current (µA)	Impedance (Ω) @ 100kHz 20°C	Mftrs. List No.	Order Code
1	6	4	0.5	10	CB1E105M2ACB	970-8405
2.2	7	4.5	0.5	6.0	CB1E225M2CCB	970-8413
4.7	8	5	0.9	4.0	CB1E475M2FCB	970-8421
6.8	8.5	5.5	6.8	3.1	CB1E685M2GCB	970-8430
10	10	6.5	2.0	2.5	CB1E106M2ICB	970-8448
15	11	7.5	3.0	2.0	CB1E156M2JCB	970-8456
22	12	8	4.4	1.5	CB1E226M2KCB	970-8464
33	14	9	6.6	1.2	CB1E336M2LCB	970-8472

Order Multiple = 5
25 Volt d.c.

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
1	970-8405●	0.171	0.125	0.112	0.100	0.074
2.2	970-8413●	0.171	0.125	0.112	0.100	0.074
4.7	970-8421●	0.280	0.220	0.199	0.148	0.136
6.8	970-8430●	0.280	0.210	0.186	0.149	0.136
10	970-8448●	0.370	0.300	0.280	0.210	0.199
15	970-8456●	0.460	0.380	0.350	0.280	0.250
22	970-8464●	1.010	0.850	0.730	0.580	0.550
33	970-8472●	1.090	0.900	0.770	0.640	0.570

35 Volt d.c. µF	Dimensions H	Dia.	DC Leakage Current (µA)	Impedance (Ω) @ 100kHz 20°C	Mftrs. List No.	Order Code
0.1	6	4	0.5	26	CB1V104M2ACB	970-8480
0.22	6	4	0.5	17	CB1V224M2ACB	970-8499
0.33	6	4	0.5	15	CB1V334M2ACB	970-8502
0.47	6	4	0.5	13	CB1V474M2ACB	970-8510
1	6.5	4.5	0.5	8.0	CB1V105M2BCB	970-8529
2.2	7.5	5	0.6	5.0	CB1V225M2ECB	970-8537
3.3	8	5	0.9	4.0	CB1V335M2FCB	970-8545
4.7	8.5	5.5	4.7	3.0	CB1V475M2GCB	970-8553
6.8	10	6.5	1.9	2.5	CB1V685M2ICB	970-8561
10	11	7.5	2.8	2.0	CB1V106M2JCB	970-8570
15	12	8	4.2	1.6	CB1V156M2KCB	970-8588
22	14	9	6.1	1.3	CB1V226M2LCB	970-8596
47	15	10.5	10	0.8	CB1V476M2NCB	970-8600

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Order Multiple = 5
35 Volt d.c.

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
0.1	970-8480●	0.171	0.125	0.112	0.100	0.074
0.22	970-8499●	0.171	0.125	0.112	0.100	0.074
0.33	970-8502●	0.171	0.125	0.112	0.100	0.074
0.47	970-8510●	0.171	0.125	0.112	0.100	0.074
1	970-8529●	0.171	0.125	0.112	0.100	0.074
2.2	970-8537●	0.195	0.174	0.136	0.125	0.112
3.3	970-8545●	0.280	0.220	0.199	0.148	0.136
4.7	970-8553●	0.370	0.300	0.280	0.210	0.199
6.8	970-8561●	0.460	0.380	0.350	0.280	0.250
10	970-8570●	0.480	0.400	0.360	0.290	0.280
15	970-8588●	1.010	0.850	0.730	0.580	0.550
22	970-8596●	1.580	1.290	1.120	0.920	0.810
47	970-8600●	2.900	2.390	2.100	1.690	1.640

T350 Series

KEMET CHARGED.



- -55°C à +85°C
- Tolérance : ±10%
- ∅ broche : 0,5mm

Tolerance ±10% Lead Diameter 0.5mm

6.3 Volt d.c. µF	Dimensions H	Dia.	Lead Pitch	DC Leakage Current (µA)	Mftrs. List No.	Order Code
47	9.9	6.0	2.54	2.3	T350F476K006AT	145-7589
100	10.2	7.6	2.54	4.8	T350H107K006AT	145-7594

Order Multiple = 5
6.3 Volt d.c.

µF	Order Code	5+	50+	250+	500+	1K+
		Price Each				
47	145-7589●	0.45	0.41	0.37	0.33	0.30
100	145-7594●	1.26	1.13	1.03	0.93	0.83

10 Volt d.c. µF	Dimensions H	Dia.	Lead Pitch	DC Leakage Current (µA)	Mftrs. List No.	Order Code
10	8.4	5.0	2.54	0.8	T350C106K010AT	145-7577
22	8.9	5.5	2.54	1.8	T350E226K010AT	145-7584
33	9.9	6.0	2.54	2.6	T350F336K010AT	145-7588

Order Multiple = 5
10 Volt d.c.

µF	Order Code	5+	50+	250+	500+	1K+
		Price Each				
10	145-7577●	0.31	0.28	0.26	0.24	0.22
22	145-7584●	0.45	0.41	0.37	0.33	0.30
33	145-7588●	0.55	0.49	0.45	0.41	0.37

16 Volt d.c. µF	Dimensions H	Dia.	Lead Pitch	DC Leakage Current (µA)	Mftrs. List No.	Order Code
2.2	7.1	4.5	2.54	0.5	T350A225K016AT	145-7570
4.7	7.6	4.5	2.54	0.6	T350B475K016AT	145-7576
6.8	8.4	5.0	2.54	0.9	T350C685K016AT	145-7580
22	9.9	6.0	2.54	2.6	T350F226K016AT	145-7587
47	12.7	8.4	5.08	5.6	T350J476K016AT	145-7599

Order Multiple = 5
16 Volt d.c.

µF	Order Code	5+	50+	250+	500+	1K+
		Price Each				
2.2	145-7570●	0.230	0.210	0.185	0.165	0.144
22	145-7587●	0.450	0.410	0.370	0.330	0.300
4.7	145-7576●	0.290	0.260	0.240	0.220	0.196
47	145-7599●	1.410	1.270	1.150	1.040	0.940
6.8	145-7580●	0.310	0.280	0.260	0.240	0.220

25 Volt d.c. µF	Dimensions H	Dia.	Lead Pitch	DC Leakage Current (µA)	Mftrs. List No.	Order Code
2.2	7.6	4.5	2.54	0.5	T350B225K025AT	145-7575
4.7	8.4	5.0	2.54	0.9	T350C475K025AT	145-7579
10	8.9	5.5	2.54	2.0	T350E106K025AT	145-7582
15	10.2	6.3	2.54	3.0	T350G156K025AT	145-7593
22	10.2	7.6	2.54	4.4	T350H226K025AT	145-7595

Order Multiple = 5
25 Volt d.c.

µF	Order Code	5+	50+	250+	500+	1K+
		Price Each				
10	145-7582●	0.620	0.560	0.510	0.450	0.410
15	145-7593●	1.010	0.910	0.820	0.740	0.670
2.2	145-7575●	0.290	0.260	0.240	0.220	0.196
22	145-7595●	1.260	1.130	1.030	0.930	0.830
4.7	145-7579●	0.310	0.280	0.260	0.240	0.220

35 Volt d.c. µF	Dimensions H	Dia.	Lead Pitch	DC Leakage Current (µA)	Mftrs. List No.	Order Code
0.1	7.1	4.5	2.54	0.5	T350A104K035AT	145-7568
1	7.1	4.5	2.54	0.5	T350A105K035AT	145-7569
2.2	8.4	5.0	2.54	0.6	T350C225K035AT	145-7578
3.3	8.6	5.0	2.54	0.9	T350D335K035AT	145-7581
4.7	8.9	5.5	2.54	1.3	T350E475K035AT	145-7586
6.8	9.9	6.0	2.54	1.9	T350F685K035AT	145-7590
10	10.2	6.3	2.54	2.8	T350G106K035AT	145-7591
22	13.5	8.9	5.08	6.2	T350K226K035AT	145-7600
33	16.0	8.9	5.08	9.2	T350L336K035AT	145-7601

Order Multiple = 5
35 Volt d.c.

µF	Order Code	5+	50+	250+	500+	1K+
		Price Each				
0.1	145-7568●	0.330	0.300	0.270	0.240	0.220
1	145-7569●	0.330	0.300	0.270	0.240	0.220
2.2	145-7578●	0.290	0.260	0.240	0.220	0.196
3.3	145-7581●	0.360	0.330	0.300	0.270	0.240
4.7	145-7586●	0.530	0.470	0.430	0.390	0.350
6.8	145-7590●	0.430	0.390	0.360	0.330	0.300
10	145-7591●	0.990	0.890	0.800	0.720	0.650
22	145-7600●	1.520	1.370	1.250	1.120	1.010
33	145-7601●	3.350	3.020	2.750	2.470	2.230

50 Volt d.c. µF	Dimensions H	Dia.	Lead Pitch	DC Leakage Current (µA)	Mftrs. List No.	Order Code
1	7.6	4.5	2.54	0.5	T350B105K050AT	145-7574
2.2	8.9	5.5	2.54	0.9	T350E225K050AT	145-7583

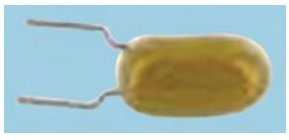
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Order Multiple = 5
50 Volt d.c.

µF	Order Code	5+	50+	250+	500+	1K+
		Price Each				
1	145-7574●	0.32	0.29	0.26	0.24	0.22
2.2	145-7583●	0.45	0.41	0.37	0.33	0.30

T356 Series

KEMET CHARGED.



- Dipped Tantalum
- 5mm pitch

Tolerance ±10%

Lead dia. = 0.5mm, Lead pitch = 5.08mm

RL Re-reeling available

Farnell

Tantalum - continued

T356 Series - continued

6.3 Volt d.c. µF	Dimensions H	Dia.	DC Leakage Current (µA)	Mftrs. List No.	Order Code
47	11.2	6	2.3	T356F476K006AT	145-7617
100	11.9	7.6	4.8	T356H107K006AT	145-7619

Order Multiple = 5

6.3 Volt d.c. µF	Order Code	Price Each 5+	100+	250+	500+	1K+
47	145-7617●	0.45	0.40	0.36	0.32	0.28
100	145-7619●	0.91	0.79	0.72	0.64	0.57

10 Volt d.c. µF	Dimensions H	Dia.	DC Leakage Current (µA)	Mftrs. List No.	Order Code
47	11.9	7.6	3.8	T356H476K010AT	145-7622

Order Multiple = 5

10 Volt d.c. µF	Order Code	Price Each 5+	100+	250+	500+	1K+
47	145-7622●	0.98	0.87	0.78	0.70	0.62

16 Volt d.c. µF	Dimensions H	Dia.	DC Leakage Current (µA)	Mftrs. List No.	Order Code
4.7	8.9	4.5	0.6	T356B475K016AT	145-7608
10	10.2	5.5	1.3	T356E106K016AT	145-7612
22	11.2	6	2.6	T356F226K016AT	145-7616
33	11.9	7.6	4.0	T356H336K016AT	145-7621
47	14	8.4	5.6	T356J476K016AT	145-7623
100	18.1	8.9	10	T356L107K016AT	145-7629

Order Multiple = 5

16 Volt d.c. µF	Order Code	Price Each 5+	100+	250+	500+	1K+
4.7	145-7608●	0.290	0.260	0.240	0.210	0.185
10	145-7612●	0.340	0.300	0.270	0.240	0.210
22	145-7616●	0.450	0.400	0.360	0.320	0.280
33	145-7621●	0.980	0.870	0.780	0.700	0.620
47	145-7623●	1.520	1.340	1.220	1.080	0.950
100	145-7629●	3.910	3.440	3.130	2.790	2.450

20 Volt d.c. µF	Dimensions H	Dia.	DC Leakage Current (µA)	Mftrs. List No.	Order Code
2.2	8.6	4.5	0.5	T356A225K020AT	145-7605

Order Multiple = 5

20 Volt d.c. µF	Order Code	Price Each 5+	100+	250+	500+	1K+
2.2	145-7605●	0.330	0.290	0.260	0.230	0.196

25 Volt d.c. µF	Dimensions H	Dia.	DC Leakage Current (µA)	Mftrs. List No.	Order Code
2.2	8.9	4.5	0.5	T356B225K025AT	145-7607
4.7	9.6	5	0.9	T356C475K025AT	145-7611
10	10.2	5.5	2.0	T356E106K025AT	145-7613
22	11.9	7.6	4.4	T356H226K025AT	145-7620
47	15.5	8.9	9.4	T356K476K025AT	145-7626

Order Multiple = 5

25 Volt d.c. µF	Order Code	Price Each 5+	100+	250+	500+	1K+
2.2	145-7607●	0.290	0.260	0.240	0.210	0.185
4.7	145-7611●	0.320	0.280	0.260	0.230	0.196
10	145-7613●	0.620	0.550	0.490	0.440	0.390
22	145-7620●	1.260	1.100	1.000	0.890	0.780
47	145-7626●	3.350	2.950	2.680	2.380	2.090

35 Volt d.c. µF	Dimensions H	Dia.	DC Leakage Current (µA)	Mftrs. List No.	Order Code
100	8.6	4.5	0.5	T356A104K035AT	145-7602
0.47	8.6	4.5	0.5	T356A474K035AT	145-7606
1	8.6	4.5	0.5	T356A105K035AT	145-7604
2.2	9.6	5	0.6	T356C225K035AT	145-7610
4.7	10.2	5.5	1.3	T356E475K035AT	145-7614
10	11.4	6.3	2.8	T356G106K035AT	145-7618
22	15.5	8.9	6.2	T356K226K035AT	145-7625
33	18.1	8.9	9.2	T356L336K035AT	145-7631
47	18.8	10.2	10	T356M476K035AT	145-7633

Order Multiple = 5

35 Volt d.c. µF	Order Code	Price Each 5+	100+	250+	500+	1K+
100	145-7602●	0.330	0.290	0.260	0.230	0.196
0.47	145-7606●	0.330	0.290	0.260	0.230	0.196
1	145-7604●	0.330	0.290	0.260	0.230	0.196
2.2	145-7610●	0.290	0.260	0.240	0.210	0.185
4.7	145-7614●	0.530	0.460	0.420	0.370	0.330
10	145-7618●	0.990	0.870	0.780	0.700	0.620
22	145-7625●	1.520	1.340	1.220	1.080	0.950
33	145-7631●	3.350	2.950	2.680	2.380	2.090
47	145-7633●	4.100	3.610	3.290	2.930	2.580

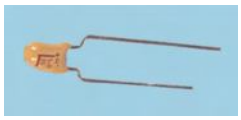
50 Volt d.c. µF	Dimensions H	Dia.	DC Leakage Current (µA)	Mftrs. List No.	Order Code
10	15.5	8.9	4.0	T356K106K050AT	145-7624

485043

Order Multiple = 5

50 Volt d.c. µF	Order Code	Price Each 5+	100+	250+	500+	1K+
10	145-7624●	2.58	2.27	2.06	1.83	1.62

TAP Series – Professional Resin Dipped



Lead dia.=0.5
Lead pitch=5.0

Operating temperature: -55°C± to +85°C at rated voltage and up to 125°C with appropriate voltage derating
Climatic category: 55/125/56
Tolerance: ±20%

6.3 Volt d.c. µF	Dimensions H	Dia	DC Leakage Current (µA)	Impedance (Ω) @ 100kHz 20°C	Mftrs. List No.	Order Code
10	9	4.5	0.5	6	TAP106M006CCS-LF	110-0451
22	10.5	5	1.1	3.7	TAP226M006CCS-LF	110-0453
47	11.5	6	2.3	2	TAP476M006CCS-LF	110-0454
100	12	7	5	1.6	TAP107M006CCS-LF	110-0455

Order Multiple=5

6.3 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
10	110-0451●	0.44	0.37	0.34	0.24	0.23
22	110-0453●	0.58	0.50	0.44	0.33	0.31
47	110-0454●	0.85	0.70	0.64	0.48	0.42
100	110-0455●	1.63	1.44	1.27	0.93	0.86

10 Volt d.c. µF	Dimensions H	Dia	DC Leakage Current (µA)	Impedance (Ω) 100kHz 20°C	Mftrs. List No.	Order Code
4.7	8.5	4.5	0.5	8	TAP475M010CCS-LF	110-0456
10	10	5	0.8	5	TAP106M010CCS-LF	110-0457
22	10.5	5.5	1.7	2.7	TAP226M010CCS-LF	110-0458
33	11.5	6	2.6	2.1	TAP336M010CCS-LF	110-0459
47	11.5	6.5	3.7	1.7	TAP476M010CCS-LF	110-0460
68	12	7	5.4	1.3	TAP686M010CCS-LF	110-0461
100	14	8.5	8	1	TAP107M010CCS-LF	110-0462

Order Multiple=5

10 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
4.7	110-0456●	0.370	0.320	0.290	0.220	0.195
10	110-0457●	0.500	0.410	0.370	0.290	0.260
22	110-0458●	0.660	0.550	0.510	0.380	0.340
33	110-0459●	0.850	0.700	0.640	0.480	0.420
47	110-0460●	0.910	0.770	0.670	0.500	0.470
68	110-0461●	1.100	0.960	0.850	0.620	0.570
100	110-0462●	2.510	2.180	1.920	1.440	1.290

16 Volt d.c. µF	Dimensions H	Dia	DC Leakage Current (µA)	Impedance (Ω) 100kHz 20°C	Mftrs. List No.	Order Code
2.2	8.5	4.5	0.5	8	TAP225M016CCS-LF	110-0463
3.3	8.5	4.5	0.5	6	TAP335M016CCS-LF	110-0465
4.7	9	4.5	0.6	5	TAP475M016CCS-LF	110-0466
6.8	10	5	0.8	4	TAP685M016CCS-LF	110-0467
10	10.5	5	1.2	3.2	TAP106M016CCS-LF	110-0468
15	10.5	5.5	1.9	2.5	TAP156M016CCS-LF	110-0469
22	10.5	5.5	1.7	2.7	TAP226M016CCS-LF	110-0470
33	11.5	6	4.2	1.6	TAP336M016CCS-LF	110-0471
47	13	8	6	1.3	TAP476M016CCS-LF	110-0472
68	14	9	8.7	1	TAP686M016CCS-LF	110-0473

Order Multiple=5

16 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
2.2	110-0463●	0.370	0.320	0.290	0.220	0.195
3.3	110-0465●	0.370	0.320	0.290	0.220	0.195
4.7	110-0466●	0.440	0.370	0.340	0.240	0.230
6.8	110-0467●	0.350	0.300	0.260	0.200	0.183
10	110-0468●	0.580	0.500	0.440	0.330	0.310
15	110-0469●	0.660	0.550	0.510	0.380	0.340
22	110-0470●	0.540	0.480	0.410	0.310	0.300
33	110-0471●	0.850	0.700	0.640	0.480	0.420
47	110-0472●	1.740	1.490	1.300	0.970	0.900
68	110-0473●	2.700	2.310	2.050	1.510	1.390

25 Volt d.c. µF	Dimensions H	Dia	DC Leakage Current (µA)	Impedance (Ω) 100kHz 20°C	Mftrs. List No.	Order Code
2.2	8.5	4.5	0.5	6	TAP225M025CCS-LF	110-0474
3.3	9	4.5	0.6	5	TAP335M025CCS-LF	110-0475
4.7	10	5	0.9	4	TAP475M025CCS-LF	110-0477
6.8	10.5	5	1.3	3.1	TAP685M025CCS-LF	110-0478
10	10.5	5.5	2	2.5	TAP106M025CCS-LF	110-0479
15	11.5	6	3	2	TAP156M025CCS-LF	110-0480
22	12	7	4.4	1.5	TAP226M025CCS-LF	110-0481
33	13	8	6.6	1.2	TAP336M025CCS-LF	110-0482

Order Multiple=5

25 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
2.2	110-0474●	0.370	0.320	0.290	0.220	0.195
3.3	110-0475●	0.460	0.380	0.350	0.250	0.240
4.7	110-0477●	0.350	0.300	0.260	0.200	0.183
6.8	110-0478●	0.410	0.350	0.310	0.240	0.220
10	110-0479●	0.660	0.550	0.510	0.380	0.340
15	110-0480●	0.850	0.700	0.640	0.480	0.420
22	110-0481●	1.630	1.440	1.270	0.930	0.860
33	110-0482●	1.150	0.990	0.880	0.650	0.610

RL Re-reeling available

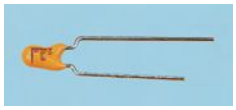
35 Volt d. c. COG µF	Dimensions H	Dia	DC Leakage Current (µA)	Impedance (Ω) 100kHz 20°C	Mftrs. List No.	Order Code
0.1	8.5	4.5	0.5	8	TAP104M035CCS-LF	110-0483
0.15	8.5	4.5	0.5	21	TAP154M035CCS-LF	110-0484
0.22	8.5	4.5	0.5	17	TAP224M035CCS-LF	110-0485
0.33	8.5	4.5	0.5	15	TAP334M035CCS-LF	110-0486
0.47	8.5	4.5	0.5	13	TAP474M035CCS-LF	110-0487
1	8.5	4.5	0.5	8	TAP105M035CCS-LF	110-0489
1.5	8.5	4.5	0.5	6	TAP155M035CCS-LF	110-0491
2.2	9	4.5	0.6	5	TAP225M035CCS-LF	110-0492
3.3	10	5	0.9	4	TAP335M035CCS-LF	110-0493
4.7	10.5	5.5	1.3	3	TAP475M035CCS-LF	110-0494
6.8	11.5	6	1.9	2.5	TAP685M035CCS-LF	110-0495
10	11.5	6	2.8	2	TAP106M035CCS-LF	110-0496
15	12	7	4.2	1.6	TAP156M035CCS-LF	110-0497

208474

Order Multiple=5

35 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.1	110-0483●	0.370	0.320	0.290	0.220	0.195
0.15	110-0484●	0.370	0.320	0.290	0.220	0.195
0.22	110-0485●	0.260	0.230	0.200	0.153	0.139
0.33	110-0486●	0.370	0.320	0.290	0.220	0.195
0.47	110-0487●	0.370	0.320	0.290	0.220	0.194
1	110-0489●	0.370	0.320	0.290	0.220	0.195
1.5	110-0491●	0.370	0.320	0.290	0.220	0.195
2.2	110-0492●	0.440	0.370	0.340	0.240	0.230
3.3	110-0493●	0.500	0.410	0.370	0.290	0.260
4.7	110-0494●	0.660	0.550	0.510	0.380	0.340
6.8	110-0495●	0.850	0.700	0.640	0.480	0.420
10	110-0496●	0.850	0.700	0.640	0.480	0.420
15	110-0497●	1.630	1.440	1.270	0.930	0.860

TAP – CECC Release



Operating temp. -55°C to +85°C at rated voltage and up to 125°C with appropriate voltage d.c. rating

Climatic category 55/125/56

Lead dia.=0.5, Lead pitch=5.0

These products are available to fully documented release, upon request

10 Volt d.c. µF	Tolerance ±20% H	Dia	DC Leakage Current (µA)	Impedance (Ω) 100kHz 20°C	Mftrs. List No.	Order Code
4.7	8.5	4.5	0.5	8	TAP475K010CCSY-LF	110-0541
10	10	5	1	5	TAP106M010CCSY-LF	110-0542
22	10.5	5.5	1.7	2.7	TAP226M010CCSY-LF	110-0544
220	17	10	17.6	0.6	TAP220M010CCSY-LF	110-0545

10 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
4.7	110-0541●	1.03	0.89	0.83	0.71	0.70
10	110-0542●	1.43	1.17	0.98	0.89	0.79
22	110-0544●	1.46	1.37	1.30	1.04	0.94
220	110-0545●	9.96	9.22	8.66	7.24	6.69

16 Volt d.c. µF	Tolerance ±10% H	Dia	DC Leakage Current (µA)	Impedance Ω 100kHz 20°C	Mftrs. List No.	Order Code
10	10.5	5.5	2	2	TAP106K016CCSY-LF	110-0547
47	13	8	6	1.3	TAP476K016CCSY-LF	110-0548
100	16	9	12.8	0.8	TAP107K016CCSY-LF	110-0549

16 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	110-0547●	1.68	1.59	1.49	1.18	1.05
47	110-0548●	6.46	5.91	5.45	4.58	4.16
100	110-0549●	15.58	14.69	13.80	11.18	9.76

16 Volt d.c. µF	Tolerance ±20% H	Dia	DC Leakage Current (µA)	Impedance (Ω) 100kHz 20°C	Mftrs. List No.	Order Code
10	10.5	5	1.2	3.2	TAP106M016CCSY-LF	110-0550
220	18.5	10	20	0.5	TAP220M016CCSY-LF	110-0552

16 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	110-0550●	2.27	2.17	2.06	1.60	1.39
220	110-0552●	20.04	19.12	17.99	15.29	14.26

25 Volt d.c. µF	Tolerance ±10% H	Dia	DC Leakage Current (µA)	Impedance (Ω) 100kHz 20°C	Mftrs. List No.	Order Code
10	10.5	5.5	2	2.5	TAP106K025CCSY-LF	110-0554
47	14.5	9	9.4	1	TAP476K025CCSY-LF	110-0557

25 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	110-0554●	2.02	1.92	1.79	1.50	1.35
47	110-0557●	15.95	14.53	13.49	11.65	10.50

25 Volt d.c. µF	Tolerance ±20% H	Dia	DC Leakage Current (µA)	Impedance (Ω) 100kHz 20°C	Mftrs. List No.	Order Code
2.2	8.5	4.5	0.5	6	TAP225M025CCSY-LF	110-0558
22	12	7	4.4	1.5	TAP226M025CCSY-LF	110-0559
33	13	8	6.6	1.2	TAP336M025CCSY-LF	110-0560
47	13	8	6	1.0	TAP476M025CCSY-LF	110-0561

25 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
2.2	110-0558●	1.54	1.41	1.25	0.97	0.93
22	110-0559●	5.06	4.48	3.88	3.30	2.71
33	110-0560●	6.42	5.86	5.40	4.52	4.09
47	110-0561●	7.20	6.85	6.56	5.87	5.66

35 Volt d.c. µF	Tolerance ±10% H	Dia	DC Leakage Current (µA)	Impedance (Ω) 100kHz 20°C	Mftrs. List No.	Order Code
1	8.5	4.5	0.5	8	TAP105K035CCSY-LF	110-0562
2.2	9	4.5	0.6	5	TAP225K035CCSY-LF	110-0563
4.7	10.5	5.5	1.3	3	TAP475K035CCSY-LF	110-0564
10	11.5	6	2.8	2	TAP106K035CCSY-LF	110-0565
22	14	8.5	6.1	1.3	TAP226K035CCSY-LF	110-0566
47	16	9	10	0.8	TAP476K035CCSY-LF	110-0568

35 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
1	110-0562●	1.44	1.26	1.17	0.99	0.97
2.2	110-0563●	1.89	1.74	1.61	1.22	1.14
4.7	110-0564●	2.73	2.59	2.42	2.02	1.82
10	110-0565●	3.47	3.32	2.97	2.55	2.38
22	110-0566●	10.09	9.32	8.79	7.36	6.81
47	110-0568●	13.96	13.30	12.49	10.57	9.92

35 Volt d.c. µF	Tolerance ±20% H	Dia	DC Leakage Current (µA)	Impedance (Ω) 100kHz 20°C	Mftrs. List No.	Order Code
0.1	4.8	4.5	0.5	26	TAP104M035CCSY-LF	110-0569
0.22	8.5	4.5	0.5	17	TAP224M035CCSY-LF	110-0570
0.47	8.5	4.5	0.5	13	TAP474M035CCSY-LF	110-0571
1	8.5	4.5	0.5	8	TAP105M035CCSY-LF	110-0572
2.2	9	4.5	0.5	5	TAP225M035CCSY-LF	110-0573
10	11.5	6	2.8	2	TAP106M035CCSY-LF	110-0574
22	14	8.5	6.1	1.3	TAP226M035CCSY-LF	110-0576
33	14.5	9	9.2	1	TAP336M035CCSY-LF	110-0577
47	16	9	10	0.8	TAP476M035CCSY-LF	110-0578

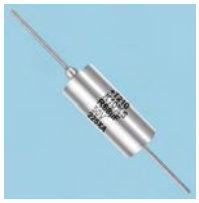
35 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
0.1	110-0569●	1.54	1.41	1.25	0.97	0.93
0.22	110-0570●	1.54	1.41	1.25	0.97	0.93
0.47	110-0571●	1.03	0.94	0.83	0.65	0.62
1	110-0572●	1.54	1.41	1.25	0.97	0.93
2.2	110-0573●	1.22	1.13	0.83	0.65	0.62
10	110-0574●	3.10	2.87	2.55	2.09	2.05
22	110-0576●	6.71	6.19	5.84	4.89	4.51
33	110-0577●	10.99	10.02	9.33	8.03	7.25
47	110-0578●	19.43	18.53	17.38	14.72	13.79

50 Volt d.c. µF	Tolerance ±20% H	Dia	DC Leakage Current (µA)	Impedance (Ω) 100kHz 20°C	Mftrs. List No.	Order Code
0.1	8.5	4.5	0.5	26	TAP104M050CCSY-LF	110-0581
1	10	5	0.5	8	TAP105M050CCSY-LF	110-0582
2.2	10.5	5.5	0.8	3.5	TAP225M050CCSY-LF	110-0583
4.7	11.5	6.5	1.8	2.5	TAP475M050CCSY-LF	110-0585
10	13	8	4	1.6	TAP106M050CCSY-LF	110-0586
22	14	9	8.8	1	TAP226M050CCSY-LF	110-0587

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50 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
0.1	110-0581●	1.51	1.34	1.23	0.95	0.89
1	110-0582●	1.93	1.58	1.34	1.03	0.91
2.2	110-0583●	2.43	2.31	2.08	1.70	1.57
4.7	110-0585●	4.86	4.70	4.51	3.79	3.68
10	110-0586●	6.71	6.19	5.84	4.89	4.51
22	110-0587●	15.70	14.36	13.38	11.49	10.40

T110 Series



- Designed for miniature circuitry, especially suited for coupling, bypass, filtering and R-C timing circuits
- Excellent stability, extremely low DC leakage, dissipation factor and ESR/ impedance over a wide temperature and frequency range

Tolerance ±±10%

10 Volt d.c. µF	Dimensions L	Dia.	DC Leakage Current (µA)	Mftrs. List No.	Order Code
33	11.13	4.45	2.0	T110B336K010AT	145-7557
100	16.51	7.09	5.0	T110C107K010AT	145-7560

Order Multiple = 1

10 Volt d.c. µF	Order Code	Price Each 1+	20+	75+	150+	300+
33	145-7557●	1.33	1.23	1.13	1.05	0.99
100	145-7560●	3.31	3.07	2.84	2.65	2.35

20 Volt d.c. µF	Dimensions L	Dia.	DC Leakage Current (µA)	Mftrs. List No.	Order Code
10	11.13	4.45	1.0	T110B106K020AT	145-7553
15	11.13	4.45	2.0	T110B156K020AT	145-7554
33	16.51	7.09	3.0	T110C336K020AT	145-7563
47	16.51	7.09	4.5	T110C476K020AT	145-7564
100	19.05	8.66	10.0	T110D107K020AT	145-7565

Order Multiple = 1

20 Volt d.c. µF	Order Code	Price Each 1+	20+	75+	150+	300+
10	145-7553●	1.40	1.29	1.19	1.10	1.05
15	145-7554●	1.33	1.23	1.13	1.05	0.99
33	145-7563●	3.31	3.07	2.84	2.65	2.35
47	145-7564●	3.31	3.07	2.84	2.65	2.35
100	145-7565●	7.47	6.94	6.43	5.97	5.41

RL Re-reeling available

Tantalum - continued

T110 Series - continued

35 Volt d.c. µF	Dimensions L	Dia.	DC Leakage Current (µA)	Mftrs. List No.	Order Code
1	6.35	3.18	0.5	T110A105K035AT	145-7552
2.2	11.13	4.45	1.0	T110B225K035AT	145-7555
3.3	11.13	4.45	1.0	T110B335K035AT	145-7556
4.7	11.13	4.45	1.0	T110B475K035AT	145-7558
10	16.51	7.09	3.0	T110C106K035AT	145-7559
22	16.51	7.09	4.0	T110C226K035AT	145-7562
33	19.05	8.66	5.5	T110D336K035AT	145-7566
47	19.05	8.66	8.0	T110D476K035AT	145-7567

488378

35 Volt d.c. µF	Order Code	Price Each 1+	20+	75+	150+	300+
1	145-7552●	1.09	1.04	0.99	0.93	0.88
2.2	145-7555●	1.33	1.23	1.13	1.05	0.99
3.3	145-7556●	1.33	1.23	1.13	1.05	0.99
4.7	145-7558●	1.55	1.43	1.32	1.15	1.09
10	145-7559●	3.71	3.41	3.15	2.78	2.57
22	145-7562●	3.31	3.07	2.84	2.65	2.35
33	145-7566●	7.47	6.94	6.43	5.97	5.41
47	145-7567●	7.47	6.94	6.43	5.97	5.41

CTS13 Series



- Solid tantalum capacitors in hermetically sealed cases
- Low leakage current
- High operational stability

Operating temperature -55°C to +55°C Tolerance ±10%

µF	L	Dia	Lead Dia	Mftrs. List No.	Order Code
10 Volt d.c.					
4.7	10.2	3.8	0.5	CTS13475X9010A2P	118-7278
33	15	5.1	0.5	CTS13336X9010B2P	118-7279
100	20.5	7.7	0.6	CTS13107X9010C	118-7280
220	24	9.3	0.6	CTS13227X9010D	118-7281
16 Volt d.c.					
3.3	10.2	3.8	0.5	CTS13335X9016A	118-7282
22	15	5.1	0.5	CTS13226X9016B	118-7285
68	20.5	7.7	0.6	CTS13686X9016C	118-7286
20 Volt d.c.					
2.2	10.2	3.8	0.5	CTS13225X9020A	118-7287
15	15	5.1	0.5	CTS13156X9020B	118-7288
47	20.5	7.7	0.6	CTS13476X9020C	118-7289
100	24	9.3	0.6	CTS13107X9020D	118-7290
40 Volt d.c.					
0.1	10.2	3.8	0.5	CTS13104X9040A	118-7291
1	10.2	3.8	0.5	CTS13105X9040A	118-7292
2.2	15	5.1	0.5	CTS13225X9040B	118-7294
3.3	15	5.1	0.5	CTS13335X9040B	118-7295
4.7	15	5.1	0.5	CTS13475X9040B	118-7297
6.8	15	5.1	0.5	CTS13685X9040B	118-7298
10	20.5	7.7	0.6	CTS13106X9040C	118-7299
22	20.5	7.7	0.6	CTS13226X9040C	118-7300
47	24	9.3	0.6	CTS13476X9040D	118-7301

208573

µF	Order Code	Price Each 1+	25+	50+	100+	500+
10 Volt d.c						
4.7	118-7278●	1.44	1.09	0.91	0.73	0.65
33	118-7279●	1.17	1.12	1.07	1.02	0.96
100	118-7280●	4.98	3.77	3.07	2.57	2.21
220	118-7281●	13.90	10.55	8.59	7.17	6.14
16 Volt d.c						
3.3	118-7282●	1.48	1.12	0.93	0.75	0.67
22	118-7285●	2.22	1.66	1.36	1.13	0.98
68	118-7286●	6.45	4.89	3.98	3.33	2.87
20 Volt d.c						
2.2	118-7287●	1.14	0.94	0.79	0.69	0.61
15	118-7288●	3.94	2.99	2.45	2.03	1.72
47	118-7289●	6.50	4.92	4.01	3.36	2.89
100	118-7290●	9.93	9.29	8.15	7.37	6.76
40 Volt d.c						
0.1	118-7291●	1.51	1.16	0.95	0.79	0.68
1	118-7292●	1.47	1.11	0.92	0.78	0.75
2.2	118-7294●	2.15	1.62	1.33	1.10	0.95
3.3	118-7295●	1.16	1.10	1.06	1.00	0.94
4.7	118-7297●	4.15	3.26	2.61	2.12	1.89
6.8	118-7298●	4.52	3.57	2.85	2.33	2.06
10	118-7299●	8.86	6.73	5.49	4.59	3.93
22	118-7300●	9.76	7.41	6.04	5.05	4.33
47	118-7301●	17.07	12.94	10.55	8.80	7.54

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POSCAP

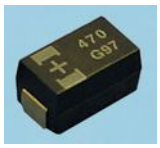
POSCAP is a solid electrolytic chip capacitor using a sintered Tantalum anode and a highly conductive **P**olymerised **O**rganic **S**emiconductor. These low profile capacitors offer low ESR and excellent performance through high capacitance at high frequencies. POSCAP is an ideal chip capacitor for digital high frequency devices.

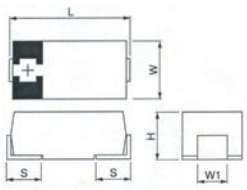
Applications include

- Personal Computers
- VCRs, Camcorders, Digital Still Cameras
- Portable Communication Devices
- PDA Terminals
- DVD Drives
- Navigation Systems
- Mobile Telephones

248982

TPB Series - Low ESR, High Capacitance





- Low profile
- Long life - 2000 hrs
- High temperature - 105°C
- Excellent noise characteristics
- Ideally suited for high frequency switching power supplies

Operating temperature -55°C to +105°C Tolerance ±20%

Case Code	L ±0.2	W ±0.2	H ±0.2	S ±0.2	W1 ±0.1	Reel Qty.	Tape Size
D3	7.3	4.3	3.1	1.3	2.4	2500	12mm
D3L	7.3	4.3	2.8	1.3	2.4	2500	12mm
D4	7.3	4.3	3.8	1.3	2.4	2000	12mm

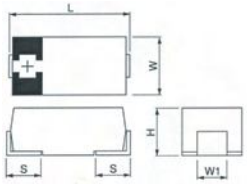
µF	ESR (mΩ) @ 100kHz	DC Leakage Current (µA)	Max. Ripple (mA) @ 100kHz	Case Size	Mftrs. List No.	Order Code
2.5 Volt d.c.						
1000	30	250	3000	D4	2.5TPB1000M	918-8525
4 Volt d.c.						
330	40	132	2000	D3L	4TPB330ML	918-8541
470	40	188	3000	D4	4TPB470M	918-8550
680	35	272	3000	D4	4TPB680M	918-8568
6.3 Volt d.c.						
150	55	94.5	1900	D3L	6TPB150ML	918-8576
220	40	138.6	2000	D3L	6TPB220ML	918-8584
330	40	207.9	3000	D4	6TPB330M	918-8592
470	80	296.1	3000	D4	6TPB470M	918-8606
10 Volt d.c.						
100	55	100	1900	D3L	10TPB100ML	918-8614
100	55	100	1900	D3	10TPB100M	918-8622
220	40	220	3000	D4	10TPB220M	918-8630

249020

µF	Order Code	Price Each 1+	50+	100+	1K+
2.5 Volt d.c.					
1000	SMD-918-8525●	2.99	2.62	2.32	2.11
4 Volt d.c.					
330	SMD-918-8541●	1.79	1.55	1.39	1.27
470	SMD-918-8550●	2.33	2.04	1.80	1.64
680	SMD-918-8568●	2.84	2.49	2.20	2.01
6.3 Volt d.c.					
150	SMD-918-8576●	1.60	1.41	1.24	1.13
220	SMD-918-8584●	1.79	1.55	1.39	1.27
330	SMD-918-8592●	2.33	2.04	1.80	1.64
470	SMD-918-8606●	2.99	2.62	2.32	2.11
10 Volt d.c.					
100	SMD-918-8614●	1.60	1.41	1.24	1.13
100	SMD-918-8622●	1.60	1.41	1.24	1.13
220	SMD-918-8630●	2.64	2.32	2.05	1.85

TPB B2 Series - Low Profile Low ESR, High Capacitance





- Miniature B2 size low profile
- Low ESR
- High capacitance

Operating temperature -55°C to +105°C Tolerance ±20%

µF	ESR (mΩ) @ 100kHz	DC Leakage Current (µA)	Max. Ripple (mA) @ 100kHz	Case Size	Mftrs. List No.	Order Code
6.3 Volt d.c.						
47	70	29.6	1100	B2	6TPB47M	121-7610

For case size see TPB series

249041

µF	Order Code	Price Each 1+	50+	100+	1K+
6.3 Volt d.c.					
47	SMD-121-7610●	1.02	0.89	0.80	0.72

RL Re-reeling available

Ceramic Disc and Plate

Capacitance Conversion Table

0.000001µF	=	0.001nF	=	1pF
0.00001µF	=	0.01nF	=	10pF
0.0001µF	=	0.1nF	=	100pF
0.001µF	=	1nF	=	1000pF
0.01µF	=	10nF	=	10000pF
0.1µF	=	100nF	=	100000pF
1µF	=	1000nF	=	1000000pF
10µF	=	10000nF	=	10000000pF
100µF	=	100000nF	=	100000000pF

High capacitance per unit volume make these suitable for high density PCB applications. The choice in type of ceramic dielectric is selected depending on characteristics and performance required.

Low K

Suitable for applications where a linear temperature coefficient, high stability, close tolerance and low losses are important such as temperature compensation in tuned circuits and filters, or coupling/decoupling in high frequency circuits.

Medium K

Suitable for applications where a small non-linear change of capacitance with temperature is permissible and very low losses are not essential such as coupling and decoupling.

High K

Offering the highest volumetric efficiency and suitable for applications where low losses and high stability are not required, such as coupling and decoupling.

208412

Low K, 50 Volt d.c.

multicomp



Lead length=25
Lead dia.=0.6

Operating temperature -25°C to +85°C Temperature coefficient 0 ± 60ppm/°C
Insulation resistance 10000 MΩ

pF	Tol (±)	Dielectric	Body Dia.	Lead Pitch	Mftrs. List No.	Order Code
5	0.25pF	NP0	5.5	2.5	MCCHU5050C5	941-1640
10	5%	NP0	5.5	2.5	MCCHU5100J5	941-1658
15	5%	NP0	5.5	2.5	MCCHU5150J5	941-1666
22	5%	NP0	5.5	2.5	MCCHU5220J5	941-1674
33	5%	NP0	5.5	2.5	MCCHU5330J5	941-1682
47	5%	NP0	5.5	2.5	MCCHU5470J5	941-1690
68	5%	NP0	6.5	2.5	MCCHU6680J5	941-1704
100	5%	NP0	7.5	2.5	MCCHU7101J5	941-1712
150	5%	NP0	7.5	2.5	MCCHU8151J5	941-1720
220	5%	NP0	10.5	2.5	MCCHU0221J5	941-1739

		Price Each				
pF	Order Code	25+	100+	500+	1K+	10K+
5	941-1640●	0.013	0.010	0.008	0.005	0.004
10	941-1658●	0.029	0.021	0.015	0.010	0.007
15	941-1666●	0.015	0.011	0.009	0.006	0.004
22	941-1674●	0.032	0.023	0.017	0.012	0.008
33	941-1682●	0.037	0.029	0.022	0.014	0.009
47	941-1690●	0.037	0.029	0.022	0.014	0.009
68	941-1704●	0.042	0.033	0.028	0.016	0.010
100	941-1712●	0.051	0.039	0.033	0.023	0.012
150	941-1720●	0.056	0.043	0.036	0.024	0.014
220	941-1739●	0.079	0.057	0.047	0.035	0.022

Medium K, 50V d.c.

Operating temperature -25°C to +85°C Tolerance ±5%

pF	Dielectric	Body Dia	Lead Pitch	Mftrs. List No.	Order Code
100	Y5P	5.5	2.5	MCBU5101K5	941-1747
220	Y5P	5.5	2.5	MCBU5221K5	941-1755
330	Y5P	5.5	2.5	MCBU5331K5	941-1763
470	Y5P	5.5	2.5	MCBU5471K5	941-1771
1000	Y5P	5.5	2.5	MCBU5102K5	941-1780
2200	Y5P	6.5	5	MCBU6222K6	941-1798
3300	Y5P	7.5	5	MCBU7332K6	941-1801
4700	Y5P	8.5	5	MCBU8472K6	941-1810

		Price Each				
pF	Order Code	25+	100+	500+	1K+	10K+
100	941-1747●	0.023	0.016	0.012	0.009	0.006
220	941-1755●	0.023	0.016	0.012	0.009	0.006
330	941-1763●	0.023	0.016	0.012	0.009	0.006
470	941-1771●	0.023	0.016	0.012	0.009	0.006
1000	941-1780●	0.023	0.016	0.012	0.009	0.006
2200	941-1798●	0.015	0.012	0.009	0.006	0.004
3300	941-1801●	0.044	0.033	0.028	0.016	0.011
4700	941-1810●	0.050	0.038	0.032	0.022	0.012

High K, 50V d.c.

Operating temperature -25°C to +85°C Tolerance +5%5%
Insulation resistance 10000MΩ

pF	Dielectric	Body Dia	Lead Pitch	Mftrs. List No.	Order Code
1000	Z5V	5.5	2.5	MCFU5102Z5	941-1828
2200	Z5V	5.5	2.5	MCFU5222Z5	941-1836
4700	Z5V	5.5	2.5	MCFU5472Z5	941-1844
10000	Y5V	5.5	2.5	MCFYU5103Z5	941-1852
22000	Y5V	5.5	5	MCFYU5223Z6	941-1860
47000	Y5V	6.5	5	MCFYU6473Z6	941-1879
100000	Y5V	6.2	5	MCFYU6104Z6	941-1887

208522.498390

		Price Each				
pF	Order Code	25+	100+	500+	1K+	10K+
1000	941-1828●	0.023	0.016	0.012	0.009	0.006
2200	941-1836●	0.023	0.016	0.012	0.009	0.006
4700	941-1844●	0.023	0.016	0.012	0.009	0.006
10000	941-1852●	0.055	0.042	0.035	0.024	0.014
22000	941-1860●	0.062	0.046	0.037	0.028	0.015
47000	941-1879●	0.066	0.050	0.040	0.031	0.016
100000	941-1887●	0.079	0.057	0.047	0.036	0.022

High Voltage

muRata



- High voltage disc ceramic capacitors
- Resin coated with tinned copper leads

Min lead length=25, Lead dia=0.65 (219-472=0.5)

Operating temperature -25°Cto +85°C Insulation resistance @ 1kV 10000MΩ

N.B. For ease of selection capacitance value is listed in both **nF** and **pF.**

1000 Volt d.c.

pF	nF	Tolerance	Temperature Coefficient	Body Dia.	Pitch	Mftrs. List No.	Order Code
47	0.047	±5%	+350 -1000ppm/°C	4.5	5	DEA1X3A470JC1B	952-7079
100	0.1	±10%	±10%	4.5	5	DEBB33A101KC1B	952-7109
220	0.22	±10%	±10%	4.5	5	DEBB33A221KC1B	952-7117
470	0.47	±10%	±10%	5	5	DEBB33A471KC1B	952-7125
1000	1	+80%20%	+22%-50%	5	5	DEBE33A102ZC1B	952-7184
2200	2.2	+80%20%	+30%-80%	6	5	DEBF33A222ZA2B	952-7230
4700	4.7	+80%20%	+30%-80%	7	5	DEBF33A472ZC1B	952-7249
10000	10	+80%20%	+30%-80%	10	5	DEBF33A103ZA2B	952-7222

Order Multiple=10
1000 Volt d.c.

		Price Each					
pF	Order Code	10+	50+	100+	500+	1K+	10K+
47	952-7079●	0.149	0.089	0.074	0.066	0.050	0.045
100	952-7109●	0.149	0.097	0.068	0.060	0.053	0.047
220	952-7117●	0.149	0.091	0.063	0.056	0.049	0.044
470	952-7125●	0.149	0.093	0.073	0.065	0.057	0.049
1000	952-7184●	0.149	0.095	0.067	0.061	0.054	0.047
2200	952-7230●	0.149	0.095	0.090	0.079	0.062	0.056
4700	952-7249●	0.168	0.160	0.155	0.139	0.107	0.095
10000	952-7222●	0.230	0.139	0.121	0.109	0.095	0.085

2000 Volt d.c.

pF	nF	Tolerance	Temperature Coefficient	Body Dia.	Pitch	Mftrs. List No.	Order Code
100	0.1	±10%	±10%	4.5	5	DEBB33D101KC1B	952-7133
220	0.22	±10%	±10%	4.5	5	DEBB33D221KC1B	952-7150
470	0.47	±10%	±10%	6	5	DEBB33D471KA2B	952-7168
1000	1	±10%	±10%	8	5	DEBB33D102KA2B	952-7141
2200	2.2	+80%20%	+30%-80%	9	5	DEBF33D222ZA2B	952-7265
4700	4.7	+80%20%	+30%-80%	9	5	DEBF33D472ZC1B	952-7273
10000	10	+80%20%	+30%-80%	12	7.5	DEBF33D103ZA3B	952-7257

Order Multiple=10
2000 Volt d.c.

		Price Each					
pF	Order Code	10+	50+	100+	500+	1K+	10K+
100	952-7133●	0.171	0.107	0.073	0.067	0.059	0.055
220	952-7150●	0.162	0.104	0.072	0.067	0.059	0.055
470	952-7168●	0.167	0.107	0.076	0.067	0.062	0.055
1000	952-7141●	0.200	0.124	0.085	0.077	0.070	0.062
2200	952-7265●	0.220	0.132	0.098	0.091	0.080	0.072
4700	952-7273●	0.198	0.194	0.168	0.159	0.142	0.124
10000	952-7257●	0.380	0.240	0.200	0.188	0.136	0.127

3150 Volt d.c.

pF	nF	Tolerance	Temperature Coefficient	Body Dia.	Pitch	Mftrs. List No.	Order Code
100	0.1	±10%	+350-1000ppm/°C	5	7.5	DEA1X3F101JA3B	952-7087
220	0.22	±10%	+350-1000ppm/°C	5	7.5	DEA1X3F221JA3B	952-7095
470	0.47	±10%	±10%	7	7.5	DEBB33F471KC3B	952-7176
1000	1	+80%20%	+22%-50%	7	7.5	DEBE33F102ZC3B	952-7192
2200	2.2	+80%20%	+22%-50%	10	7.5	DEBE33F222ZC3B	952-7206
4700	4.7	+80%20%	+22%-50%	13	7.5	DEBE33F472ZC3B	952-7214

Order Multiple=10
3150 Volt d.c.

		Price Each					
pF	Order Code	10+	50+	100+	500+	1K+	10K+
100	952-7087●	0.146	0.143	0.135	0.114	0.100	0.091
220	952-7095●	0.240	0.189	0.129	0.112	0.109	0.106
470	952-7176●	0.189	0.120	0.083	0.077	0.070	0.062
1000	952-7192●	0.189	0.124	0.118	0.111	0.101	0.090
2200	952-7206●	0.270	0.250	0.240	0.210	0.200	0.190
4700	952-7214●	0.360	0.350	0.330	0.320	0.290	0.240

6300 Volt d.c.

pF	nF	Tolerance	Temperature Coefficient	Body Dia.	Pitch	Mftrs. List No.	Order Code
22	0.022	±5%	+350-1000ppm/°C	9	10	DEC1X3J220JC4B	952-7281
47	0.047	±5%	+350-1000ppm/°C	9	10	DEC1X3J470JC4B	952-7290
100	0.1	±10%	±10%	9	10	DECB33J101KC4B	952-7303
220	0.22	±10%	±10%	9	10	DECB33J221KC4B	952-7311
470	0.47	±10%	±10%	10	10	DECB33J471KC4B	952-7320
1000	1	+80%20%	+22%-50%	11	10	DECE33J102ZC4B	952-7338
2200	2.2	+80%20%	+22%-50%	15	10	DECE33J222ZC4B	952-7346

RL Re-reeling available

Farnell

Ceramic Disc and Plate - continued

High Voltage - continued

208482

Order Multiple=10
6300 Volt d.c.

pF	Order Code	Price Each 10+	50+	100+	500+	1K+	10K+
22	**952-7281●**	0.270	0.250	0.220	0.197	0.173	0.151
47	**952-7290●**	0.270	0.250	0.220	0.197	0.173	0.151
100	**952-7303●**	0.320	0.220	0.149	0.129	0.099	0.089
220	**952-7311●**	0.320	0.220	0.152	0.129	0.099	0.089
470	**952-7320●**	0.310	0.210	0.145	0.114	0.100	0.097
1000	**952-7338●**	0.350	0.220	0.182	0.162	0.126	0.111
2200	**952-7346●**	0.620	0.390	0.310	0.280	0.220	0.200

ECK Series – High Voltage

Panasonic ideas for life



- ECK High voltage series
- Resin dipped ceramic disc
- Flame retardant insulating coating

Lead length=20

Operating temp.	1000V to 3000V	-25°C to +105°C	Insulation resistance @ 500V	10000MΩ
	4000V to 15000V	-25°C to +85°C	Proof voltage	1.5 VR
Tolerance	1000V to 3000V	±10%	Proof power factor	0.025
	4000V to 15000V	±20%		
Temp. coefficient	1000V to 3000V	±10%		
	4000V to 15000V	+20%30%		

1000 Volt d.c.

pF	nF	Body dia.	Body thickness	Lead pitch	Lead Dia.	Mftrs. List No.	Order Code
100	0.1	6	4.5	5	0.6	ECKA3A101KBP	969-7128
220	0.22	6	4.5	5	0.6	ECKA3A221KBP	969-7136
470	0.47	6	4.5	5	0.6	ECKA3A471KBP	969-7144
1000	1	9	4.5	5	0.6	ECKA3A102KBP	969-7152
2200	2.2	12	4.5	5	0.6	ECKA3A222KBP	969-7160
4700	4.7	15.5	4.5	10	0.65	ECKA3A472KBP	969-7179

Order Multiple = 10
1000 Volt d.c.

pF	Order Code	Price Each 10+	50+	100+	500+	1K+	10K+
100	**969-7128●†**	0.171	0.108	0.062	0.054	0.053	0.052
220	**969-7136●†**	0.196	0.108	0.068	0.058	0.056	0.055
470	**969-7144●†**	0.171	0.108	0.063	0.061	0.059	0.058
1000	**969-7152●†**	0.190	0.139	0.084	0.067	0.065	0.064
2200	**969-7160●†**	0.300	0.175	0.119	0.101	0.093	0.081
4700	**969-7179●†**	0.420	0.240	0.169	0.146	0.142	0.138

† Subject to design change - to be supplied with kinked leads

2000 Volt d.c.

pF	nF	Body dia.	Body thickness	Lead pitch	Lead Dia.	Mftrs. List No.	Order Code
100	0.1	7	5	7.5	0.6	ECKA3D101KBP	969-7195
220	0.22	7	5	7.5	0.6	ECKA3D221KBP	969-7209
470	0.47	7	5	7.5	0.6	ECKA3D471KBP	969-7217
1000	1	10	5	7.5	0.6	ECKA3D102KBP	969-7225
2200	2.2	14	5	10	0.65	ECKA3D222KBP	969-7233
4700	4.7	25	5	10	0.8	ECKA3D472KBP	969-7241

Order Multiple=10
2000 Volt d.c.

pF	Order Code	Price Each 10+	50+	100+	500+	1K+	10K+
100	**969-7195●†**	0.104	0.093	0.085	0.078	0.071	0.066
220	**969-7209●†**	0.185	0.169	0.082	0.078	0.073	0.066
470	**969-7217●†**	0.230	0.169	0.094	0.078	0.073	0.068
1000	**969-7225●†**	0.350	0.270	0.129	0.123	0.115	0.103
2200	**969-7233●†**	0.490	0.280	0.230	0.197	0.192	0.187
4700	**969-7241●†**	0.740	0.500	0.320	0.310	0.300	0.290

† Subject to design change - to be supplied with kinked leads

3000 Volt d.c.

pF	nF	Body dia.	Body thickness	Lead pitch	Lead Dia.	Mftrs. List No.	Order Code
100	0.1	7.5	6	7.5	0.65	ECKA3F101KBP	969-7250
220	0.22	7.5	6	7.5	0.65	ECKA3F221KBP	969-7268
470	0.47	9.5	6	7.5	0.65	ECKA3F471KBP	969-7276
1000	1	12.5	6	7.5	0.65	ECKA3F102KBP	969-7284
2200	2.2	17	6	10	0.65	ECKA3F222KBP	969-7292

Order Multiple = 10
3000 Volt d.c.

pF	Order Code	Price Each 10+	50+	100+	500+	1K+	10K+
100	**969-7250●†**	0.200	0.170	0.085	0.081	0.076	0.071
220	**969-7268●†**	0.120	0.105	0.094	0.085	0.076	0.070
470	**969-7276●†**	0.280	0.200	0.119	0.094	0.088	0.079
1000	**969-7284●†**	0.330	0.290	0.250	0.210	0.169	0.129
2200	**969-7292●†**	0.630	0.560	0.490	0.420	0.350	0.280

† Subject to design change - to be supplied with kinked leads

4000 Volt d.c.

pF	nF	Body dia.	Body thickness	Lead pitch	Lead Dia.	Mftrs. List No.	Order Code
220	0.22	7	7	7.5	0.65	ECKD3G221MDU	969-7306
470	0.47	8.5	7	7.5	0.65	ECKD3G471MDU	969-7314
1000	1	11.5	7	10	0.65	ECKD3G102MDU	969-7322
2200	2.2	16	7	10	0.65	ECKD3G222MDU	969-7330

Order Multiple=10
4000 Volt d.c.

pF	Order Code	Price Each 10+	50+	100+	500+	1K+	10K+
220	**969-7306●**	0.270	0.260	0.250	0.158	0.135	0.105
470	**969-7314●**	0.240	0.196	0.173	0.153	0.135	0.118
1000	**969-7322●**	0.410	0.350	0.320	0.280	0.250	0.210
2200	**969-7330●**	0.570	0.490	0.430	0.370	0.340	0.300

6000 Volt d.c.

pF	nF	Body dia.	Body thickness	Lead pitch	Lead Dia.	Mftrs. List No.	Order Code
100	0.1	8	8	10	0.65	ECKD3J101MDU	969-7349
220	0.22	8	8	10	0.65	ECKD3J221MDU	969-7357
470	0.47	11.5	8	10	0.8	ECKD3J471MDU	969-7365
1000	1	15	8	10	0.8	ECKD3J102MDU	969-7373
2200	2.2	21.5	8	10	0.8	ECKD3J222MDU	969-7381

pF	Order Code	Price Each 1+	50+	100+	500+	1K+	10K+
100	**969-7349●**	0.240	0.196	0.173	0.153	0.135	0.118
220	**969-7357●**	0.250	0.200	0.177	0.158	0.138	0.121
470	**969-7365●**	0.420	0.360	0.320	0.290	0.260	0.220
1000	**969-7373●**	0.780	0.660	0.590	0.520	0.450	0.400
2200	**969-7381●**	0.930	0.790	0.700	0.620	0.540	0.470

10000 Volt d.c.

pF	nF	Body dia.	Body thickness	Lead pitch	Lead Dia.	Mftrs. List No.	Order Code
100	0.1	8	9	10	0.65	ECKD4A101MDV	969-7403
220	0.22	9.5	9	10	0.65	ECKD4A221MDV	969-7411
470	0.47	13	9	10	0.8	ECKD4A471MDV	969-7420
1000	1	16.5	9	10	0.8	ECKD4A102MDU	969-7438

10000 Volt d.c.

pF	Order Code	Price Each 1+	50+	100+	500+	1K+	10K+
100	**969-7403●**	0.350	0.340	0.330	0.270	0.220	0.189
220	**969-7411●**	0.400	0.390	0.380	0.320	0.300	0.290
470	**969-7420●**	1.050	1.030	0.970	0.750	0.670	0.570
1000	**969-7438●**	1.680	1.650	1.530	1.180	1.060	0.910

15000 Volt d.c.

pF	nF	Body dia.	Body thickness	Lead pitch	Lead Dia.	Mftrs. List No.	Order Code
100	0.1	8	10	10	0.65	ECKD4C101MDV	969-7446
220	0.22	10	10	10	0.65	ECKD4C221MDV	969-7454
1000	1	19	10	10	0.8	ECKD4C102MDU	969-7470

208651

15000 Volt d.c.

pF	Order Code	Price Each 1+	50+	100+	500+	1K+	10K+
100	**969-7446●**	0.88	0.84	0.80	0.62	0.54	0.47
220	**969-7454●**	0.98	0.96	0.90	0.68	0.62	0.53
1000	**969-7470●**	1.53	1.36	1.21	1.10	1.01	0.93

High Voltage, Low Loss (0.2% max.)

BC COMPONENTS

2252 711, 712 series



- High voltage ceramic disc capacitors
- Low loss, max 0.2%
- High reliability
- High capacitance per unit volume

Operating temperature.	-30°C to +125°C	Insulation resistance	≤10,000 MΩ @ 500V dc
Capacitance tolerance	+10%	Dissipation factor	≤0.2%
Temperature coefficient(Y5R)	±15%	Climatic category	30/105/21(1000V)
Dielectric strength	200% of rated voltage		30/105/21(2000V)

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**

pF	nF	Body Dia.	Body Thickness	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
1000 Volt d.c.							
150	0.15	6.5	4.5	5	0.6	228271114116	114-1785
220	0.22	6.5	4.5	5	0.6	228271114216	114-1786
330	0.33	7.5	4.5	5	0.6	228271114316	114-1787
470	0.47	7.5	4.5	5	0.6	228271114416	114-1789
680	0.68	8.5	4.5	5	0.6	228271114616	114-1791
1000	1	10	4.5	5	0.6	228271114026	114-1792
1500	1.5	11	4.5	5	0.6	228271114126	114-1793
2200	2.2	13.5	4.5	7.5	0.6	228271137226	114-1794
3300	3.3	17.5	4.5	7.5	0.6	228271137326	114-1795
4700	4.7	19	4.5	10	0.6	228271148426	114-1796
2000 Volt d.c.							
100	0.1	6.5	4.5	5	0.6	228271214016	114-1797
150	0.15	6.5	4.5	5	0.6	228271214116	114-1798
220	0.22	7.5	4.5	5	0.6	228271214216	114-1799
330	0.33	7.5	4.5	5	0.6	228271214316	114-1800
470	0.47	8.5	4.5	5	0.6	228271214416	114-1801
680	0.68	10	4.5	5	0.6	228271214616	114-1802
1000	1	11	4.5	5	0.6	228271214026	114-1803
1500	1.5	13.5	4.5	7.5	0.6	228271237126	114-1804
2200	2.2	17.5	4.5	7.5	0.6	228271237226	114-1805
3300	3.3	19	4.5	10	0.6	228271248326	114-1807

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Order Multiple=5

pF	Order Code	Price Each 5+	50+	100+	500+	1K+	3K+
1000 Volt d.c.							
150	**114-1785●**	0.062	0.052	0.048	0.036	0.032	0.028
220	**114-1786●**	0.075	0.063	0.058	0.044	0.039	0.034
330	**114-1787●**	0.089	0.073	0.065	0.050	0.046	0.041
470	**114-1789●**	0.089	0.073	0.065	0.050	0.046	0.041

RL Re-reeling available

Farnell

Order Multiple=5		Price Each					
pF	Order Code	5+	50+	100+	500+	1K+	3K+
1000 Volt d.c.							
680	114-1791●	0.104	0.085	0.081	0.061	0.050	0.046
1000	114-1792●	0.061	0.057	0.054	0.051	0.049	0.046
1500	114-1793●	0.132	0.113	0.103	0.095	0.083	0.067
2200	114-1794●	0.155	0.148	0.138	0.123	0.105	0.089
3300	114-1795●	0.162	0.151	0.148	0.131	0.115	0.091
4700	114-1796●	0.300	0.290	0.280	0.250	0.200	0.167
2000 Volt d.c.							
100	114-1797●	0.079	0.065	0.061	0.045	0.039	0.036
150	114-1798●	0.076	0.063	0.060	0.044	0.038	0.035
220	114-1799●	0.099	0.083	0.079	0.058	0.053	0.044
330	114-1800●	0.072	0.061	0.058	0.043	0.039	0.033
470	114-1801●	0.116	0.097	0.094	0.071	0.062	0.054
680	114-1802●	0.145	0.118	0.111	0.085	0.074	0.064
1000	114-1803●	0.160	0.142	0.137	0.118	0.104	0.084
1500	114-1804●	0.182	0.173	0.170	0.146	0.129	0.103
2200	114-1805●	0.250	0.240	0.220	0.192	0.169	0.138
3300	114-1807●	0.280	0.260	0.250	0.220	0.198	0.156

2222 680 Series – Low K, 100 Volt d.c.



- 2.54mm pitch
- Low loss, close tolerance
- High stability for temperature compensation in tuned circuits

Lead length=13, Lead dia.=0.6

Operating temperature	-55°C to +85°C	Tolerance	±0.25pF for C ≤8.2pF
Insulation resistance	>100000MΩ		±2% for C ≥10pF
Temperature coefficient	0 ± 30ppm/°C for C ≤18pF	Proof voltage	300V
	-150 ± 30ppm/°C for C 22pF to 150pF	Climatic category	55/085/21
	-750 ± 120ppm/°C for ≥180pF		

	Dimensions				Order
pF	H	W	D	Mftrs. List No.	Code
1.8	5	3.6	2.3	2222 680 09188	113-8829
2.2	5	3.6	2.3	2222 680 09228	113-8831
2.7	5	3.6	2.3	2222 680 09278	113-8833
3.3	5	3.6	2.3	2222 680 09338	113-8834
3.9	5	3.6	2.3	2222 680 09398	113-8835
4.7	5	3.6	2.3	2222 680 09478	113-8836
5.6	5	3.6	2.3	2222 680 09568	113-8837
6.8	5	3.6	2.3	2222 680 09688	113-8838
8.2	5	3.6	2.3	2222 680 09828	113-8839
10	5	3.6	2.3	2222 680 10109	113-8840
12	5	3.6	2.3	2222 680 10129	113-8841
15	5	3.6	2.3	2222 680 10159	113-8842
18	5	3.6	2.3	2222 680 10189	113-8843
22	5	3.6	2.3	2222 680 34229	113-8845
27	5	3.6	2.3	2222 680 34279	113-8846
33	5	3.6	2.3	2222 680 34339	113-8847
39	5.3	3.9	2.3	2222 680 34399	113-8848
47	5.3	3.9	2.3	2222 680 34479	113-8849
56	6	4.5	2.3	2222 680 34569	113-8850
68	6	4.5	2.3	2222 680 34689	113-8851
82	6.6	5.1	2.3	2222 680 34829	113-8852
100	6.6	5.1	2.3	2222 680 34101	113-8854
120	7.7	6.2	2.3	2222 680 34121	113-8855
150	7.7	6.2	2.3	2222 680 34151	113-8857
180	7.7	6.2	2.3	2222 680 58181	113-8858
220	7.7	6.2	2.3	2222 680 58221	113-8859
270	10.3	6.2	2.3	2222 680 58271	113-8860
330	10.3	6.2	2.3	2222 680 58331	113-8861

208601

Order Multiple=10		Price Each			
pF	Order Code	10+	100+	1K+	10K+
1.8	113-8829●	0.190	0.101	0.075	0.057
2.2	113-8831●	0.157	0.084	0.066	0.053
2.7	113-8833●	0.166	0.089	0.067	0.050
3.3	113-8834●	0.118	0.061	0.048	0.037
3.9	113-8835●	0.164	0.088	0.067	0.050
4.7	113-8836●	0.150	0.077	0.062	0.047
5.6	113-8837●	0.151	0.078	0.064	0.050
6.8	113-8838●	0.148	0.077	0.062	0.047
8.2	113-8839●	0.145	0.077	0.062	0.047
10	113-8840●	0.150	0.077	0.062	0.047
12	113-8841●	0.151	0.078	0.064	0.050
15	113-8842●	0.148	0.077	0.062	0.047
18	113-8843●	0.148	0.076	0.060	0.047
22	113-8845●	0.143	0.075	0.060	0.045
27	113-8846●	0.155	0.079	0.065	0.050
33	113-8847●	0.151	0.078	0.062	0.047
39	113-8848●	0.126	0.068	0.045	0.030
47	113-8849●	0.157	0.084	0.066	0.053
56	113-8850●	0.134	0.072	0.056	0.043
68	113-8851●	0.173	0.092	0.071	0.056
82	113-8852●	0.182	0.097	0.075	0.058
100	113-8854●	0.191	0.101	0.078	0.060
120	113-8855●	0.220	0.111	0.090	0.066
150	113-8857●	0.230	0.129	0.101	0.076
180	113-8858●	0.220	0.111	0.090	0.066
220	113-8859●	0.220	0.113	0.091	0.068
270	113-8860●	0.280	0.141	0.109	0.084
330	113-8861●	0.300	0.154	0.120	0.091

£/€ 40,000 PRICES REDUCED

2222 683 Series – Low K, 100 Volt d.c.



- 5.08mm pitch
- Low loss, close tolerance
- High stability for temperature compensation in tuned circuits

W=6, D=2.5
Lead length=4
Lead dia.=0.6

Operating temperature	-55°C to +85°C	Insulation resistance	>10,000MΩ
Temperature coefficient	0ppm/°C for C ≤ 18pF	Tolerance	±2% or ±0.25pF whichever is larger
	-150ppm/°C for C 22pF to 150pF		
	-750ppm/°C for 180pF to 330pF	Proof voltage	300V
	-1500ppm/°C for C 470pF	Climatic category	55/85/21

pF	Height	Mftrs. List No.	Order Code	pF	Height	Mftrs. List No.	Order Code
1.8	5	2222 683 09188	113-8884	39	6	2222 683 34399	113-8902
2.2	5	2222 683 09228	113-8886	47	6	2222 683 34479	113-8903
3.3	5	2222 683 09338	113-8887	56	7	2222 683 34569	113-8904
4.7	5	2222 683 09478	113-8888	68	7	2222 683 34689	113-8905
5.6	5	2222 683 09568	113-8889	82	8	2222 683 34829	113-8906
6.8	5	2222 683 09688	113-8890	100	8	2222 683 34101	113-8907
8.2	5	2222 683 09828	113-8891	120	11	2222 683 34121	113-8908
10	5	2222 683 10109	113-8892	150	11	2222 683 34151	113-8909
12	5	2222 683 10129	113-8895	180	8	2222 683 58181	113-8910
15	5	2222 683 10159	113-8896	220	8	2222 683 58221	113-8912
18	5	2222 683 10189	113-8897	270	11	2222 683 58271	113-8913
22	5	2222 683 34229	113-8898	330	11	2222 683 58331	113-8914
27	6	2222 683 34279	113-8899	470	11	2222 683 70471	113-8915
33	6	2222 683 34339	113-8901				

208564

Order Multiple=10		Price Each			
pF	Order Code	10+	100+	1K+	10K+
1.8	113-8884●	0.188	0.102	0.082	0.058
2.2	113-8886●	0.156	0.086	0.069	0.050
3.3	113-8887●	0.151	0.078	0.062	0.047
4.7	113-8888●	0.150	0.077	0.062	0.047
5.6	113-8889●	0.151	0.078	0.064	0.050
6.8	113-8890●	0.115	0.060	0.048	0.037
8.2	113-8891●	0.145	0.077	0.062	0.047
10	113-8892●	0.150	0.077	0.062	0.047
12	113-8895●	0.151	0.078	0.064	0.050
15	113-8896●	0.148	0.077	0.062	0.047
18	113-8897●	0.148	0.076	0.060	0.047
22	113-8898●	0.143	0.075	0.060	0.045
27	113-8899●	0.155	0.079	0.065	0.050
33	113-8901●	0.151	0.078	0.062	0.047
39	113-8902●	0.154	0.079	0.065	0.052
47	113-8903●	0.157	0.084	0.066	0.053
56	113-8904●	0.167	0.090	0.069	0.055
68	113-8905●	0.173	0.092	0.071	0.056
82	113-8906●	0.182	0.097	0.075	0.058
100	113-8907●	0.148	0.078	0.061	0.046
120	113-8908●	0.220	0.111	0.090	0.066
150	113-8909●	0.176	0.100	0.078	0.053
180	113-8910●	0.220	0.111	0.090	0.066
220	113-8912●	0.220	0.113	0.091	0.068
270	113-8913●	0.280	0.141	0.109	0.084
330	113-8914●	0.300	0.154	0.120	0.091
470	113-8915●	0.300	0.159	0.126	0.089

2222 630 Series – Medium K, 100 Volt d.c.



- 2.54mm pitch
- General purpose
- For coupling/decoupling applications etc.

Lead length = 13
Lead dia = 0.6

Operating temperature	-55°C to +85°C	Tolerance	±10%
Insulation resistance	4000MΩ	Proof voltage	200V
Temperature coefficient	-30%to +20	Climatic category	55/125/56

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**.

		Dimensions				
pF	nF	H	W	D	Mftrs. List No.	Order Code
390	0.39	5	3.6	2.3	2222 630 08391	113-8862
470	0.47	5	3.6	2.3	2222 630 08471	113-8863
560	0.56	5	3.6	2.3	2222 630 08561	113-8864
680	0.68	5	3.6	2.3	2222 630 08681	113-8865
820	0.82	5	3.6	2.3	2222 630 08821	113-8866
1000	1	5	3.6	2.3	2222 630 08102	113-8867
1200	1.2	5.3	3.9	2.3	2222 630 08122	113-8869
1500	1.5	5.3	3.9	2.3	2222 630 08152	113-8871
1800	1.8	6	4.5	2.3	2222 630 08182	113-8872
2200	2.2	6	4.5	2.3	2222 630 08222	113-8873
2700	2.7	6.6	5.1	2.3	2222 630 08272	113-8874
3300	3.3	6.6	5.1	2.3	2222 630 08332	113-8875
4700	4.7	7.7	6.2	2.3	2222 630 08472	113-8876

208586

Order Multiple=10		Price Each			
pF	Order Code	10+	100+	1K+	10K+
390	113-8862●	0.120	0.064	0.050	0.038
470	113-8863●	0.120	0.064	0.050	0.038
560	113-8864●	0.126	0.066	0.056	0.040
680	113-8865●	0.117	0.062	0.047	0.038
820	113-8866●	0.130	0.069	0.055	0.040
1000	113-8867●	0.122	0.065	0.053	0.040
1200	113-8869●	0.136	0.075	0.060	0.042
1500	113-8871●	0.151	0.078	0.066	0.044
1800	113-8872●	0.158	0.086	0.068	0.050
2200	113-8873●	0.152	0.078	0.064	0.050
2700	113-8874●	0.178	0.098	0.078	0.056
3300	113-8875●	0.187	0.100	0.077	0.059
4700	113-8876●	0.188	0.100	0.077	0.060

RL Re-reeling available

Ceramic Disc and Plate - continued

2222 630 Series – Medium K, 100 Volt d.c.



- General purpose
- For coupling/decoupling applications etc.

Lead length=4
Lead dia.=0.6

Operating Temperature	-55°C to +85°C	Tolerance	±10%
Insulation Resistance	4000Mohm	Voltage Rating (DC)	100V
Temperature Coefficient	-30% to +20%	Climatic Category	55/125/56

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**.

pF	nF	Dimensions (mm) Height	Width	Mftrs. List No.	Order Code
Style 1 (lead pitch = 2.54mm)					
470	0.47	5	3.6	2222-630-18471	163-3987
1000	1	5	3.6	2222-630-18102	163-3988
2200	2.2	6	4.5	2222-630-18222	163-3989
3300	3.3	6.8	5.3	2222-630-18332	163-3990
4700	4.7	7.7	6.2	2222-630-18472	163-3991
Style 2 (lead pitch = 5.08mm)					
390	0.39	6.3	3.6	2222 630 19391	113-8916
470	0.47	6.3	3.6	2222 630 19471	113-8917
560	0.56	6.3	3.6	2222 630 19561	113-8918
680	0.68	6.3	3.6	2222 630 19681	113-8919
820	0.82	6.3	3.6	2222 630 19821	113-8920
1000	1	6.3	3.6	2222 630 19102	113-8921
1500	1.5	6.7	3.9	2222 630 19152	113-8922
1800	1.8	7.3	4.5	2222 630 19182	113-8924
2200	2.2	7.3	4.5	2222 630 19222	113-8926
2700	2.7	8.1	5.3	2222 630 19272	113-8927
3300	3.3	8.1	5.3	2222 630 19332	113-8928
3900	3.9	9	6.2	2222 630 19392	113-8929
4700	4.7	9	6.2	2222 630 19472	113-8931

208545

Order Multiple=10 pF	Order Code	Price Each 10+	100+	1K+	10K+
Style 1 (lead pitch = 2.54mm)					
470	NEW **163-3987●**	0.144	0.082	0.065	0.044
1000	NEW **163-3988●**	0.144	0.082	0.065	0.044
2200	NEW **163-3989●**	0.165	0.090	0.071	0.048
3300	NEW **163-3990●**	0.175	0.099	0.078	0.054
4700	NEW **163-3991●**	0.220	0.119	0.095	0.064
Style 2 (lead pitch = 5.08mm)					
390	**113-8916●**	0.120	0.064	0.050	0.038
470	**113-8917●**	0.120	0.064	0.050	0.038
560	**113-8918●**	0.117	0.062	0.047	0.038
680	**113-8919●**	0.117	0.062	0.047	0.038
820	**113-8920●**	0.120	0.064	0.050	0.038
1000	**113-8921●**	0.122	0.065	0.053	0.040
1500	**113-8922●**	0.136	0.071	0.058	0.043
1800	**113-8924●**	0.158	0.086	0.068	0.050
2200	**113-8926●**	0.152	0.078	0.064	0.050
2700	**113-8927●**	0.178	0.098	0.078	0.056
3300	**113-8928●**	0.187	0.100	0.077	0.059
3900	**113-8929●**	0.220	0.119	0.095	0.066
4700	**113-8931●**	0.188	0.100	0.077	0.060

2222 629 Series – High K, 63 Volt d.c.



- General purpose
- For coupling/decoupling applications etc.

Lead dia.=0.6
Lead pitch=2.54mm

Operating Temperature	-10°C to +85°C	Tolerance	+80%, -20%
Insulation Resistance	4000Mohm	Voltage Rating (DC)	63V dc
Temperature Coefficient	-20% to +85%	Climatic Category	10/085/21

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**.

pF	nF	Dimensions (mm) Height	Width	Mftrs. List No.	Order Code
Style 1 (lead length = 4mm)					
10000	10	6	4.5	2222-629-18013	163-3986
Style 1 (lead length = 13mm)					
1000	1	5	3.6	2222 629 08102	113-8877
2200	2.2	5	3.6	2222 629 08222	113-8878
4700	4.7	5	3.6	2222 629 08472	113-8879
10000	10	6	4.5	2222 629 08103	113-8880
22000	22	7.7	6.2	2222 629 08223	113-8883

208575

Order Multiple=10 pF	Order Code	Price Each 10+	100+	1K+	10K+
Style 1 (lead length = 4mm)					
10000	NEW **163-3986●**	0.134	0.077	0.061	0.041
Style 1 (lead length = 13mm)					
1000	**113-8877●**	0.106	0.055	0.045	0.034
2200	**113-8878●**	0.133	0.070	0.057	0.043
4700	**113-8879●**	0.097	0.051	0.042	0.032
10000	**113-8880●**	0.158	0.081	0.065	0.045
22000	**113-8883●**	0.154	0.081	0.064	0.049

2222 629 Series – High K, 63 Volt d.c.



- 5.08mm pitch
- General purpose
- For coupling/decoupling applications etc.

W= 6.5, D=2.1
Lead length=4
Lead dia.=0.6

Operating temperature	-10°C to +85°C	Tolerance	20% to +80%
Insulation resistance	4000MΩ	Power factor	0.035
Temperature coefficient	-60%to +15%	Climatic category	10/085/21

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**.

pF	nF	Height	Mftrs. List No.	Order Code	pF	nF	Height	Mftrs. List No.	Order Code
1000	1	6	2222 629 19102	113-8932	10000	10	7	2222 629 19103	113-8937
2200	2.2	6	2222 629 19222	113-8934	22000	22	9	2222 629 19223	113-8938
4700	4.7	6	2222 629 19472	113-8936					

208529

Order Multiple=10 pF	Order Code	Price Each 10+	100+	1K+	10K+
1000	**113-8932●**	0.136	0.071	0.058	0.043
2200	**113-8934●**	0.133	0.070	0.057	0.043
4700	**113-8936●**	0.125	0.066	0.054	0.041
10000	**113-8937●**	0.158	0.081	0.065	0.045
22000	**113-8938●**	0.198	0.104	0.082	0.063

Trimmers

High Power Capacitor

muRata innovator in Electronics



4.2(W)x5.2(L)x2.6max.(H)mm

- To meet high power application due to withstanding voltage 550Vdc
- Extremely high self resonant frequency. (More than 3GHz at 1.5pF setting)
- High Q value in more than VHF,UHF and Micro wave band. (More than 200 in 500MHz, C max.)

Applications:
- High frequency electric circuit
- High power radio transmission
- Transmitting power amplifier for Cellular Base Station

Inductance (min) pF	Inductance (max) pF	Volts V	Mftrs. List No.	Order Code
0.4	1.5	250	TZW4Z1R5A001R00	111-5036

423318

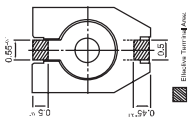
Order Code	Price Each 1+	25+	50+	250+	500+
SMD **111-5036●**	5.21	3.76	3.14	2.74	2.31

CTZ2 Series - Surface Mount

AVX A KYOCERA GROUP COMPANY

SMD





Supplied on 12mm embossed tape (reel=2000pcs)
L=3.0, W=2.5, H=1.3

- Ultra small surface mount trimmers capacitors
- Extremely low profile 1.3mm
- Fully washable and suitable for use with reflow soldering

Operating temperature -25°C to +85°C

Capacitance Min. (pF)	Max.	Temperature Coefficient ppm/°C	Q Min. @ 1 MHz	Voltage Rating V dc	Mftrs. List No.	Order Code
2.5	5	±500	150	25	CTZ2E-05C-W2-P	118-9325
3	10	±500	150	25	CTZ2E-10A-W2-P	118-9326
5	20	±500	150	25	CTZ2E-20C-W2-P	118-9327

208649

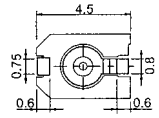
Capacitance (pF) Min.	Max.	Order Code	Price Each 1+	25+	100+	500+	1K+
2.5	5	SMD **118-9325●**	1.10	1.02	0.90	0.78	0.69
3	10	SMD **118-9326●**	0.95	0.81	0.71	0.63	0.49
5	20	SMD **118-9327●**	0.95	0.81	0.71	0.63	0.49

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TZC03 Series – Surface Mount





- Low profile surface mount ceramic trimmer capacitor
- Compatible with both auto-placement and reflow soldering processes
- Colour coded for easy selection
- Easily adjusted using standard trimming tool

Operating temperature -25°C to +85°C

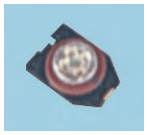
Capacitance (pF) Min.	Max.	Temperature Coefficient ppm/°C	Q Min. @ 1 MHz	Voltage Rating V dc	Mftrs. List No.	Order Code
1.4	3	NPO±300	300	100	TZC3Z030A110B00	952-8687
2	6	NPO±300	500	100	TZC3Z060A110B00	952-8695
3	10	NPO±300	500	100	TZC3R100A110B00	952-8679
5	20	NPO±500	300	100	TZC3P200A110B00	952-8652
6	30	NPO±500	300	100	TZC3P300A110B00	952-8660

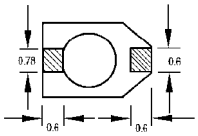
227186

Order Multiple=5

Capacitance (pF) Min.	Max.	Colour	Order Code	Price Each 5+	100+	500+	1K+
1.4	3	Brown	SMC 952-8687●	0.71	0.54	0.44	0.40
2	6	Blue	SMC 952-8695●	0.67	0.56	0.50	0.45
3	10	White	SMC 952-8679●	0.67	0.56	0.50	0.45
5	20	Red	SMC 952-8652●	0.71	0.54	0.44	0.40
6	30	Green	SMC 952-8660●	0.71	0.54	0.44	0.40

CTZ3 Series — Surface Mount





L=4.5, W=3.2, H=1.8
Supplied on 12mm embossed tape (reel=1000pcs)

- Surface mount trimmer capacitors
- Extremely low profile of 1.8mm
- Fully washable and suitable for use with reflow soldering

Operating temperature -25°C to +85°C

Capacitance (pF) Min.	Max.	Temperature Coefficient ppm/°C	Q Min. @ 1MHz Max.	Voltage Rating V dc	Mftrs. List No.	Order Code
1	3	±500	300	25	CTZ3E-03A-W1-PF	118-9301
1.5	5	±500	300	25	CTZ3E-05A-W1-PF	118-9302
5	20	±500	300	25	CTZ3E-20C-W1-PF	118-9304
5	30	±500	300	25	CTZ3E-30C-W1-PF	118-9305
5	40	±500	300	25	CTZ3E-40C-W1-PF	118-9306

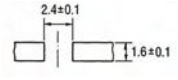
208443

Order Multiple=5

Capacitance (pF) Min.	Max.	Order Code	Price Each 5+	25+	100+	500+	1K+
1	3	SMD 118-9301●	0.97	0.90	0.74	0.64	0.58
1.5	5	SMD 118-9302●	0.97	0.90	0.74	0.64	0.58
5	20	SMD 118-9304●	0.78	0.61	0.51	0.46	0.41
5	30	SMD 118-9305●	0.81	0.68	0.60	0.53	0.41
5	40	SMD 118-9306●	1.00	0.85	0.75	0.66	0.46

TZBX4 Series — Surface Mount





PCB layout

L=4.5, W=4.0, H=3.0

Supplied on 12mm embossed tape (reel=500 pcs)

Operating temperature -25°C to +85°C

- Washable chip trimmer capacitor
- Thermosetting resin case

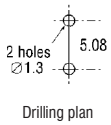
Capacitance Min.	Max.	Temperature Coefficient ppm/°C	Q Min. @ 1MHz Max.	Voltage Rating V dc	Mftrs. List No.	Order Code
1.4	3	±200	300	100	TZB4Z030AB10R00	952-8610
2	6	±200	300	100	TZB4Z060AB10R00	952-8628
3	10	±300	300	100	TZB4Z100AB10R00	952-8636
4	25	±300	300	50	TZB4Z250AB10R00	952-8644

208441

Order Multiple=5

Capacitance (pF) Min.	Max.	Colour Code	Order Code	Price Each 5+	50+	100+	500+	1K+
1.4	3	Brown	SMD 952-8610●	0.42	0.35	0.32	0.29	0.26
2	6	Blue	SMD 952-8628●	0.42	0.35	0.32	0.29	0.26
3	10	White	SMD 952-8636●	0.42	0.35	0.32	0.29	0.26
4	25	Black	SMD 952-8644●	0.69	0.58	0.52	0.47	0.42

Miniature Ceramic



Drilling plan



- Ultra miniature ceramic trimmer capacitor
- 5mm Pitch

H (above board)=6.0, Body dia=5.0, W (max)=5.8

Insulation resistance 10MΩ Operating temperature -20°C to +80°C

Capacitance (pF) Min.	Max.	Temperature Coefficient ppm/°C	Q Min. @ 1MHz Max.	Voltage Rating V dc	Order Code
1.5	6	NPO ±250	300	200	121-9027
2.8	12.5	N600 ±250	300	200	121-9028
3.5	20	N750 ±300	300	200	121-9031
5	30	N1500 ±300	300	200	121-9032
5.5	50	N1500 ±500	300	200	121-9033

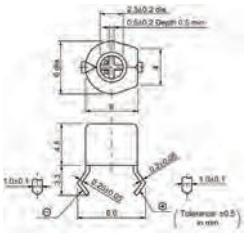
208608

Order Multiple=5

Capacitance (pF) Min.	Max.	Colour Code	Order Code	Price Each 5+	100+	1K+	5K+
1.5	6	Red	121-9027●	0.73	0.62	0.53	0.51
2.8	12.5	Nil	121-9028●	0.73	0.62	0.53	0.51
3.5	20	Blue	121-9031●	0.73	0.62	0.53	0.51
5	30	Yellow	121-9032●	0.73	0.62	0.53	0.51
5.5	50	Green	121-9033●	0.73	0.62	0.53	0.51

TZ03 Series – Miniature Ceramic





New

Tolerance +50%, -0% Q (min) 500 at 1MHz Cmax
Voltage Rating 100V dc (6pF to 50pF = 300 at 1MHz Cmax)

Mftrs. List No.		Order Code	Mftrs. List No.		Order Code
TZ03Z050F169B00	=	168-5436	TZ03R300F169B00	=	168-5439
TZ03T110F169B00	=	168-5437	TZ03Z500F169B00	=	168-5440
TZ03R200F169B00	=	168-5438			

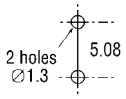
528630

Order Multiple = 5

Capacitance Range	Order Code	Price Each 5+	50+	100+	500+	1K+
1.5pF to 5pF	168-5436●	0.260	0.240	0.200	0.189	0.173
3pF to 11pF	168-5437●	0.260	0.240	0.200	0.189	0.173
4.2pF to 20pF	168-5438●	0.260	0.240	0.200	0.189	0.173
5.2pF to 30pF	168-5439●	0.260	0.240	0.200	0.189	0.173
6pF to 50pF	168-5440●	0.470	0.450	0.410	0.370	0.330

2222 809 05 Series - PTFE Film





Drilling plan

H (above board)=11, W=7.4, D=6.7

Voltage rating 300V d.c. Climatic category **(IEC68)** 40/125/21
Q min @ 1MHz 300 Operating temperature -40°C to +125°C

N.B. Flux Guard treatment to prevent flux penetration.

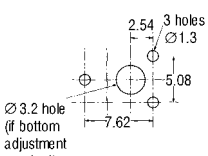
Mftrs. List No: 228180905215 = 121-5713 228180905217 = 121-5714

208611

Capacitance (pF) Min.	Max.	Colour Code	Order Code	Price Each 1+	100+	1K+	3K+
1	3.5	Orange	121-5713●	1.51	0.96	0.80	0.63
2	18	Red	121-5714●	2.24	1.37	1.09	0.87

2222 809 08 Series - PTFE Film





Drilling plan

H (above board)=11, W=7.4, D=6.7

Voltage rating 300V d.c. Climatic category **(IEC68)** 40/125/21
Q min @ 1MHz 300 Operating temperature -40°C to +125°C

Mftrs. List No: 228180908002 = 121-5715 228180908003 = 121-5716

RL Re-reeling available

Farnell

Trimmers - continued

2222 809 08 Series - PTFE Film - continued

208612

Capacitance (pF) Min.	Max.	Colour Code	Order Code	Price Each 1+	100+	1K+	3K+
4	40	Yellow	121-5715●	2.65	1.59	1.30	1.02
5	57	Blue	121-5716●	3.50	2.11	1.70	1.62

TZ Series Trimming Tool

muRata innovator in Electronics



- Ceramic bladed trimming tool with plastic handle
- Standard type (minus slot)- blade width 2.2mm
- Ideal for use with TZC03 trimmer capacitors
- Also suitable for other standard trimmers

227188

Mftrs. List No.	Order Code	Price Each 1+	10+	50+	100+
KMDR010	353-1764	5.05	4.78	4.26	3.79

Polyester

Capacitance Conversion Table

0.000001µF	=	0.001nF	=	1pF
0.00001µF	=	0.01nF	=	10pF
0.0001µF	=	0.1nF	=	100pF
0.001µF	=	1nF	=	1000pF
0.01µF	=	10nF	=	10000pF
0.1µF	=	100nF	=	100000pF
1µF	=	1000nF	=	1000000pF
10µF	=	10000nF	=	10000000pF
100µF	=	100000nF	=	100000000pF

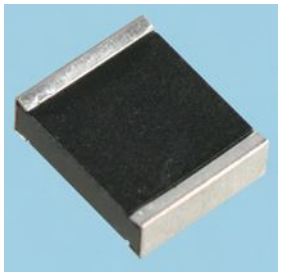
High performance with a fairly high capacitance per unit volume make these suitable for general purpose applications such as coupling and decoupling.

208415

2220 Series – Surface Mount

WIMA

SMD



- Metallised polyester film surface mount
- Applications include signal coupling and bypassing
- Flame retardant plastic case
- Low profile high reliability

Tolerance	±20%
Climatic category	55/100/21
Operating temperature	-55°C to +100°C
Case tolerance	±0.2

µF	nF	Dimensions H	W	D	Qty Per Reel	Mftrs. List No.	Order Code
100 Volt d.c.							
0.01	10	5.7	5.1	3.5	800	SMD2220 100V 0.01UF	100-5950
0.022	22	5.7	5.1	2.5	800	SMD2220 100V 0.022UF	100-5951
0.033	33	5.7	5.1	2.5	800	SMD2220 100V 0.033UF	100-5952
0.047	47	5.7	5.1	3	650	SMD2220 100V 0.047UF	100-5953
0.068	68	5.7	5.1	3	650	SMD2220 100V 0.068UF	100-5954
0.1	100	5.7	5.1	4	500	SMD2220 100V 0.1UF	100-5955

208459

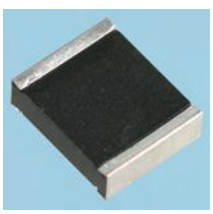
Order Multiple=5
100 Volt d.c.

µF	Order Code	Price Each 5+	10+	50+	100+	500+
0.01	SMD 100-5950●	0.310	0.270	0.240	0.173	0.163
0.022	SMD 100-5951●	0.310	0.270	0.240	0.173	0.163
0.033	SMD 100-5952●	0.310	0.270	0.240	0.173	0.163
0.047	SMD 100-5953●	0.330	0.290	0.260	0.200	0.173
0.068	SMD 100-5954●	0.350	0.320	0.300	0.220	0.186
0.1	SMD 100-5955●	0.420	0.340	0.320	0.260	0.200

2824–6560 Series – Surface Mount

WIMA

SMD



- Metallised polyester film surface mount capacitors
- Large solder pads for excellent solderability
- Flame retardant plastic case to **UL94V-0**

Temperature range	-55°C to +100°C
Tolerance	±20%
Climatic category	55/100/56

µF	nF	Dimensions W	D	H	Qty Per Reel	Order Code
63 Volt d.c. 2824 Series						
0.15	150	6.1	3.5	7.2	3000	100-5964
0.1	100	6.1	3.5	7.2	3000	100-5965
0.22	220	6.1	3.5	7.2	1500	100-5966
0.33	330	6.1	3.5	7.2	1200	100-5967
0.47	470	6.1	3.5	7.2	1200	100-5968
100 Volt d.c. 2824 Series						
0.01	10	6.1	3.5	7.2	3000	100-5961
0.068	68	6.1	3.5	7.2	3000	100-5963

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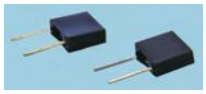
Order Multiple=5
63 Volt d.c. - 2824 Series

µF	Order Code	Price Each 5+	10+	50+	100+	500+
0.15	SMD 100-5964●	0.460	0.450	0.390	0.250	0.240
0.1	SMD 100-5965●	0.370	0.310	0.220	0.170	0.167
0.22	SMD 100-5966●	0.490	0.440	0.300	0.250	0.220
0.33	SMD 100-5967●	0.460	0.400	0.280	0.250	0.230
0.47	SMD 100-5968●	0.680	0.590	0.430	0.360	0.330
100 Volt d.c. - 2824 Series						
0.01	SMD 100-5961●	0.310	0.270	0.230	0.150	0.146
0.068	SMD 100-5963●	0.300	0.260	0.183	0.144	0.143

Polyester Capacitors

5mm

multicomp



Voltage Rating	63V
Tolerance	±10%
Tolerance	5mm

New

- A range of industry standard 5mm pitch metallised polyester capacitors
- Stacked construction
- Epoxy resin encapsulated in flame retardent plastic cases with stand-off feet
- Excellent value for money

nF	µF	Dimensions H	W	D	Mftrs. List No.	Order Code
1	0.001	6.5	7.2	2.5	MCPBSFC-1J102KA45	168-5470
2.2	0.0022	6.5	7.2	2.5	MCPBSFC-1J222KA45	168-5471
4.7	0.0047	6.5	7.2	2.5	MCPBSFC-1J472KA45	168-5472
10	0.01	6.5	7.2	2.5	MCPBSFC-1J103KA45	168-5473
22	0.022	6.5	7.2	2.5	MCPBSFC-1J223KA45	168-5474
47	0.047	6.5	7.2	2.5	MCPBSFC-1J473KA45	168-5475
100	0.1	6.5	7.2	2.5	MCPBSFC-1J104KA45	168-5476
220	0.22	6.5	7.2	2.5	MCPBSFC-1J224KA45	168-5477
471	0.471	6.5	7.2	2.5	MCPBSFC-1J4474KB45	168-5479
1000	1	10	7.2	5	MCPBSFC-1J105KB45	168-5481

528627

µF	Order Code	Price Each 10+	50+	100+	250+	1K+
0.001	168-5470●	0.085	0.081	0.065	0.059	0.050
0.0022	168-5471●	0.085	0.081	0.065	0.059	0.050
0.0047	168-5472●	0.085	0.081	0.065	0.059	0.050
0.01	168-5473●	0.088	0.084	0.067	0.060	0.051
0.022	168-5474●	0.085	0.081	0.065	0.059	0.050
0.047	168-5475●	0.085	0.081	0.065	0.059	0.050
0.1	168-5476●	0.086	0.082	0.066	0.059	0.050
0.22	168-5477●	0.100	0.095	0.076	0.068	0.058
0.471	168-5479●	0.190	0.181	0.145	0.131	0.111
1	168-5481●	0.250	0.238	0.190	0.171	0.145

MKS02 Series

WIMA



- MKS02 metallised polyester
- Sub miniature 2.5mm lead spacing
- Flame retardant case to **UL94V-0**

Lead length=5, Lead dia.=0.4, Lead Pitch=2.5

Operating temp.	-55°C to +100°C	Climatic category	55/100/21
Insulation resistance	C <0.033µF @ 50V 3750mΩ @ 63V 10000mΩ	Tolerance	±20%
	C ≥0.033µF 5000 sec (MΩ µF)	Power factor @ 1kHz, 20°C	0.008
Temp. coefficient	+330ppm/°C (+20% to +70°C)		

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**.

µF	nF	Dimensions D	W	H	Order Code
63 Volt d.c. (40 Volt a.c.)					
10	10000	2.5	4.6	7	100-6000
15	15000	2.5	4.6	7	100-5999
22	22000	2.5	4.6	7	100-6001
0.033	33	2.5	4.6	7	100-6002
47	47000	2.5	4.6	7	100-6003
0.068	68	3	4.6	7.5	100-5998
100	100000	3	4.6	7.5	100-6004

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Order Multiple=5
63 Volt d.c.

µF	Order Code	Price Each 5+	25+	50+	100+	500+	1K+
10	100-6000●	0.194	0.175	0.166	0.146	0.116	0.098
15	100-5999●	0.260	0.250	0.220	0.173	0.158	0.134
22	100-6001●	0.240	0.210	0.200	0.169	0.150	0.134
0.033	100-6002●	0.250	0.220	0.200	0.172	0.154	0.137
47	100-6003●	0.250	0.220	0.200	0.171	0.153	0.136
0.068	100-5998●	0.290	0.270	0.250	0.240	0.186	0.159
100	100-6004●	0.290	0.270	0.250	0.220	0.181	0.154

RL Re-reeling available

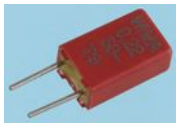
Farnell

250 Volt d.c.			Dimensions		Order
pF	nF	H	W	D	Code
1000	1	7	4.6	2.5	151-9318
1500	1.5	7	4.6	2.5	151-9319
2200	2.2	7	4.6	2.5	151-9320
3300	3.3	7	4.6	2.5	151-9321
6800	6.8	7	4.6	2.5	151-9322

494444

Order Multiple=5 250 Volt d.c.				Price Each		
pF	Order Code	5+	25+	50+	100+	500+
1000	151-9318●	0.175	0.146	0.125	0.110	0.098
1500	151-9319●	0.175	0.146	0.125	0.110	0.098
2200	151-9320●	0.175	0.146	0.125	0.110	0.098
3300	151-9321●	0.175	0.146	0.125	0.110	0.098
6800	151-9322●	0.175	0.146	0.125	0.110	0.098

MKS2 Series



- MKS2 metallised polyester capacitor
- Flame retardant case to **UL94V-0**

Lead length=6
Lead dia.=0.5
Lead pitch=5

Operating temperature	-55°C to +100°C	Tolerance	±10%
Temperature coefficient	+330ppm/°C (+20°C to +70°C)	Power factor @ 1kHz, 20°C	0.008
Climatic category	55/100/21		(for C ≥ 1.0µF: 0.01)

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**.

50 Volt d.c. (30 Volt a.c.)			Dimensions		
µF	nF	Order Code	H	W	D
2.2	2200	107-422	13	7.2	7.2
3.3	3300	107-423	13	7.2	7.2

50 Volt d.c.				Price Each		
µF	Order Code	1+	25+	100+	1K+	5K+
2.2	107-422●	2.14	1.97	1.85	1.57	1.48
3.3	107-423●	2.73	2.54	2.35	1.98	1.92

		Order	Dimensions		
µF	nF	Code	H	W	D
0.015	15	100-6016	6.5	7.2	2.5
10	10000	100-6018	6.5	7.2	2.5
22	22000	100-6020	6.5	7.2	2.5
33	33000	100-6023	6.5	7.2	2.5
47	47000	100-6025	6.5	7.2	2.5
0.068	68	100-6026	6.5	7.2	2.5
0.15	150	100-6029	6.5	7.2	3.5
0.1	100	100-6030	6.5	7.2	2.5
0.22	220	100-6033	7.5	7.2	3.5
0.33	330	100-6036	8.5	7.2	4.5
0.47	470	100-6038	9.5	7.2	5
0.68	680	100-6039	9.5	7.2	5
1	1000	100-6040	10	7.2	5.5

Order Multiple=5 63 Volt d.c.				Price Each		
µF	Order Code	5+	25+	100+	1K+	5K+
0.015	100-6016●	0.210	0.193	0.174	0.140	0.128
10	100-6018●	0.200	0.186	0.166	0.134	0.114
22	100-6020●	0.270	0.240	0.210	0.167	0.152
33	100-6023●	0.176	0.151	0.137	0.114	0.094
47	100-6025●	0.250	0.200	0.187	0.159	0.128
0.068	100-6026●	0.220	0.192	0.168	0.134	0.120
0.15	100-6029●	0.340	0.290	0.250	0.200	0.173
0.1	100-6030●	0.260	0.240	0.200	0.164	0.140
0.22	100-6033●	0.590	0.480	0.420	0.370	0.290
0.33	100-6036●	0.540	0.480	0.440	0.350	0.300
0.47	100-6038●	0.680	0.570	0.520	0.430	0.380
0.68	100-6039●	0.890	0.790	0.690	0.550	0.480
1	100-6040●	1.030	0.900	0.820	0.680	0.550

100 Volt d.c. (63 Volt a.c.)			Dimensions		Order
µF	nF	H	W	D	Code
0.01	10	6.5	7.2	2.5	100-6017
0.022	22	6.5	7.2	2.5	100-6019
0.033	33	6.5	7.2	2.5	100-6021
0.047	47	6.5	7.2	2.5	100-6024
0.068	68	7.5	7.2	3	100-6027
0.15	150	8.5	7.2	4.5	100-6028
0.1	100	7.5	7.2	3	100-6031
0.22	220	8.5	7.2	5	100-6032
0.33	330	9.5	7.2	5.5	100-6035
0.47	470	10	7.2	7.2	100-6037

208616

Order Multiple=5 100 Volt d.c.				Price Each		
µF	Order Code	5+	25+	100+	1K+	5K+
0.01	100-6017●	0.300	0.210	0.181	0.137	0.117
0.022	100-6019●	0.290	0.200	0.174	0.140	0.128
0.033	100-6021●	0.140	0.102	0.085	0.066	0.058
0.047	100-6024●	0.280	0.210	0.170	0.137	0.117
0.068	100-6027●	0.145	0.108	0.102	0.082	0.070
0.15	100-6028●	0.340	0.280	0.250	0.200	0.199
0.1	100-6031●	0.300	0.220	0.200	0.165	0.143
0.22	100-6032●	0.430	0.330	0.300	0.240	0.200
0.33	100-6035●	0.550	0.460	0.430	0.340	0.300
0.47	100-6037●	0.700	0.530	0.510	0.430	0.380

630 Volt d.c.			Dimensions		Order
µF	nF	H	W	D	Code
0.001	1	7.5	7.2	3	151-9302
0.0015	1.5	7.5	7.2	3	151-9303
0.0022	2.2	7.5	7.2	3	151-9304
0.0033	3.3	7.5	7.2	3	151-9305
0.0068	6.8	9.5	7.2	4.5	151-9307
0.01	10	11.5	7.2	5.5	151-9308
0.015	15	13	7.2	7.2	151-9309
0.022	22	13	7.2	7.2	151-9310
0.033	33	13	7.2	7.2	151-9312
0.047	47	14	7.2	8.5	151-9313

494466

Order Multiple=5 630 Volt d.c.				Price Each		
nF	Order Code	5+	25+	100+	1K+	5K+
1	151-9302●	0.102	0.085	0.072	0.064	0.057
1.5	151-9303●	0.102	0.085	0.072	0.064	0.057
2.2	151-9304●	0.102	0.085	0.072	0.064	0.057
3.3	151-9305●	0.116	0.097	0.083	0.073	0.064
6.8	151-9307●	0.139	0.115	0.099	0.087	0.078
10	151-9308●	0.151	0.125	0.108	0.095	0.084
15	151-9309●	0.188	0.156	0.134	0.117	0.104
22	151-9310●	0.200	0.170	0.146	0.128	0.113
33	151-9312●	0.220	0.184	0.157	0.138	0.122
47	151-9313●	0.250	0.210	0.177	0.156	0.139

BQ Series



- Metallised polyester capacitors
- Flame retardant case to **UL94V-0**
- Conforming to **CECC**

Lead length=4.1
Lead dia.=0.5
Lead pitch=5

Operating temperature	-55°C to +100°C	Climatic category	55/100/56
Insulation resistance	≥30000ohm	Tolerance	+10%
Temperature coefficient	+1200ppm/°C	Power factor @ 1 kHz, 20°C	0.008

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**.

63 Volt d.c. (40 Volt a.c.)		Dimensions				
µF	nF	H	W	D	Mftrs. List No.	Order Code
0.001	1	6.5	7.5	2.5	BQ014D0102K--	110-0421
0.0015	1.5	6.5	7.5	2.5	BQ014D0152K--	110-0422
0.0022	2.2	6.5	7.5	2.5	BQ014D0222K--	110-0423
0.0047	4.7	6.5	7.5	2.5	BQ014D0472K--	110-0424
0.01	10	6.5	7.5	2.5	BQ014D0103K--	110-0425
0.022	22	6.5	7.5	2.5	BQ014D0223K--	110-0426
0.047	47	6.5	7.5	2.5	BQ014D0473K--	110-0428
0.1	100	6.5	7.5	2.5	BQ014D0104K--	110-0429
0.22	220	6.5	7.5	2.5	BQ014D0224K--	110-0430
0.47	470	8	7.5	5	BQ074D0474K--	110-0432
0.68	680	8	7.5	5	BQ074D0684K--	110-0588
1	1000	8	7.5	5	BQ074D0105K--	110-0589

Order Multiple=5 63 Volt d.c.				Price Each		
µF	Order Code	5+	25+	100+	1K+	5K+
0.001	110-0421●	0.076	0.056	0.038	0.022	0.020
0.0015	110-0422●	0.134	0.123	0.097	0.068	0.054
0.0022	110-0423●	0.085	0.057	0.039	0.024	0.021
0.0047	110-0424●	0.085	0.058	0.039	0.024	0.021
0.01	110-0425●	0.102	0.063	0.043	0.026	0.024
0.022	110-0426●	0.076	0.056	0.038	0.022	0.020
0.047	110-0428●	0.085	0.059	0.040	0.024	0.021
0.1	110-0429●	0.102	0.067	0.046	0.027	0.025
0.22	110-0430●	0.102	0.088	0.062	0.039	0.034
0.47	110-0432●	0.320	0.290	0.210	0.157	0.124
0.68	110-0588●	0.260	0.210	0.194	0.136	0.088
1	110-0589●	0.340	0.280	0.196	0.118	0.106

100 Volt d.c. (63 Volt a.c.)		Dimensions				
µF	nF	H	W	D	Mftrs. List No.	Order Code
0.01	10	6.5	7.5	2.5	BQ014E0103K--	110-0590
0.1	100	6.5	7.5	2.5	BQ014E0104K--	110-0591
0.47	470	8	7.5	5	BQ074E0474K--	110-0594
1	1000	12	7.5	6	BQ054E0105K--	110-0596

Order Multiple=5 100 Volt d.c.				Price Each		
µF	Order Code	5+	25+	100+	1K+	5K+
0.01	110-0590●	0.118	0.074	0.050	0.031	0.028
0.1	110-0591●	0.118	0.079	0.053	0.032	0.030
0.47	110-0594●	0.340	0.290	0.192	0.115	0.103
1	110-0596●	0.790	0.700	0.540	0.400	0.320

250 Volt d.c. (160 Volt a.c.)		Dimensions				
µF	nF	H	W	D	Mftrs. List No.	Order Code
0.01	10	6.5	7.5	2.5	BQ014G0103K--	110-0597
0.1	100	8	7.5	5	BQ074G0104K--	110-0599

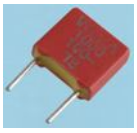
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Order Multiple=5 250 Volt d.c.				Price Each		
µF	Order Code	5+	25+	100+	1K+	5K+
0.01	110-0597●	0.097	0.088	0.076	0.045	0.039
0.1	110-0599●	0.240	0.194	0.134	0.080	0.071

RL Re-reeling available

Polyester - continued

FKS2 Series – 100 Volt d.c. (63 Volt a.c.)



- FKS2 polyester film capacitors
- Flame retardant case to **UL94V-0**

Lead length=6
Lead dia.=0.5
Lead pitch=5

Operating temperature	-55°C to +100°C	Climatic category	55/100/56
Insulation resistance	30000MΩ	Tolerance	±20%
Temperature coefficient	+330ppm/°C (+20°C to +70°C)	Power factor @ 1 kHz, 20°C	0.007

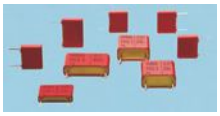
N.B. For ease of selection, capacitance value is listed in both **pF** and **nF.**

pF	nF	Dimensions H	W	D	Order Code
1000	1	6.5	7.2	2.5	100-5992
1500	1.5	6.5	7.2	2.5	100-5993
2200	2.2	6.5	7.2	2.5	100-5949
3300	3.3	6.5	7.2	2.5	100-5994
4700	4.7	6.5	7.2	2.5	100-5995
6800	6.8	6.5	7.2	2.5	100-5997
10000	10	7.5	7.2	3	100-5991

208617

Order Multiple=5		Price Each				
pF	Order Code	5+	25+	100+	1K+	5K+
1000	**100-5992●**	0.200	0.159	0.144	0.117	0.101
1500	**100-5993●**	0.220	0.175	0.158	0.130	0.112
2200	**100-5949●**	0.200	0.165	0.155	0.123	0.104
3300	**100-5994●**	0.210	0.169	0.149	0.124	0.099
4700	**100-5995●**	0.185	0.139	0.132	0.107	0.083
6800	**100-5997●**	0.200	0.162	0.143	0.118	0.095
10000	**100-5991●**	0.188	0.151	0.137	0.111	0.095

FKS 3 Series



- Pulse duty construction
- Typically for general DC applications (for example coupling and decoupling)

Operating temperature	-55°C to +100°C
Voltage rating	250V
Tolerance	±20%

Capacitance µF	Dimensions H	W	D	Lead Pitch mm	Mftrs. List No.	Order Code
0.01	9	13	3	10	FKS3 0.01UF/20/250/10	151-9292
0.015	9.5	13	4	10	FKS3 0.015UF/20/250/10	151-9294
0.022	11	13	5	10	FKS3 0.022UF/20/250/10	151-9295
0.033	12	13	6	10	FKS3 0.033UF/20/250/10	151-9296
0.047	12.5	18	6	15	FKS3 0.047UF/20/250/15	151-9297
0.068	14	18	7	15	FKS3 0.068UF/20/250/15	151-9298
0.1	15	18	8	15	FKS3 0.1UF/20/250/15	151-9299
0.15	16	18	9	15	FKS3 0.15UF/20/250/15	151-9301

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Order Multiple=5		Price Each				
µF	Order Code	5+	50+	100+	1K+	5K+
0.01	**151-9292●**	0.184	0.153	0.133	0.122	0.102
0.015	**151-9294●**	0.200	0.163	0.143	0.122	0.112
0.022	**151-9295●**	0.270	0.210	0.184	0.163	0.143
0.033	**151-9296●**	0.300	0.250	0.210	0.184	0.163
0.047	**151-9297●**	0.430	0.360	0.310	0.270	0.240
0.068	**151-9298●**	0.530	0.440	0.380	0.330	0.300
0.1	**151-9299●**	0.710	0.590	0.510	0.450	0.400
0.15	**151-9301●**	0.900	0.750	0.640	0.560	0.500

R82 Series

ARCOTRONICS GROUP
A KEMET Company

New



- Metallised polyetser film capacitor
- D.C. multipurpose applications
- Typical applications: by-passing, blocking, coupling, decoupling, timing and oscillator circuits

Lead Pitch	5mm
Tolerance	±5%
Lead Length	17mm

50 Volt

nF	µF	Dimensions H	W	D	Mftrs. List No.	Order Code
2200	2.2	11	7	6	R82CC4220Z370J	167-9398
3300	3.3	13	7	7	R82CC4330Z330J	167-9400
4700	4.7	13	7	7	R82CC4470Z330J	167-9401

50 Volts		Price Each				
µF	Order Code	10+	50+	100+	250+	500+
2.2	**167-9398●**	1.45	0.72	0.48	0.36	0.29
3.3	**167-9400●**	2.60	1.30	0.87	0.65	0.52
4.7	**167-9401●**	3.57	1.78	1.19	0.89	0.71

63 Volt

nF	µF	Dimensions H	W	D	Mftrs. List No.	Order Code
100	0.1	7	7	3	R82DC3100Z350J	167-9402
150	0.15	7	7	3	R82DC3150Z360J	167-9403
220	0.22	7	7	3	R82DC3220Z360J	167-9404
330	0.33	8	7	4	R82DC3330Z360J	167-9406
470	0.47	8	7	4	R82DC3470Z360J	167-9407
680	0.68	10	7	5	R82DC3680Z360J	167-9408
1000	1	10	7	5	R82DC4100Z360J	167-9409
1500	1.5	11	7	6	R82DC4150Z360J	167-9410

63 Volts		Price Each				
µF	Order Code	10+	50+	100+	250+	500+
0.1	**167-9402●**	0.108	0.054	0.036	0.027	0.022
0.15	**167-9403●**	0.166	0.083	0.055	0.041	0.033
0.22	**167-9404●**	0.140	0.070	0.047	0.035	0.028
0.33	**167-9406●**	0.247	0.124	0.082	0.062	0.049
0.47	**167-9407●**	0.237	0.118	0.079	0.059	0.047
0.68	**167-9408●**	0.440	0.220	0.147	0.110	0.088
1	**167-9409●**	0.410	0.204	0.136	0.102	0.081
1.5	**167-9410●**	0.790	0.390	0.260	0.198	0.159

100 Volt

nF	µF	Dimensions H	W	D	Mftrs. List No.	Order Code
1	0.001	7	7	3	R82EC1100Z350J	167-9411
1.5	0.0015	7	7	3	R82EC1150Z350J	167-9412
2.2	0.0022	7	7	3	R82EC1220Z350J	167-9413
3.3	0.0033	7	7	3	R82EC1330Z350J	167-9414
4.7	0.0047	7	7	3	R82EC1470Z350J	167-9415
6.8	0.0068	7	7	3	R82EC1680Z350J	167-9416
10	0.01	7	7	3	R82EC2100Z350J	167-9418
15	0.015	7	7	3	R82EC2150Z350J	167-9419
22	0.022	7	7	3	R82EC2220Z350J	167-9420
33	0.033	7	7	3	R82EC2330Z350J	167-9421
47	0.047	7	7	3	R82EC2470Z360J	167-9422
68	0.068	7	7	3	R82EC2680Z360J	167-9423
100	0.1	7	7	3	R82EC3100Z370J	167-9424
150	0.15	8	7	4	R82EC3150Z370J	167-9426
220	0.22	8	7	4	R82EC3220Z370J	167-9427
330	0.33	10	7	5	R82EC3330Z370J	167-9428
470	0.47	10	7	5	R82EC3470Z370J	167-9431
680	0.68	10	7	5	R82EC3680Z370J	167-9432
1000	1	11	7	6	R82EC4100Z370J	167-9433

100 Volts		Price Each				
µF	Order Code	10+	50+	100+	250+	500+
0.001	**167-9411●**	0.108	0.054	0.036	0.027	0.022
0.0015	**167-9412●**	0.108	0.054	0.036	0.027	0.022
0.0022	**167-9413●**	0.108	0.054	0.036	0.027	0.022
0.0033	**167-9414●**	0.108	0.054	0.036	0.027	0.022
0.0047	**167-9415●**	0.108	0.054	0.036	0.027	0.022
0.0068	**167-9416●**	0.108	0.054	0.036	0.027	0.022
0.01	**167-9418●**	0.108	0.054	0.036	0.027	0.022
0.015	**167-9419●**	0.108	0.054	0.036	0.027	0.022
0.022	**167-9420●**	0.108	0.054	0.036	0.027	0.022
0.033	**167-9421●**	0.108	0.054	0.036	0.027	0.022
0.047	**167-9422●**	0.108	0.054	0.036	0.027	0.022
0.068	**167-9423●**	0.108	0.054	0.036	0.027	0.022
0.1	**167-9424●**	0.112	0.056	0.037	0.028	0.022
0.15	**167-9426●**	0.184	0.092	0.061	0.046	0.037
0.22	**167-9427●**	0.230	0.115	0.077	0.058	0.046
0.33	**167-9428●**	0.310	0.156	0.104	0.078	0.063
0.47	**167-9431●**	0.360	0.180	0.120	0.090	0.072
0.68	**167-9432●**	0.520	0.260	0.173	0.130	0.104
1	**167-9433●**	0.640	0.320	0.214	0.161	0.128

50 Volt

nF	µF	Dimensions H	W	D	Mftrs. List No.	Order Code
6.8	0.0068	7	7	3	R82IC1680Z350J	167-9434
10	0.01	7	7	3	R82IC2100Z350J	167-9435
15	0.015	7	7	3	R82IC2150Z350J	167-9436
22	0.022	8	7	4	R82IC2220Z350J	167-9437
33	0.033	8	7	4	R82IC2330Z350J	167-9438
47	0.047	10	7	5	R82IC2470Z350J	167-9439
150	0.15	11	7	6	R82IC3150Z350J	167-9440

250 Volts		Price Each				
µF	Order Code	10+	50+	100+	250+	500+
0.0068	**167-9434●**	0.155	0.078	0.052	0.039	0.031
0.01	**167-9435●**	0.155	0.078	0.052	0.039	0.031
0.015	**167-9436●**	0.155	0.078	0.052	0.039	0.031
0.022	**167-9437●**	0.192	0.091	0.061	0.046	0.036
0.033	**167-9438●**	0.184	0.092	0.061	0.046	0.037
0.047	**167-9439●**	0.247	0.124	0.082	0.062	0.049
0.15	**167-9440●**	0.410	0.204	0.136	0.102	0.081

400 Volt

nF	µF	Dimensions H	W	D	Mftrs. List No.	Order Code
1	0.001	7	7	3	R82MC1100Z350J	167-9441
1.5	0.0015	7	7	3	R82MC1150Z350J	167-9443
2.2	0.0022	7	7	3	R82MC1220Z350J	167-9444
3.3	0.0033	7	7	3	R82MC1330Z350J	167-9445
4.7	0.0047	7	7	3	R82MC1470Z350J	167-9446
10	0.01	8	7	4	R82MC2100Z350J	167-9447
15	0.015	10	7	5	R82MC2150Z350J	167-9448
22	0.022	10	7	5	R82MC2220Z350J	167-9449
33	0.033	10	7	5	R82MC2330Z350J	167-9450
47	0.047	11	7	6	R82MC2470Z350J	167-9451

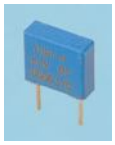
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RL Re-reeling available

Farnell

400 Volts		Price Each				
µF	Order Code	10+	50+	100+	250+	500+
0.001	167-9441●	0.152	0.076	0.051	0.038	0.030
0.0015	167-9443●	0.152	0.076	0.051	0.038	0.030
0.0022	167-9444●	0.152	0.076	0.051	0.038	0.030
0.0033	167-9445●	0.152	0.076	0.051	0.038	0.030
0.0047	167-9446●	0.152	0.076	0.051	0.038	0.030
0.01	167-9447●	0.189	0.094	0.063	0.047	0.038
0.015	167-9448●	0.247	0.124	0.082	0.062	0.049
0.022	167-9449●	0.270	0.132	0.088	0.066	0.053
0.033	167-9450●	0.280	0.138	0.092	0.069	0.055
0.047	167-9451●	0.360	0.180	0.120	0.090	0.072

2222 370 Series



- Metallised polyester decoupling capacitors
- Resistant to modern cleaning solvents
- Flame retardant case

Lead length=4 min
Lead dia.=0.5 min
Lead pitch=5

Operating temperature	-55°C to +100°C	Tolerance	+10%
Insulation resistance	50/100Vc ≤0.33uF 15000MΩ 63/100Vc >0.33uF 5000 sec (MΩ µF) 250/400V 3000 MΩ	Climatic category	55/100/56
		Power factor	0.01
Basic specification	**IEC60384-2**, long life		

N.B. For ease of selection, capacitance value is listed in both **nF** and **µF**.

63 Volt d.c. (40 Volt a.c.)*		Dimensions				
nF	µF	H	W	D	Mftrs. List No.	Order Code
68	0.068	8	7.2	2.5	2222 370 11683	121-5514
100	0.1	8	7.2	2.5	2222 370 11104	121-5508
150	0.15	9	7.2	3.5	2222 370 11154	121-5510
220	0.22	9	7.2	3.5	2222 370 11224	121-5511
330	0.33	10	7.2	3.5	2222 370 11334	121-5512
470	0.47	10	7.2	4.5	2222 370 11474	121-5513
680	0.68	10	7.2	5	2222 370 11684	116-6075
1000	1	11	7.2	6	2222 370 11105	121-5509
1500	1.5	11	7.2	6	2222 370 11155	116-6008

*1.5µF rated at 50 volt d.c. (32Va.c.)

Order Multiple=5 63 Volt d.c.		Price Each			
µF	Order Code	5+	100+	1K+	3K+
0.068	121-5514●	0.121	0.074	0.062	0.043
0.1	121-5508●	0.112	0.063	0.050	0.045
0.15	121-5510●	0.150	0.085	0.067	0.061
0.22	121-5511●	0.182	0.107	0.090	0.074
0.33	121-5512●	0.230	0.132	0.104	0.094
0.47	121-5513●	0.290	0.167	0.133	0.120
0.68	116-6075●	0.400	0.230	0.182	0.162
1	121-5509●	0.460	0.260	0.210	0.188
1.5	116-6008●	0.510	0.290	0.220	0.192

100 Volt d.c. (63 Volt a.c.)		Dimensions				
nF	µF	H	W	D	Mftrs. List No.	Order Code
15	0.015	8	7.2	2.5	2222 370 21153	121-5517
22	0.022	8	7.2	2.5	2222 370 21223	121-5518
33	0.033	8	7.2	2.5	2222 370 21333	121-5519
47	0.047	9	7.2	2.5	2222 370 21473	121-5520
68	0.068	9	7.2	3.5	2222 370 21683	121-5521
100	0.1	8	7.2	3.5	2222 370 21104	121-5515
150	0.15	8	7.2	3.5	2222 370 21154	116-6009
220	0.22	9	7.2	4.5	2222 370 21224	116-6010
330	0.33	9	7.2	4.5	2222 370 21334	116-6011
470	0.47	11	7.2	6	2222 370 21474	116-6012

Order Multiple=10 100 Volt d.c.		Price Each			
µF	Order Code	10+	100+	1K+	3K+
0.015	121-5517●	0.108	0.061	0.049	0.044
0.022	121-5518●	0.112	0.063	0.050	0.046
0.033	121-5519●	0.116	0.066	0.052	0.047
0.047	121-5520●	0.120	0.068	0.054	0.049
0.068	121-5521●	0.117	0.071	0.059	0.042
0.1	121-5515●	0.177	0.100	0.079	0.072
0.15	116-6009●	0.163	0.096	0.067	0.058
0.22	116-6010●	0.250	0.143	0.113	0.102
0.33	116-6011●	0.220	0.131	0.097	0.078
0.47	116-6012●	0.370	0.210	0.167	0.151

250 Volt d.c.		Dimensions				
nF	µF	H	W	D	Mftrs. List No.	Order Code
4.7	0.0047	6.5	7.2	2.5	2222 370 41472	116-6076
6.8	0.0068	6.5	7.2	2.5	2222 370 41682	116-6077
10	0.01	6.5	7.2	2.5	2222 370 41103	116-6078
15	0.015	6.5	7.2	2.5	2222 370 41153	116-6079
22	0.022	8	7.2	3.5	2222 370 41223	116-6080
33	0.033	8	7.2	3.5	2222 370 41333	116-6081
47	0.047	9	7.2	4.5	2222 370 41473	116-6082
68	0.068	10	7.2	5	2222 370 41683	116-6083
100	0.1	11	7.2	6	2222 370 41104	116-6084

Order Multiple=10 250 Volt d.c.		Price Each			
µF	Order Code	10+	100+	1K+	3K+
0.0047	116-6076●	0.126	0.076	0.061	0.046
0.0068	116-6077●	0.124	0.076	0.061	0.046
0.01	116-6078●	0.129	0.075	0.062	0.045
0.015	116-6079●	0.134	0.081	0.068	0.047
0.022	116-6080●	0.163	0.099	0.085	0.058
0.033	116-6081●	0.165	0.100	0.086	0.059
0.047	116-6082●	0.196	0.120	0.100	0.071
0.068	116-6083●	0.048	0.047	0.046	0.045
0.1	116-6084●	0.270	0.162	0.135	0.091

400 Volt d.c.		Dimensions				
nF	µF	H	W	D	Mftrs. List No.	Order Code
1	0.001	6.5	7.2	2.5	2222 370 51102	116-6085
1.5	0.0015	6.5	7.2	2.5	2222 370 51152	116-6087
2.2	0.0022	8	7.2	3.5	2222 370 51222	116-6088
3.3	0.0033	8	7.7	3.5	2222 370 51332	116-6089
4.7	0.0047	9	7.2	4.5	2222 370 65472	116-6028
6.8	0.0068	10	7.2	5	2222 370 65682	116-6029
10	0.01	8	7.2	3.5	2222 370 65103	116-6030
15	0.015	8	7.2	3.5	2222 370 65153	116-6031
22	0.022	9	7.2	4.5	2222 370 65223	116-6032
33	0.033	11	7.2	6	2222 370 65333	116-6033
47	0.047	11	7.2	6	2222 370 65473	116-6034

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Order Multiple=10 400 Volt d.c.		Price Each			
µF	Order Code	10+	100+	1K+	3K+
0.001	116-6085●	0.120	0.079	0.061	0.043
0.0015	116-6087●	0.104	0.059	0.047	0.042
0.0022	116-6088●	0.104	0.059	0.047	0.042
0.0033	116-6089●	0.116	0.075	0.059	0.042
0.0047	116-6028●	0.091	0.071	0.055	0.044
0.0068	116-6029●	0.089	0.071	0.051	0.044
0.01	116-6030●	0.095	0.074	0.059	0.047
0.015	116-6031●	0.094	0.075	0.058	0.047
0.022	116-6032●	0.103	0.084	0.063	0.048
0.033	116-6033●	0.128	0.101	0.076	0.061
0.047	116-6034●	0.150	0.117	0.092	0.071

MMK Series

EVOX RIFA
A KEMET Company

New



- Metallized polyester film capacitors
- Applications include bypassing and signal coupling
- General purpose for highest reliability (operational life >200,000 hours)

Operating temperature	-55°C to +85°C
Temperature coefficient	±200ppm/°C

63V

Capacitance			Dimensions			Lead		
nF	µF	Tolerance	H	W	D	Pitch	Mftrs. List No.	Order Code
100	0.1	±5%	6.5	7.2	2.5	5	MMK5 104J63J01L4	157-2135
220	0.22	±5%	6.5	7.2	2.5	5	MMK5 224J63J01L4	157-2136
330	0.33	±5%	8	7.2	3.5	5	MMK5 334J63J02L4	157-2138
470	0.47	±5%	8	7.2	3.5	5	MMK5 474J63J02L4	157-2139
470	0.47	±10%	8	7.2	3.5	5	MMK5 474K63J02L4	157-2140
1000	1	±5%	10.5	13	4.5	10	MMK10 105J63A02L4	157-2128
2200	2.2	±5%	12.5	18	5.5	15	MMK15 225J63B05L4	157-2129
2200	2.2	±10%	13	7.2	7.2	5	MMK5 225K63J06L4	157-2137
10000	10	±5%	18.5	26	9	22.5	MMK22.5 106J63D15L4	157-2130

		Price Each					
µF	Order Code	5+	75+	250+	500+	1K+	2K+
0.1	157-2135●	0.075	0.069	0.064	0.061	0.057	0.048
0.22	157-2136●	0.103	0.097	0.088	0.082	0.077	0.067
0.33	157-2138●	0.134	0.124	0.113	0.103	0.100	0.087
0.47	157-2139●	0.134	0.124	0.113	0.103	0.100	0.087
0.47	157-2140●	0.240	0.220	0.196	0.175	0.155	0.134
1	157-2128●	0.310	0.260	0.230	0.196	0.185	0.175
2.2	157-2129●	0.470	0.400	0.350	0.300	0.280	0.250
2.2	157-2137●	1.510	1.290	1.220	1.130	0.980	0.910
10	157-2130●	1.550	1.310	1.150	1.000	0.980	0.950

100V

Capacitance			Dimensions			Lead		
nF	µF	Tolerance	H	W	D	Pitch	Mftrs. List No.	Order Code
10	0.01	±5%	6.5	7.2	2.5	5	MMK5 103J100J01L4	157-2133
100	0.1	±5%	6.5	7.2	2.5	5	MMK5 104J100J01L4	157-2134
10000	10	±5%	22.5	31.5	11.5	27.5	MMK27.5106J100F12L4	157-2141

		Price Each					
µF	Order Code	5+	75+	250+	500+	1K+	2K+
0.01	157-2133●	0.062	0.056	0.053	0.049	0.046	0.040
0.1	157-2134●	0.124	0.113	0.105	0.099	0.093	0.080
10	157-2141●	1.670	1.250	1.170	1.080	1.020	0.980

400V

Capacitance			Dimensions			Lead		
nF	µF	Tolerance	H	W	D	Pitch	Mftrs. List No.	Order Code
0.001	1	±5%	6.5	7.2	2.5	5	MMK5 102J400J01L4	157-2132

506973

		Price Each					
µF	Order Code	5+	75+	250+	500+	1K+	2K+
0.001	157-2132●	0.077	0.071	0.066	0.062	0.058	0.050

RL Re-reeling available

Farnell

Polyester - continued

2222 470 Series



- Blocking and coupling signals
- Filter networks
- Potted with epoxy resin
- Flame retardant case

Operating temperature -55°C to +125°C Climatic category 55/125/56
Tolerance ±5% Basic specification **IEC60384-2** long life

Lead dia.=0.5, Supplied on paper tape

63 Volt d.c. nF	µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
68	0.068	6.5	7.2	2.5	5	2222 470 76683	116-6035
100	0.1	6.5	7.2	2.5	5	2222 470 76104	116-6036
150	0.15	8	7.2	3.5	5	2222 470 76154	116-6038
220	0.22	8	7.2	3.5	5	2222 470 76224	116-6039
330	0.33	8	7.2	3.5	5	2222 470 76334	116-6040
470	0.47	9.5	7.2	4.5	5	2222 470 76474	116-6041
680	0.68	9.5	7.2	4.5	5	2222 470 76684	116-6042
1000	1	11	7.2	6	5	2222 470 76105	116-6043

Order Multiple=10

63 Volt d.c. µF	Order Code	Price Each 10+	50+	100+	500+	1K+
0.068	**116-6035●**	0.094	0.075	0.060	0.047	0.046
0.1	**116-6036●**	0.099	0.075	0.059	0.048	0.045
0.15	**116-6038●**	0.114	0.087	0.066	0.058	0.051
0.22	**116-6039●**	0.158	0.124	0.099	0.081	0.072
0.33	**116-6040●**	0.200	0.155	0.119	0.101	0.092
0.47	**116-6041●**	0.270	0.199	0.152	0.129	0.116
0.68	**116-6042●**	0.350	0.290	0.220	0.177	0.166
1	**116-6043●**	0.410	0.320	0.260	0.200	0.184

100 Volt d.c. nF	µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
22	0.022	6.5	7.2	2.5	5	2222 470 86223	116-6044
33	0.033	6.5	7.2	2.5	5	2222 470 86333	116-6045
47	0.047	6.5	7.2	2.5	5	2222 470 86473	116-6046
68	0.068	8	7.2	3.5	5	2222 470 86683	116-6047
100	0.1	8	7.2	3.5	5	2222 470 86104	116-6048
150	0.15	9.5	7.2	4.5	5	2222 470 86154	116-6051
220	0.22	9.5	7.2	4.5	5	2222 470 86224	116-6052
330	0.33	11	7.2	6	5	2222 470 86334	116-6053
470	0.47	11	7.2	6	5	2222 470 86474	116-6054

Order Multiple=10

100 Volt d.c. µF	Order Code	Price Each 10+	50+	100+	500+	1K+
0.022	**116-6044●**	0.100	0.078	0.059	0.049	0.045
0.033	**116-6045●**	0.099	0.080	0.060	0.050	0.048
0.047	**116-6046●**	0.105	0.082	0.062	0.053	0.047
0.068	**116-6047●**	0.101	0.076	0.059	0.049	0.045
0.1	**116-6048●**	0.152	0.119	0.097	0.079	0.073
0.15	**116-6051●**	0.180	0.139	0.106	0.090	0.081
0.22	**116-6052●**	0.220	0.170	0.139	0.111	0.104
0.33	**116-6053●**	0.260	0.200	0.160	0.131	0.129
0.47	**116-6054●**	0.320	0.270	0.200	0.166	0.154

250 Volt d.c. nF	µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
10	0.01	6.5	7.2	2.5	5	2222 470 36103	116-6055
15	0.015	6.5	7.2	2.5	5	2222 470 36153	116-6056
22	0.022	8	7.2	3.5	5	2222 470 36223	116-6057
33	0.033	8	7.2	3.5	5	2222 470 36333	116-6058
47	0.047	9.5	7.2	4.5	5	2222 470 36473	116-6059
68	0.068	9.5	7.2	4.5	5	2222 470 36683	116-6060
100	0.1	11	7.2	6	5	2222 470 36104	116-6061

Order Multiple=10

250 Volt d.c. µF	Order Code	Price Each 10+	50+	100+	500+	1K+
0.01	**116-6055●**	0.092	0.072	0.060	0.046	0.043
0.015	**116-6056●**	0.125	0.100	0.080	0.063	0.060
0.022	**116-6057●**	0.106	0.083	0.067	0.055	0.050
0.033	**116-6058●**	0.120	0.096	0.076	0.064	0.060
0.047	**116-6059●**	0.140	0.110	0.089	0.070	0.068
0.068	**116-6060●**	0.197	0.154	0.123	0.100	0.094
0.1	**116-6061●**	0.200	0.160	0.130	0.104	0.096

400 Volt d.c. nF	µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
1	0.001	6.5	7.2	2.5	5	2222 470 66102	116-6063
1.5	0.0015	6.5	7.2	2.5	5	2222 470 66152	116-6064
2.2	0.0022	6.5	7.2	2.5	5	2222 470 66222	116-6065
3.3	0.0033	6.5	7.2	2.5	5	2222 470 66332	116-6066
4.7	0.0047	6.5	7.2	2.5	5	2222 470 66472	116-6067
6.8	0.0068	6.5	7.2	2.5	5	2222 470 66682	116-6068
10	0.01	8	7.2	3.5	5	2222 470 66103	116-6069
15	0.015	8	7.2	3.5	5	2222 470 66153	116-6070
22	0.022	9.5	7.2	4.5	5	2222 470 66223	116-6071
33	0.033	11	7.2	6	5	2222 470 66333	116-6072
47	0.047	11	7.2	6	5	2222 470 66473	116-6073

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Order Multiple=10

400 Volt d.c. µF	Order Code	Price Each 10+	50+	100+	500+	1K+
0.001	**116-6063●**	0.091	0.071	0.058	0.046	0.043
0.0015	**116-6064●**	0.072	0.057	0.047	0.037	0.035
0.0022	**116-6065●**	0.091	0.071	0.058	0.046	0.043
0.0033	**116-6066●**	0.091	0.071	0.058	0.046	0.043
0.0047	**116-6067●**	0.091	0.071	0.058	0.045	0.042
0.0068	**116-6068●**	0.099	0.079	0.062	0.050	0.047

Order Multiple=10

400 Volt d.c. µF	Order Code	Price Each 10+	50+	100+	500+	1K+
0.01	**116-6069●**	0.101	0.081	0.062	0.053	0.049
0.015	**116-6070●**	0.102	0.082	0.063	0.053	0.047
0.022	**116-6071●**	0.115	0.089	0.069	0.057	0.053
0.033	**116-6072●**	0.135	0.104	0.083	0.069	0.064
0.047	**116-6073●**	0.156	0.124	0.099	0.081	0.072

BH Series



- Metallised polyester capacitors
- Designed for severe environmental conditions
- Flame retardant case to **UL94V-0**

Lead length=4.1, Lead dia.=0.5, Lead pitch=5

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**.

Operating temperature -55°C to +125°C Climatic category 55/125/56
Insulation resistance 30000MΩ Tolerance ±10%

63 Volt d.c. (40 Volt a.c.) µF	nF	Dimensions H	W	D	Mftrs. List No.	Order Code
0.01	10	6.5	7.5	2.5	BH014D0103K--	118-9287
0.1	100	6.5	7.5	2.5	BH014D0104K--	118-9289
0.22	220	6.5	7.5	2.5	BH014D0224K--	118-9290
0.68	680	8	7.5	5	BH074D0684K--	118-9294
1	1000	8	7.5	5	BH074D0105K--	118-9295

63 Volt d.c. (40 Volt a.c.) µF	Order Code	Price Each 10+	25+	100+	1K+	5K+
0.01	**118-9287●**	0.150	0.137	0.110	0.091	0.076
0.1	**118-9289●**	0.164	0.151	0.115	0.095	0.084
0.22	**118-9290●**	0.220	0.210	0.153	0.127	0.111
0.68	**118-9294●**	0.490	0.460	0.340	0.290	0.250
1	**118-9295●**	0.700	0.640	0.490	0.410	0.350

100 Volt d.c. (63 Volt a.c.) µF	nF	Dimensions H	W	D	Mftrs. List No.	Order Code
0.22	220	8	7.5	5	BH074E0224K--	118-9297
1	1000	12	7.5	6	BH054E0105K--	118-9299

208572

100 Volt d.c. (63 Volt a.c.) µF	Order Code	Price Each 10+	25+	100+	1K+	5K+
0.22	**118-9297●**	0.300	0.270	0.210	0.175	0.148
1	**118-9299●**	0.670	0.630	0.480	0.400	0.350

B32560/1/2 Series – Open Frame



- Open frame stacked polyester film
- Excellent self-healing properties
- Compact size

Warning: Care must be taken to avoid live parts.

Operating temperature -55°C to +100°C
Insulation resistance 3750MΩ for C≤0.33µF @ 100V 1250 sec (MΩ x µF) for C>0.33µF @ 100V
Climatic category 55/100/56

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**.

63 Volt d.c. (40 Volt a.c.) µF	nF	Dimensions H	W	D	Lead Pitch	Tolerance	Mftrs. List No.	Order Code
1	1000	6.8	9	4	7.5	10%	B32560J105K	975-2293
2.2	2200	8.2	9	6.5	7.5	10%	B32560J225K	975-2307
4.7	4700	11	9	9.8	7.5	10%	B32560J475K	975-2315

63 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	500+
1	**975-2293●**	0.290	0.250	0.210	0.184	0.143
2.2	**975-2307●**	0.530	0.450	0.400	0.350	0.310
4.7	**975-2315●**	0.940	0.900	0.760	0.680	0.630

100 Volt d.c. (63 Volt a.c.) µF	nF	Dimensions H	W	D	Lead Pitch	Tolerance	Mftrs. List No.	Order Code
0.1	100	4.7	9	2.5	7.5	10%	B32560J1104K	975-2323
0.15	150	4.7	9	2.5	7.5	10%	B32560J1154K	975-2331
0.22	220	5.1	9	2.5	7.5	10%	B32560J1224K	975-2340
0.33	330	5.7	9	2.7	7.5	10%	B32560J1334K	975-2358
0.47	470	6.1	9	3.4	7.5	10%	B32560J1474K	975-2366
0.68	680	6.5	9	4.2	7.5	10%	B32560J1684K	975-2374
1	1000	7	9	5.5	7.5	10%	B32560J1105K	975-2382
2.2	2200	9.2	9	8.5	7.5	10%	B32560J1225K	975-2390

100 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	500+
0.1	**975-2323●**	0.082	0.071	0.061	0.051	0.047
0.15	**975-2331●**	0.126	0.107	0.097	0.088	0.075
0.22	**975-2340●**	0.157	0.147	0.126	0.117	0.096
0.33	**975-2358●**	0.193	0.184	0.162	0.141	0.121
0.47	**975-2366●**	0.210	0.200	0.170	0.148	0.129
0.68	**975-2374●**	0.290	0.250	0.210	0.184	0.143
1	**975-2382●**	0.280	0.240	0.200	0.174	0.157
2.2	**975-2390●**	0.390	0.370	0.360	0.350	0.320

RL Re-reeling available

Farnell

250 Volt d.c. (160 Volt a.c.)		Dimensions			Lead			
µF	nF	H	W	D	Pitch	Tolerance	Mftrs. List No.	Order Code
0.033	33	4.8	9	2.5	7.5	10%	B32560J3333K	975-2404
0.047	47	5.2	9	2.5	7.5	10%	B32560J3473K	975-2412
0.068	68	5.7	9	2.6	7.5	10%	B32560J3683K	975-2420
0.1	100	6.1	9	3.2	7.5	10%	B32560J3104K	975-2439
0.22	220	7.5	9	4.9	7.5	10%	B32560J3224K	975-2447

250 Volt d.c.		Price Each				
µF	Order Code	1+	10+	50+	100+	500+
0.033	975-2404●	0.075	0.068	0.060	0.053	0.045
0.047	975-2412●	0.112	0.103	0.090	0.081	0.072
0.068	975-2420●	0.129	0.117	0.106	0.098	0.075
0.1	975-2439●	0.140	0.131	0.118	0.098	0.088
0.22	975-2447●	0.143	0.122	0.112	0.102	0.084

400 Volt d.c. (200 Volt a.c.)		Dimensions			Lead			
µF	nF	H	W	D	Pitch	Tolerance	Mftrs. List No.	Order Code
0.001	1	5.5	9	2.5	7.5	10%	B32560J6102K	975-2455
0.0015	1.5	5.5	9	2.5	7.5	10%	B32560J6152K	975-2463
0.0022	2.2	5.5	9	2.5	7.5	10%	B32560J6222K	975-2471
0.0033	3.3	5.5	9	2.5	7.5	10%	B32560J6332K	975-2480
0.0047	4.7	5.5	9	2.5	7.5	10%	B32560J6472K	975-2498
0.0068	6.8	5.5	9	7.5	7.5	10%	B32560J6682K	120-0764
0.01	10	5.5	9	2.5	7.5	10%	B32560J6103K	975-2501
0.015	15	5.5	9	2.5	7.5	10%	B32560J6153K	975-2510
0.022	22	5.5	9	2.5	7.5	10%	B32560J6223K	975-2528
0.047	47	6.5	9	3.2	7.5	10%	B32560J6473K	975-2536
0.1	100	7.7	9	4.9	7.5	10%	B32560J6104K	975-2544

400 Volt d.c.		Price Each				
µF	Order Code	1+	10+	50+	100+	500+
0.001	975-2455●	0.111	0.102	0.090	0.081	0.060
0.0015	975-2463●	0.089	0.081	0.072	0.064	0.048
0.0022	975-2471●	0.113	0.103	0.092	0.082	0.060
0.0033	975-2480●	0.092	0.084	0.075	0.066	0.050
0.0047	975-2498●	0.118	0.107	0.096	0.086	0.063
0.0068	120-0764●	0.115	0.105	0.094	0.084	0.062
0.01	975-2501●	0.102	0.092	0.082	0.071	0.061
0.015	975-2510●	0.090	0.083	0.073	0.064	0.058
0.022	975-2528●	0.102	0.093	0.075	0.066	0.059
0.047	975-2536●	0.136	0.125	0.103	0.094	0.085
0.1	975-2544●	0.162	0.153	0.131	0.109	0.101

100 Volt d.c. (63 Volt a.c.)		Dimensions			Lead			
µF	nF	H	W	D	Pitch	Tolerance	Mftrs. List No.	Order Code
0.33	330	5.2	11.5	2.5	10	10%	B32561J1334K	975-2552
0.47	470	5.8	11.5	2.9	10	10%	B32561J1474K	975-2560
0.68	680	6.3	11.5	3.6	10	10%	B32561J1684K	975-2579
1	1000	6.9	11.5	4.5	10	10%	B32561J1105K	975-2587
2.2	2200	9	11.5	6.9	10	10%	B32561J1225K	975-2595

100 Volt d.c.		Price Each				
µF	Order Code	1+	10+	50+	100+	500+
0.33	975-2552●	0.250	0.210	0.177	0.170	0.138
0.47	975-2560●	0.200	0.193	0.161	0.140	0.120
0.68	975-2579●	0.260	0.240	0.196	0.176	0.145
1	975-2587●	0.360	0.350	0.310	0.270	0.240
2.2	975-2595●	0.420	0.390	0.340	0.300	0.280

250 Volt d.c. (160 Volt a.c.)		Dimensions			Lead			
µF	nF	H	W	D	Pitch	Tolerance	Mftrs. List No.	Order Code
0.1	100	5.3	11.5	2.8	10	10%	B32561J3104K	975-2609
0.15	150	6	11.5	3.3	10	10%	B32561J3154K	120-0765
0.22	220	6.6	11.5	4.2	10	10%	B32561J3224K	975-2617
0.47	470	8.5	11.5	6.3	10	10%	B32561J3474K	975-2625

250 Volt d.c.		Price Each				
µF	Order Code	1+	10+	50+	100+	500+
0.1	975-2609●	0.150	0.141	0.118	0.108	0.087
0.15	120-0765●	0.187	0.177	0.154	0.135	0.112
0.22	975-2617●	0.210	0.200	0.167	0.144	0.125
0.47	975-2625●	0.220	0.210	0.177	0.158	0.138

400 Volt d.c. (200 Volt a.c.)		Dimensions			Lead			
µF	nF	H	W	D	Pitch	Tolerance	Mftrs. List No.	Order Code
0.01	10	5.1	11.5	2.3	10	10%	B32561J6103K	120-0766
0.022	22	5.1	11.5	2.3	10	10%	B32561J6223K	975-2633
0.047	47	6	11.5	2.6	10	10%	B32561J6473K	975-2641
0.1	100	6.9	11.5	4	10	10%	B32561J6104K	975-2650
0.22	220	8.5	11.5	6.6	10	10%	B32561J6224K	975-2668

400 Volt d.c.		Price Each				
µF	Order Code	1+	10+	50+	100+	500+
0.01	120-0766●	0.126	0.116	0.105	0.096	0.074
0.022	975-2633●	0.130	0.118	0.107	0.098	0.076
0.047	975-2641●	0.116	0.108	0.088	0.082	0.062
0.1	975-2650●	0.176	0.167	0.144	0.121	0.101
0.22	975-2668●	0.189	0.175	0.150	0.126	0.118

100 Volt d.c. (63 Volt a.c.)		Dimensions			Lead			
µF	nF	H	W	D	Pitch	Tolerance	Mftrs. List No.	Order Code
1	1000	6.3	16.5	3.2	15	10%	B32562J1105K	975-2676
1.5	1500	7.3	16.5	4	15	10%	B32562J1155K	975-2684
2.2	2200	8	16.5	4.9	15	10%	B32562J1225K	975-2692
3.3	3300	9.3	16.5	6	15	10%	B32562J1335K	975-2706
4.7	4700	10.6	16.5	7.3	15	10%	B32562J1475K	975-2714
6.8	6800	11.8	16.5	9	15	10%	B32562J1685K	975-2722
10	10000	13	16.5	11.8	15	10%	B32562J1106K	975-2730

100 Volt d.c.		Price Each				
µF	Order Code	1+	10+	50+	100+	500+
1	975-2676●	0.300	0.290	0.260	0.220	0.187
1.5	975-2684●	0.390	0.360	0.320	0.290	0.250
2.2	975-2692●	0.620	0.610	0.500	0.450	0.390
3.3	975-2706●	0.640	0.610	0.510	0.450	0.390
4.7	975-2714●	0.820	0.790	0.650	0.590	0.490
6.8	975-2722●	1.150	1.060	0.960	0.830	0.690
10	975-2730●	2.240	2.150	1.840	1.620	1.040

250 Volt d.c. (160 Volt a.c.)		Dimensions			Lead			
µF	nF	H	W	D	Pitch	Tolerance	Mftrs. List No.	Order Code
0.33	330	6.2	16.5	4	15	10%	B32562J3334K	975-2749
0.47	470	6.7	16.5	5	15	10%	B32562J3474K	975-2757
0.68	680	7.8	16.5	6	15	10%	B32562J3684K	975-2765
1	1000	9.3	16.5	7	15	10%	B32562J3105K	975-2773
1.5	1500	11	16.5	8.7	15	10%	B32562J3155K	975-2790
2.2	2200	12.8	16.5	10.7	15	10%	B32562J3225K	975-2803
3.3	3300	14.5	16.5	13.9	15	10%	B32562J3335K	975-2811

250 Volt d.c.		Price Each				
µF	Order Code	1+	10+	50+	100+	500+
0.33	975-2749●	0.290	0.280	0.240	0.195	0.166
0.47	975-2757●	0.320	0.310	0.280	0.250	0.188
0.68	975-2765●	0.270	0.250	0.200	0.182	0.156
1	975-2773●	0.570	0.540	0.470	0.430	0.360
1.5	975-2790●	0.450	0.380	0.340	0.300	0.270
2.2	975-2803●	1.080	0.910	0.810	0.710	0.410
3.3	975-2811●	1.970	1.890	1.610	1.440	1.190

400 Volt d.c. (200 Volt a.c.)		Dimensions			Lead			
µF	nF	H	W	D	Pitch	Tolerance	Mftrs. List No.	Order Code
0.1	100	5.6	16.5	3.3	15	10%	B32562J6104K	975-2820
0.15	150	6.5	16.5	3.9	15	10%	B32562J6154K	975-2838
0.22	220	7.5	16.5	4.7	15	10%	B32562J6224K	975-2846
0.33	330	8.3	16.5	6	15	10%	B32562J6334K	975-2854
0.47	470	9.3	16.5	7.3	15	10%	B32562J6474K	975-2862
0.68	680	10.8	16.5	8.9	15	10%	B32562J6684K	975-2870
1	1000	12.5	16.5	10.9	15	10%	B32562J6105K	975-2889

208429

400 Volt d.c.		Price Each				
µF	Order Code	1+	10+	50+	100+	500+
0.1	975-2820●	0.192	0.184	0.149	0.141	0.120
0.15	975-2838●	0.210	0.200	0.173	0.153	0.135
0.22	975-2846●	0.300	0.260	0.220	0.194	0.143
0.33	975-2854●	0.300	0.260	0.220	0.194	0.143
0.47	975-2862●	0.260	0.210	0.184	0.163	0.145
0.68	975-2870●	0.330	0.280	0.250	0.210	0.194
1	975-2889●	0.670	0.580	0.500	0.440	0.300

B3252* Series

EPCOS



- Stacked film polyester capacitors
- Excellent self-healing properties
- Flame retardant encapsulation

Lead length=6, Lead dia.=0.5

Operating temperature	-55°C to +125°C
Tolerance	±10%
Power factor @ 1kHz	0.007
Insulation resistance	15000MΩ for C≤ 0.33µF ≤100V 5000sec (MΩ x µF) for C>0.33µF @ ≤100V 30000MΩ for C @ ≥250V
Climatic category	55/100/56

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**.

50 Volt d.c. (32 Volt a.c.)		Dimensions			Lead		
µF	nF	H	W	D	Pitch	Mftrs. List No.	Order Code
2.2	2200	13	7.2	7.8	5	B32529D5225K	975-0851

50 Volt d.c.		Price Each			
µF	Order Code	1+	100+	500+	1K+
2.2	975-0851●	1.68	1.53	1.45	1.32

63 Volt d.c. (40 Volt a.c.)		Dimensions			Lead		
µF	nF	H	W	D	Pitch	Mftrs. List No.	Order Code
1	1000	6.5	7.2	2.5	5	B32529C102K	975-2897
1.5	1500	6.5	7.2	2.5	5	B32529C152K	975-2900
2.2	2200	6.5	7.2	2.5	5	B32529C222K	975-2919
3.3	3300	6.5	7.2	2.5	5	B32529C332K	975-2927
4.7	4700	6.5	7.2	2.5	5	B32529C472K	975-2935
6.8	6800	6.5	7.2	2.5	5	B32529C682K	975-2943
10	10000	6.5	7.2	2.5	5	B32529C103K	975-2951
15	15000	6.5	7.2	2.5	5	B32529C153K	975-2960
22	22000	6.5	7.2	2.5	5	B32529C223K	975-2978
33	33000	6.5	7.2	2.5	5	B32529C333K	975-2986
47	47000	6.5	7.2	2.5	5	B32529C473K	975-2994
68	68000	6.5	7.2	2.5	5	B32529C683K	975-0860
0.1	100	6.5	7.2	2.5	5	B32529C104K	975-0878
0.15	150	6.5	7.2	3	5	B32529C154K	975-0886
0.22	220	8	7.2	3.5	5	B32529C224K	975-0894
0.33	330	8	7.2	3.5	5	B32529C334K	975-0908
0.47	470	9.5	7.2	4.5	5	B32529C474K	975-0916
0.68	680	10	7.2	5	5	B32529C684K	975-0924
1	1000	10.5	7.2	5	5	B32529C105K	975-0932
1.5	1500	13	7.2	7.2	5	B32529B155K	975-0940

RL Re-reeling available

Polyester - continued

B3252* Series - continued

Order Multiple=5
63 Volt d.c.

µF	Order Code	5+	100+	500+	1K+
		Price Each			
1	975-2897●	0.250	0.151	0.140	0.117
1.5	975-2900●	0.148	0.102	0.092	0.071
2.2	975-2919●	0.153	0.105	0.094	0.073
3.3	975-2927●	0.153	0.105	0.094	0.073
4.7	975-2935●	0.153	0.105	0.094	0.073
6.8	975-2943●	0.153	0.105	0.094	0.073
10	975-2951●	0.260	0.164	0.150	0.117
15	975-2960●	0.157	0.107	0.076	0.065
22	975-2978●	0.160	0.109	0.078	0.066
33	975-2986●	0.164	0.110	0.079	0.067
47	975-2994●	0.158	0.108	0.079	0.066
68	975-0860●	0.120	0.084	0.075	0.060
0.1	975-0878●	0.280	0.176	0.167	0.134
0.15	975-0886●	0.250	0.159	0.149	0.117
0.22	975-0894●	0.290	0.164	0.154	0.135
0.33	975-0908●	0.360	0.250	0.210	0.170
0.47	975-0916●	0.630	0.390	0.380	0.330
0.68	975-0924●	0.560	0.340	0.330	0.290
1	975-0932●	1.070	0.730	0.630	0.550
1.5	975-0940●	1.410	0.910	0.840	0.690

100 Volt d.c. (63 Volt a.c.)

µF	nF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
22	22000	6.5	7.2	2.5	5	B32529C1223K	975-0959
47	47000	6.5	7.2	2.5	5	B32529C1473K	975-0975
0.1	100	8	7.2	3.5	5	B32529B1104K	975-0983
0.22	220	8.5	10	4	7.5	B32520C1224K	975-3001
0.47	470	12	10	6	7.5	B32520C1474K	975-3010

Order Multiple=5
100 Volt d.c.

µF	Order Code	5+	100+	500+	1K+
		Price Each			
22	975-0959●	0.173	0.117	0.094	0.084
47	975-0975●	0.173	0.120	0.100	0.079
0.1	975-0983●	0.250	0.146	0.133	0.110
0.22	975-3001●	0.240	0.194	0.174	0.136
0.47	975-3010●	0.250	0.240	0.200	0.197

250 Volt d.c. (160 Volt a.c.)

µF	nF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.1	100	8.5	10	4	7.5	B32520-C3104-K	975-1211
0.01	10	6.5	7.2	2.5	5	B32529C3103K	975-0991

250 Volt d.c.

µF	Order Code	1+	10+	50+	100+
		Price Each			
0.1	975-1211●	0.220	0.153	0.118	0.098
0.01	975-0991●	0.250	0.151	0.142	0.120

400 Volt d.c. (200 Volt a.c.)

µF	nF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
1	1000	6.5	7.2	2.5	5	B32529C6102K	975-1009
2.2	2200	6.5	7.2	2.5	5	B32529C6222K	975-1017
4.7	4700	6.5	7.2	2.5	5	B32529C6472K	975-1025
10	10000	8	10	3	7.5	B32520C6103K	975-3028
22	22000	8.5	10	5	7.5	B32520C6223K	975-3036
0.047	47	10.5	10	5	7.5	B32520C6473K	975-3044
0.068	68	11	13	5	10	B32521C6683K	975-1220
100	100000	12	13	6	10	B32521C6104K	975-1238
0.22	220	12.5	18	7	15	B32522C6224K	975-1246

208424

400 Volt d.c.

µF	Order Code	1+	10+	50+	100+
		Price Each			
1	975-1009●	0.139	0.088	0.084	0.067
2.2	975-1017●	0.121	0.086	0.082	0.066
4.7	975-1025●	0.121	0.086	0.082	0.066
10	975-3028●	0.174	0.108	0.099	0.081
22	975-3036●	0.250	0.141	0.138	0.109
0.047	975-3044●	0.250	0.163	0.149	0.134
0.068	975-1220●	0.300	0.250	0.188	0.155
100	975-1238●	0.390	0.320	0.260	0.195
0.22	975-1246●	0.450	0.360	0.280	0.240

MKT 1822 Series

VISHAY



- Metallised polyester film capacitors
- Stacked film technology
- Flame retardant case to **UL94V-0**
- Potted with epoxy resin
- Conform to **DIN44122**

Lead dia. = 0.8

Operating temperature -55°C to +100°C Climatic category 55/100/56 Tolerance ±20%

100 Volt d.c. (63 Volt a.c.)

µF	nF	Dimensions H	W	D	Lead Pitch	Order Code
0.1	100	9	4	13	10	116-6897
1	1000	13.5	7.5	18	15	116-6898
2.2	2200	16.5	8.5	26.5	22.5	116-6899
10	10000	24.5	15	31.5	27.5	116-6900

100 Volt d.c.

µF	Order Code	5+	10+	50+	100+
		Price Each			
0.1	116-6897●	0.119	0.095	0.079	0.070
1	116-6898●	0.450	0.340	0.310	0.260
2.2	116-6899●	0.730	0.600	0.490	0.440
10	116-6900●	2.610	2.090	1.820	1.580

400 Volt d.c. (200 Volt a.c.)

µF	nF	Dimensions H	W	D	Lead Pitch	Order Code
0.1	100	10.5	5.5	18	15	116-6901
0.47	470	18	10.5	26.5	22.5	116-6902

208576

400 Volt d.c.

µF	Order Code	5+	10+	50+	100+
		Price Each			
0.1	116-6901●	0.220	0.168	0.158	0.123
0.47	116-6902●	0.380	0.300	0.270	0.240

ECQB Polyester Film

Panasonic
ideas for life



- Non-inductive constructive
- Low loss high stability
- Epoxy coating

Lead pitch=5, Lead dia.=0.5, Lead length=19

Operating temperature -40°C to +85°C Insulation resistance C ≤ 0.33µF 30000MΩ min.
Capacitance tolerance ±5% C ≥ 0.33µF 10000MΩ min.

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**.

µF	nF	H	W	D	Mftrs. List No.	Order Code
0.001	1	6	7	3	ECQB1H102JF	119-8521
0.0012	1.2	6	7	3	ECQB1H122JF	119-8522
0.0015	1.5	6	7	3	ECQB1H152JF	119-8523
0.0018	1.8	6	7	3	ECQB1H182JF	119-8524
0.0022	2.2	6	7	3	ECQB1H222JF	119-8525
0.0027	2.7	6	7	3	ECQB1H272JF	119-8526
0.0033	3.3	6	7	3	ECQB1H332JF	119-8527
0.0039	3.9	6	7	3	ECQB1H392JF	119-8528
0.0047	4.7	6	7	3	ECQB1H472JF	119-8529
0.0056	5.6	6	7	3	ECQB1H562JF	119-8530
0.0068	6.8	6	7	3	ECQB1H682JF	119-8532
0.0082	8.2	6	7	3	ECQB1H822JF	119-8533
0.01	10	6	7	3	ECQB1H103JF	119-8534
0.012	12	6.3	7.3	3.3	ECQB1H123JF	119-8535
0.015	15	6	7.5	3	ECQB1H153JF	119-8536
0.018	18	6	7	3	ECQB1H183JF	119-8537
0.022	22	6	7.5	3	ECQB1H223JF	119-8538

50 Volt d.c.

µF	Order Code	10+	50+	100+	500+	1K+
		Price Each				
0.001	119-8521●	0.085	0.071	0.061	0.037	0.035
0.0012	119-8522●	0.069	0.060	0.051	0.031	0.030
0.0015	119-8523●	0.083	0.069	0.059	0.036	0.034
0.0018	119-8524●	0.081	0.067	0.057	0.035	0.033
0.0022	119-8525●	0.085	0.071	0.061	0.037	0.035
0.0027	119-8526●	0.083	0.069	0.059	0.036	0.034
0.0033	119-8527●	0.083	0.069	0.059	0.036	0.034
0.0039	119-8528●	0.062	0.053	0.044	0.028	0.026
0.0047	119-8529●	0.083	0.069	0.059	0.036	0.034
0.0056	119-8530●	0.083	0.069	0.059	0.036	0.034
0.0068	119-8532●	0.081	0.068	0.058	0.035	0.033
0.0082	119-8533●	0.065	0.042	0.036	0.026	0.023
0.01	119-8534●	0.064	0.054	0.046	0.028	0.027
0.012	119-8535●	0.090	0.075	0.063	0.038	0.037
0.015	119-8536●	0.095	0.080	0.067	0.041	0.038
0.018	119-8537●	0.081	0.067	0.056	0.034	0.031
0.022	119-8538●	0.105	0.087	0.072	0.043	0.041

100 Volt d.c.

nF	pF	Dimensions H	W	D	Mftrs. List No.	Order Code
0.1	100	6	7.2	3	ECQB1101KF	119-8303
0.22	220	6	7.2	3	ECQB1221KF	119-8305
0.33	330	6	7.2	3	ECQB1331KF	119-8306
0.47	470	6	7.2	3	ECQB1471JF	119-8307
0.68	680	6	7.2	3	ECQB1681JF	119-8308
1	1000	6	7.2	3	ECQB1102JF	119-8309
2.2	2200	6.5	7.2	3	ECQB1222JF	119-8311
4.7	4700	6.5	7.2	3	ECQB1472JF	119-8314
6.8	6800	6.5	7.2	3	ECQB1682JF	119-8315
10	10000	7	7.2	3.2	ECQB1103JF	119-8316
15	15000	7.5	7.2	4	ECQB1153JF	119-8317
22	22000	9	7.5	4.5	ECQB1223JF	119-8318
33	33000	10	7.5	5.5	ECQB1333JF	119-8319
47	47000	11.5	7.5	6.5	ECQB1473JF	119-8320
68	68000	10.5	10	5.5	ECQB1683JF	119-8321
100	100000	12.5	10.5	6	ECQB1104JF	119-8322

208481

Order Multiple=5
100 Volt d.c.

nF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
0.1	119-8303●	0.146	0.113	0.091	0.061	0.050
0.22	119-8305●	0.142	0.110	0.087	0.059	0.049
0.33	119-8306●	0.142	0.110	0.087	0.059	0.049
0.47	119-8307●	0.126	0.098	0.078	0.051	0.044
0.68	119-8308●	0.126	0.098	0.078	0.051	0.044
1	119-8309●	0.131	0.101	0.080	0.053	0.045
2.2	119-8311●	0.131	0.101	0.080	0.053	0.045
4.7	119-8314●	0.126	0.098	0.078	0.051	0.044
6.8	119-8315●	0.126	0.098	0.078	0.051	0.044
10	119-8316●	0.131	0.101	0.080	0.053	0.045
15	119-8317●	0.136	0.105	0.083	0.056	0.048

RL Re-reeling available

Farnell

Order Multiple=5
100 Volt d.c.

nF	Order Code	5+	50+	Price Each 100+	500+	1K+
22	119-8318●	0.146	0.113	0.091	0.061	0.050
33	119-8319●	0.152	0.118	0.095	0.063	0.054
47	119-8320●	0.170	0.131	0.104	0.071	0.060
68	119-8321●	0.250	0.180	0.143	0.097	0.082
100	119-8322●	0.290	0.210	0.168	0.113	0.097

ECQV Plastic Film

Panasonic ideas for life



Lead pitch=5, Lead dia.=0.5, Lead length=20

- Stacked Metallized Plastic Film Capacitor
- Small size and large capacitance

New

- Excellent electric characteristics in non-inductive construction
- Ideal for noise suppression for logic circuits

Operating temperature
Capacitance tolerance ±5%
Insulation resistance
C ≤ 0.33µF 30000MΩ min.
C > 0.33µF 10000MΩ min.

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**.

50 Volt d.c.

µF	nF	Dimensions H	W	D	Mftrs. List No.	Order Code
0.01	10	5	7.3	3.2	ECQV1H103JL	166-9200
0.012	12	5	7.3	3.2	ECQV1H123JL	166-9201
0.015	15	5	7.3	3.2	ECQV1H153JL	166-9202
0.018	18	5	7.3	3.2	ECQV1H183JL	166-9203
0.022	22	5	7.3	3.2	ECQV1H223JL	166-9204

50 Volt d.c.

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
0.01	166-9200●	0.079	0.068	0.055	0.043	0.031
0.012	166-9201●	0.096	0.082	0.066	0.048	0.036
0.015	166-9202●	0.087	0.072	0.060	0.043	0.030
0.018	166-9203●	0.096	0.082	0.067	0.053	0.035
0.022	166-9204●	0.097	0.082	0.067	0.053	0.035

100 Volt d.c.

µF	nF	Dimensions H	W	D	Mftrs. List No.	Order Code
0.01	10	7	7.5	3.2	ECQV1103JM	166-9192
0.015	15	7	7.5	3.2	ECQV1153JM	166-9193
0.022	22	7	7.5	3.2	ECQV1223JM	166-9194
0.033	33	7	7.5	3.2	ECQV1333JM	166-9195
0.068	68	7	7.5	4	ECQV1683JM	166-9197
0.068	68	7	7.5	4	ECQV1683JM	166-9197
0.1	100	7	7.5	4.5	ECQV1104JM	166-9198

527450

Order Multiple=5
100 Volt d.c.

nF	Order Code	5+	50+	Price Each 100+	500+	1K+
0.01	166-9192●	0.105	0.091	0.073	0.056	0.042
0.015	166-9193●	0.105	0.091	0.073	0.056	0.042
0.022	166-9194●	0.105	0.091	0.073	0.056	0.042
0.033	166-9195●	0.105	0.091	0.073	0.056	0.042
0.068	166-9197●	0.105	0.091	0.073	0.056	0.042
0.068	166-9197●	0.105	0.091	0.073	0.056	0.042
0.1	166-9198●	0.163	0.139	0.111	0.075	0.064

2222 368 Series

BC COMPONENTS



- Metallised PETP film capacitors
- Hard epoxy coated
- Crimped and cropped leads for direct PCB mounting

Lead length=5

Operating temperature -55°C to +100°C
Insulation resistance 30000MΩ
Basic specification **IEC384-2**, long life grade
Climatic category **(IEC68)** 40/100/56
Tolerance ±10%
Power factor 0.01

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**.

100 Volt d.c. (63 Volt a.c.)

µF	nF	Dimensions H	W	D	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
0.1	100	13	12.5	4	0.6	10	2222 368 25104	121-5469
0.15	150	12.9	12.5	3.9	0.6	10	2222 368 25154	121-5471
0.22	220	13.6	12.5	4.5	0.6	10	2222 368 25224	121-5473
0.33	330	14	17.5	5	0.8	15	2222 368 25334	121-5476
0.47	470	14.5	17.5	5.5	0.8	15	2222 368 25474	121-5478
0.68	680	15	17.5	6	0.8	15	2222 368 25684	121-5480
1	1000	16.5	17.5	7.5	0.8	15	2222 368 25105	121-5470
1.5	1500	18	26	6	0.8	22.5	2222 368 25155	121-5472
2.2	2200	19.5	26	7.5	0.8	22.5	2222 368 25225	121-5475
3.3	3300	22	26	9	0.8	22.5	2222 368 25335	121-5477
4.7	4700	23	30	10	0.8	27.5	2222 368 25475	121-5479

Order Multiple=5
100 Volt d.c.

µF	Order Code	5+	Price Each 100+	1K+	3K+
0.1	121-5469●	0.151	0.095	0.081	0.068
0.15	121-5471●	0.143	0.084	0.062	0.056
0.22	121-5473●	0.174	0.095	0.083	0.071
0.33	121-5476●	0.270	0.142	0.131	0.094
0.47	121-5478●	0.210	0.151	0.119	0.097
0.68	121-5480●	0.350	0.200	0.178	0.130

Order Multiple=5
100 Volt d.c.

µF	Order Code	5+	Price Each 100+	1K+	3K+
1	121-5470●	0.420	0.360	0.320	0.290
1.5	121-5472●	0.490	0.290	0.250	0.200
2.2	121-5475●	0.770	0.650	0.580	0.490
3.3	121-5477●	1.030	0.620	0.520	0.400
4.7	121-5479●	1.180	1.010	0.890	0.790

250 Volt d.c. (160 Volt a.c.)

µF	nF	Dimensions H	W	D	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
0.033	33	13	12.5	4.6	0.6	10	2222 368 45333	121-5488
0.047	47	13.5	12.5	4.5	0.6	10	2222 368 45473	121-5490
0.068	68	13.5	12.5	4.6	0.6	10	2222 368 45683	121-5492
0.1	100	13.7	12.5	4.7	0.6	10	2222 368 45104	121-5481
0.15	150	14	17.5	5	0.8	15	2222 368 45154	121-5483
0.22	220	15	17.5	6	0.8	15	2222 368 45224	121-5485
0.33	330	16	17.5	6.8	0.8	15	2222 368 45334	121-5489
0.47	470	17.5	26	5.5	0.8	22.5	2222 368 45474	121-5491
0.68	680	18.5	26	6.6	0.8	22.5	2222 368 45684	121-5493
1	1000	20	26	8	0.8	22.5	2222 368 45105	121-5482
1.5	1500	22	30	9	0.8	27.5	2222 368 45155	121-5484
2.2	2200	24	30	11	0.8	27.5	2222 368 45225	121-5487

Order Multiple=5
250 Volt d.c.

µF	Order Code	5+	Price Each 100+	1K+	3K+
0.033	121-5488●	0.128	0.083	0.060	0.047
0.047	121-5490●	0.130	0.110	0.098	0.085
0.068	121-5492●	0.124	0.082	0.058	0.057
0.1	121-5481●	0.151	0.128	0.112	0.100
0.15	121-5483●	0.178	0.108	0.087	0.065
0.22	121-5485●	0.220	0.184	0.162	0.136
0.33	121-5489●	0.260	0.189	0.149	0.121
0.47	121-5491●	0.360	0.270	0.200	0.176
0.68	121-5493●	0.370	0.320	0.220	0.198
1	121-5482●	0.530	0.410	0.330	0.290
1.5	121-5484●	0.540	0.330	0.280	0.220
2.2	121-5487●	0.960	0.810	0.710	0.630

400 Volt d.c. (220 Volt a.c.)

µF	nF	Dimensions H	W	D	Lead Dia	Lead Pitch	Mftrs. List No.	Order Code
0.015	15	13	12.5	4.1	0.6	10	2222 368 55153	121-5496
0.022	22	12.9	12.5	4.2	0.6	10	2222 368 55223	121-5499
0.033	33	13.7	12.5	4.6	0.6	10	2222 368 55333	121-5501
0.047	47	14.5	17.5	5.4	0.8	15	2222 368 55473	121-5503
0.068	68	13.5	17.5	5	0.8	15	2222 368 55683	121-5506
0.1	100	14.5	17.5	5.3	0.8	15	2222 368 55104	121-5494
0.15	150	15.5	17.5	6.4	0.8	15	2222 368 55154	121-5497
0.22	220	18.5	26	6.3	0.8	22.5	2222 368 55224	121-5500
0.33	330	18	26	6.4	0.8	22.5	2222 368 55334	121-5502
0.47	470	20	26	8	0.8	22.5	2222 368 55474	121-5505
0.68	680	21.5	30	8.5	0.8	27.5	2222 368 55684	121-5507
1	1000	23.5	30	10.5	0.8	27.5	2222 368 55105	121-5495

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Order Multiple=5
400 Volt d.c.

µF	Order Code	5+	Price Each 100+	1K+	3K+
0.015	121-5496●	0.115	0.076	0.053	0.042
0.022	121-5499●	0.118	0.081	0.068	0.054
0.033	121-5501●	0.130	0.096	0.081	0.068
0.047	121-5503●	0.172	0.108	0.095	0.081
0.068	121-5506●	0.192	0.116	0.093	0.080
0.1	121-5494●	0.220	0.149	0.121	0.108
0.15	121-5497●	0.290	0.167	0.143	0.106
0.22	121-5500●	0.340	0.270	0.200	0.176
0.33	121-5502●	0.240	0.220	0.200	0.167
0.47	121-5505●	0.520	0.390	0.330	0.270
0.68	121-5507●	0.620	0.460	0.380	0.340
1	121-5495●	0.980	0.600	0.470	0.380

2222 468 Series

BC COMPONENTS



- Metallised PETP film capacitors
- Hard epoxy coated
- Crimped and cropped leads for direct PCB mounting

Lead length=3.5

Operating temperature -40°C to +85°
Basic specification **IEC384-2,** long life grade
Climatic category **(IEC68)** 55/100/56
Tolerance ±10%

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**.

µF	nF	Dimensions H	W	D	Lead Dia	Lead Pitch	Mftrs. List No.	Order Code
1.5	1500	15	17.5	5.5	0.8	15	2222 468 04155	116-6115
2.2	2200	16	17.5	6.5	0.8	15	2222 468 04225	116-6117
3.3	3300	17.5	17.5	8	0.8	15	2222 468 04335	116-6118
4.7	4700	19.5	26	6.5	0.8	22.5	2222 468 04475	116-6119
6.8	6800	21	26	8	0.8	22.5	2222 468 04685	116-6120
10	10000	22.5	26	10	0.8	22.5	2222 468 04106	116-6121

100 Volt d.c.

µF	Order Code	1+	50+	Price Each 100+	500+	1K+	3K+
1.5	116-6115●	0.47	0.43	0.39	0.32	0.28	0.25
2.2	116-6117●	0.66	0.62	0.55	0.43	0.39	0.33
3.3	116-6118●	0.79	0.71	0.61	0.49	0.43	0.36
4.7	116-6119●	1.30	1.18	1.07	0.84	0.75	0.64
6.8	116-6120●	1.54	1.43	1.30	1.01	0.90	0.77
10	116-6121●	2.01	1.83	1.67	1.33	1.15	1.00

RL Re-reeling available

Farnell

Polyester - continued

2222 468 Series - continued

250 Volt d. c. (160 Volt a. c.)

µF	nF	Dimensions H	W	D	Lead Dia	Lead Pitch	Mftrs. List No.	Order Code
0.47	470	15	17.5	6	0.8	15	2222 468 16474	116-6122
0.68	680	16.5	17.5	7	0.8	15	2222 468 16684	116-6123
1	1000	19.5	17.5	7.5	0.8	15	2222 468 16105	116-6124
1.5	1500	19.5	26.5	7.5	0.8	22.5	2222 468 16155	116-6125
2.2	2200	21	26	9.5	0.8	22.5	2222 468 16225	116-6126
3.3	3300	23.5	26	11.5	0.8	22.5	2222 468 16335	116-6127
4.7	4700	25.5	26	14.5	0.8	22.5	2222 468 16475	116-6129

250 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+	3K+
0.47	116-6122●	0.300	0.280	0.260	0.181	0.169	0.142
0.68	116-6123●	0.340	0.310	0.290	0.240	0.190	0.163
1	116-6124●	0.380	0.340	0.310	0.270	0.220	0.185
1.5	116-6125●	0.600	0.550	0.480	0.390	0.340	0.300
2.2	116-6126●	0.820	0.770	0.680	0.540	0.470	0.410
3.3	116-6127●	1.070	0.980	0.900	0.710	0.630	0.530
4.7	116-6129●	1.500	1.390	1.240	0.980	0.880	0.750

400 Volt d. c. (200 Volt a. c.)

µF	nF	Dimensions H	W	D	Lead Dia	Lead Pitch	Mftrs. List No.	Order Code
0.15	150	14	17.5	5	0.8	15	2222 468 28154	116-6131
0.22	220	15	17.5	6	0.8	15	2222 468 28224	116-6132
0.33	330	16.5	17.5	7.5	0.8	15	2222 468 28334	116-6133
0.47	470	20	17.5	7.5	0.8	15	2222 468 28474	116-6134
0.68	680	19.5	26	7.5	0.8	22.5	2222 468 28684	116-6135
1	1000	21	26	9.5	0.8	22.5	2222 468 28105	116-6136
1.5	1500	22.5	30	10.5	0.8	27.5	2222 468 28155	116-6137
2.2	2200	24.5	30	13.5	0.8	27.5	2222 468 28225	116-6138

400 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+	3K+
0.15	116-6131●	0.260	0.220	0.200	0.156	0.146	0.116
0.22	116-6132●	0.330	0.300	0.280	0.220	0.186	0.159
0.33	116-6133●	0.290	0.260	0.240	0.189	0.166	0.135
0.47	116-6134●	0.470	0.430	0.390	0.320	0.280	0.250
0.68	116-6135●	0.600	0.550	0.480	0.390	0.340	0.300
1	116-6136●	0.720	0.670	0.620	0.470	0.430	0.360
1.5	116-6137●	1.020	0.930	0.840	0.680	0.600	0.500
2.2	116-6138●	1.340	1.220	1.090	0.850	0.770	0.660

630 Volt d. c. (250 Volt a. c.)

µF	nF	Dimensions H	W	D	Lead Dia	Lead Pitch	Mftrs. List No.	Order Code
0.068	68	14.5	17.5	6	0.8	15	2222 468 40683	116-6139
0.1	100	15.5	17.5	7.5	0.8	15	2222 468 40104	116-6140
0.15	150	19	17.5	7.5	0.8	15	2222 468 40154	116-6142
0.22	220	19	26	7.5	0.8	22.5	2222 468 40224	116-6143
0.33	330	20.5	26	9.5	0.8	22.5	2222 468 40334	116-6144
0.47	470	22	26	11.5	0.8	22.5	2222 468 40474	116-6145
0.68	680	23.5	26	14.5	0.8	22.5	2222 468 40684	116-6146

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630 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+	3K+
0.068	116-6139●	0.250	0.200	0.191	0.144	0.133	0.115
0.1	116-6140●	0.300	0.280	0.260	0.181	0.169	0.142
0.15	116-6142●	0.280	0.250	0.220	0.189	0.150	0.129
0.22	116-6143●	0.460	0.420	0.390	0.310	0.280	0.220
0.33	116-6144●	0.590	0.540	0.470	0.380	0.330	0.290
0.47	116-6145●	0.750	0.660	0.580	0.450	0.410	0.350
0.68	116-6146●	0.820	0.770	0.680	0.540	0.470	0.420

R60 Series

ARCOTRONICS GROUP
A KEMET Company



- Metallised polyester film capacitor
- D.C. multipurpose applications
- Typical applications: blocking, coupling, decoupling and by-passing

New

Tolerance ±5%
Lead Length 25mm

63 Volt

nF	µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
470	0.47	9	13	4	10	R60DF3470506AJ	167-9331
680	0.68	9	13	4	10	R60DF3680506AJ	167-9332
1000	1	9	13	4	10	R60DF4100506AJ	167-9333
1500	1.5	11	13	5	10	R60DF4150506AJ	167-9334
2200	2.2	11	13	5	10	R60DF4220506AJ	167-9335
3300	3.3	12	13	6	10	R60DF4330506AJ	167-9336
680	0.68	11	18	5	15	R60DI36805030J	167-9337
1000	1	11	18	5	15	R60DI41005030J	167-9339
3300	3.3	14	18	8	15	R60DI43305030J	167-9341
4700	4.7	15	18	9	15	R60DI44705030J	167-9342
4700	4.7	16	27	7	22.5	R60DN44705030J	167-9343
6800	6.8	16	27	7	22.5	R60DN46805030J	167-9344
10000	10	17	27	9	22.5	R60DN51005030J	167-9345
15000	15	20	27	11	22.5	R60DN51505030J	167-9346
22000	22	20	32	11	27.5	R60DR52205040J	167-9347

63 Volt µF	Order Code	Price Each 10+	25+	50+	100+	500+
0.47	167-9331●	0.270	0.177	0.133	0.106	0.101
0.68	167-9332●	0.270	0.177	0.133	0.106	0.101
1	167-9333●	0.270	0.177	0.133	0.106	0.101
1.5	167-9334●	0.430	0.280	0.213	0.170	0.162
2.2	167-9335●	0.430	0.280	0.213	0.170	0.162
3.3	167-9336●	0.470	0.310	0.237	0.189	0.180
0.68	167-9337●	0.350	0.233	0.175	0.140	0.133
1	167-9339●	0.390	0.260	0.195	0.156	0.148
3.3	167-9341●	0.970	0.650	0.480	0.390	0.370
4.7	167-9342●	1.190	0.790	0.590	0.470	0.450
4.7	167-9343●	1.330	0.890	0.670	0.530	0.500
6.8	167-9344●	1.660	1.110	0.830	0.660	0.630
10	167-9345●	2.260	1.490	1.130	0.900	0.860
15	167-9346●	3.670	2.440	1.830	1.460	1.390
22	167-9347●	3.510	2.630	2.100	1.750	1.660

100 Volt

nF	µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
470	0.47	9	13	4	10	R60EF3470506AJ	167-9348
680	0.68	9	13	4	10	R60EF3680506AJ	167-9349
1000	1	11	13	5	10	R60EF4100506AJ	167-9350
1000	1	11	18	5	15	R60EI41005030J	167-9352
2200	2.2	15	18	9	15	R60EI42205030J	167-9353
3300	3.3	16	18	10	15	R60EI43305030J	167-9354
4700	4.7	17	27	9	22.5	R60EN44705030J	167-9355
6800	6.8	19	27	10	22.5	R60EN46805030J	167-9356
10000	10	17	32	9	27.5	R60ER51005040J	167-9357

100 Volt µF	Order Code	Price Each 10+	25+	50+	100+	500+
0.47	167-9348●	0.280	0.187	0.140	0.112	0.106
0.68	167-9349●	0.320	0.219	0.164	0.131	0.124
1	167-9350●	0.370	0.248	0.186	0.149	0.142
1	167-9352●	0.380	0.260	0.193	0.155	0.147
2.2	167-9353●	0.650	0.430	0.320	0.250	0.240
3.3	167-9354●	0.840	0.560	0.420	0.340	0.320
4.7	167-9355●	1.250	0.830	0.620	0.500	0.480
6.8	167-9356●	1.600	1.060	0.800	0.640	0.610
10	167-9357●	1.460	1.090	0.870	0.810	0.770

160 Volt

nF	µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
220	0.22	9	13	4	10	R60GF3220506AJ	167-9358

160 Volt µF	Order Code	Price Each 10+	25+	50+	100+	500+
0.22	167-9358●	0.222	0.148	0.111	0.089	0.080

250 Volt

nF	µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
100	0.1	9	13	4	10	R60IF3100506AJ	167-9359
220	0.22	11	13	5	10	R60IF3220506AJ	167-9360
470	0.47	12	13	6	10	R60IF3470506AJ	167-9361
100	0.1	11	18	5	15	R60II31005030J	167-9362
220	0.22	11	18	5	15	R60II32205030J	167-9364
330	0.33	11	18	5	15	R60II33305030J	167-9365
470	0.47	12	18	6	15	R60II34705030J	167-9366
1000	1	15	18	9	15	R60II41005030J	167-9367
1000	1	15	27	6	22.5	R60IN41005030J	167-9368
2200	2.2	19	27	10	22.5	R60IN42205030J	167-9369
3300	3.3	20	27	11	22.5	R60IN43305030J	167-9370
4700	4.7	17	32	9	27.5	R60IR44705040J	167-9371

250 Volt µF	Order Code	Price Each 10+	25+	50+	100+	500+
0.1	167-9359●	0.193	0.129	0.097	0.077	0.070
0.22	167-9360●	0.242	0.161	0.121	0.097	0.090
0.47	167-9361●	0.290	0.197	0.147	0.118	0.110
0.1	167-9362●	0.250	0.168	0.126	0.101	0.100
0.22	167-9364●	0.260	0.175	0.131	0.105	0.100
0.33	167-9365●	0.280	0.184	0.138	0.111	0.110
0.47	167-9366●	0.320	0.210	0.158	0.126	0.120
1	167-9367●	0.460	0.300	0.227	0.182	0.170
1	167-9368●	0.490	0.330	0.245	0.196	0.190
2.2	167-9369●	0.890	0.590	0.450	0.360	0.340
3.3	167-9370●	1.100	0.730	0.550	0.440	0.420
4.7	167-9371●	1.730	1.150	0.860	0.690	0.660

400 Volt

nF	µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
22	0.022	9	13	4	10	R60MF2220506AJ	167-9372
33	0.033	9	13	4	10	R60MF2330506AJ	167-9373
47	0.047	9	13	4	10	R60MF2470506AJ	167-9374
100	0.1	11	13	5	10	R60MF3100506AJ	167-9376
100	0.1	11	18	5	15	R60MI31005030J	167-9377
220	0.22	11	18	5	15	R60MI32205040J	167-9378
330	0.33	14	18	8	15	R60MI33305030J	167-9379
470	0.47	14	18	8	15	R60MI34705040J	167-9380
470	0.47	15	27	6	22.5	R60MN34705030J	167-9381
1000	1	17	27	9	22.5	R60MN41005040J	167-9382
1500	1.5	19	27	10	22.5	R60MN41505040J	167-9383
2200	2.2	20	32	11	27.5	R60MR42205040J	167-9384

400 Volt µF	Order Code	Price Each 10+	25+	50+	100+	500+
0.022	167-9372●	0.203	0.135	0.101	0.081	0.080
0.033	167-9373●	0.203	0.135	0.101	0.081	0.080
0.047	167-9374●	0.237	0.158	0.118	0.095	0.090
0.1	167-9376●	0.270	0.177	0.133	0.106	0.100
0.1	167-9377●	0.260	0.171	0.128	0.103	0.100
0.22	167-9378●	0.280	0.189	0.142	0.113	0.110
0.33	167-9379●	0.330	0.222	0.167	0.133	0.130

RL Re-reeling available

Farnell

400 Volt

µF	Order Code	10+	25+	50+	100+	500+
		Price Each				
0.47	167-9380●	0.430	0.290	0.214	0.171	0.160
0.47	167-9381●	0.450	0.300	0.223	0.178	0.170
1	167-9382●	0.810	0.540	0.400	0.320	0.300
1.5	167-9383●	0.880	0.590	0.440	0.350	0.330
2.2	167-9384●	1.300	0.870	0.650	0.520	0.490

630 Volt

nF	µF	H	W	D	Lead Pitch	Mftrs. List No.	Order Code
		Dimensions					
10	0.01	9	13	4	10	R60PF2100506AJ	167-9385
12	0.012	9	13	4	10	R60PF2120506AJ	167-9386
22	0.022	9	13	4	10	R60PF2220506AJ	167-9388
47	0.047	11	13	5	10	R60PF2470506AJ	167-9389
47	0.047	11	18	5	15	R60PI24705030J	167-9390
100	0.1	12	18	6	15	R60PI31005040J	167-9391
220	0.22	15	27	6	22.5	R60PN32205040J	167-9392
330	0.33	16	27	7	22.5	R60PN33305050J	167-9393
470	0.47	19	27	10	27.5	R60PR34705040J	167-9394
680	0.68	20	27	11	27.5	R60PR36805040J	167-9395

630 Volt

µF	Order Code	10+	25+	50+	100+	500+
		Price Each				
0.01	167-9385●	0.179	0.119	0.089	0.072	0.070
0.012	167-9386●	0.189	0.126	0.094	0.076	0.070
0.022	167-9388●	0.208	0.139	0.104	0.083	0.080
0.047	167-9389●	0.242	0.161	0.121	0.097	0.090
0.047	167-9390●	0.250	0.166	0.125	0.110	0.100
0.1	167-9391●	0.340	0.226	0.170	0.136	0.130
0.22	167-9392●	0.490	0.330	0.250	0.197	0.190
0.33	167-9393●	0.700	0.470	0.350	0.280	0.270
0.47	167-9394●	0.920	0.610	0.460	0.370	0.350
0.68	167-9395●	1.180	0.790	0.590	0.480	0.460

1000 Volt

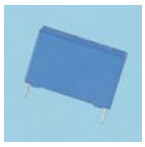
nF	µF	H	W	D	Lead Pitch	Mftrs. List No.	Order Code
		Dimensions					
1000000	1000	9	13	4	10	R60QF11005001J	167-9396
2200000	2200	9	13	4	10	R60QF12205001J	167-9397

527588

1000 Volt

µF	Order Code	10+	25+	50+	100+	500+
		Price Each				
1000	167-9396●	0.188	0.125	0.094	0.075	0.070
2200	167-9397●	0.188	0.125	0.094	0.075	0.070

2222 372, 373 Series



- Metallised polyester capacitors
- Flame retardant and solvent resistant case

2222 373 Series
Lead length=5, Lead dia.=0.8

2222 372 Series
Lead length=4, Lead dia.=0.6

Operating temperature	-55°C to +105°C	Climatic category **(IEC68)**	55/105/56
Insulation resistance	30000MΩ	Tolerance	±10%
Grade	Grade 1 (long life)	Power factor	0.01

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**

100 Volt d.c. (63 Volt a.c.)

µF	nF	H	W	D	Lead Pitch	Mftrs. List No.	Order Code
		Dimensions					
0.1	100	9	12.5	4	10	2222 372 21104	121-5522
0.15	150	9	12.5	4	10	2222 372 21154	121-5523
0.22	220	9	12.5	4	10	2222 372 21224	121-5524
0.33	330	11	17.5	5	15	2222 373 23334	121-5532
0.47	470	11	17.5	5	15	2222 373 23474	121-5534
0.68	680	11	17.5	5	15	2222 373 23684	121-5535
1	1000	12	17.5	6	15	2222 373 21105	121-5531
1.5	1500	16.5	26	7	22.5	2222 373 90012	121-5546
2.2	2200	16.5	26	7	22.5	2222 373 90002	121-5545
3.3	3300	18	26	8.5	22.5	2222 373 23335	121-5533
4.7	4700	19	31	9	27.5	2222 373 90032	121-5547
6.8	6800	21	31	11	27.5	2222 373 23685	121-5536

Order Multiple=5
100 Volt d.c.

µF	Order Code	5+	100+	1K+	3K+	5K+
				Price Each		
0.1	121-5522●	0.152	0.109	0.090	0.082	0.080
0.15	121-5523●	0.153	0.111	0.090	0.080	0.079
0.22	121-5524●	0.180	0.129	0.105	0.096	0.093
0.33	121-5532●	0.163	0.118	0.096	0.090	0.088
0.47	121-5534●	0.290	0.200	0.162	0.149	0.146
0.68	121-5535●	0.260	0.188	0.144	0.133	0.130
1	121-5531●	0.460	0.300	0.240	0.210	0.189
1.5	121-5546●	0.590	0.410	0.340	0.320	0.310
2.2	121-5545●	0.780	0.560	0.450	0.420	0.410
3.3	121-5533●	0.950	0.660	0.540	0.490	0.480
4.7	121-5547●	1.450	1.080	0.840	0.780	0.760
6.8	121-5536●	1.690	1.220	0.980	0.900	0.880

250 Volt d.c. (160 Volt a.c.)

µF	nF	H	W	D	Lead Pitch	Mftrs. List No.	Order Code
		Dimensions					
0.1	100	10	12.5	4	10	2222 372 41104	121-5525
0.15	150	11	17.5	5	15	2222 373 41154	121-5537
0.22	220	11	17.5	5	15	2222 373 41224	121-5538
0.47	470	15.5	26	6	22.5	2222 373 90042	121-5548
0.82	820	15	17.5	8.5	15	BFC237343824	141-3809
1	1000	14.5	26	7	22.5	2222 373 90082	121-5549
1.5	1500	19	31	9	27.5	2222 373 90092	121-5550
2.2	2200	21	31	11	27.5	2222 373 90112	121-5551

Order Multiple=5
250 Volt d.c.

µF	Order Code	5+	100+	1K+	3K+	5K+
				Price Each		
0.1	121-5525●	0.169	0.117	0.092	0.086	0.083
0.15	121-5537●	0.153	0.109	0.090	0.082	0.081
0.22	121-5538●	0.300	0.173	0.138	0.124	0.111
0.47	121-5548●	0.390	0.290	0.240	0.210	0.200
0.82	141-3809●	0.440	0.380	0.340	0.280	0.210
1	121-5549●	0.470	0.350	0.300	0.280	0.270
1.5	121-5550●	0.750	0.540	0.430	0.400	0.390
2.2	121-5551●	0.980	0.690	0.570	0.520	0.500

400 Volt d.c. (220 Volt a.c.)

µF	nF	H	W	D	Lead Pitch	Mftrs. List No.	Order Code
		Dimensions					
0.01	10	9	12.5	4	10	2222 372 51103	121-5526
0.022	22	9	12.5	4	10	2222 372 51223	121-5527
0.033	33	10	12.5	4	10	2222 372 51333	121-5529
0.047	47	11	17.5	5	15	2222 373 51473	121-5542
0.1	100	11	17.5	5	15	2222 373 51104	121-5539
0.15	150	11	17.5	5	15	BFC237353154	141-3812
0.22	220	12	17.5	6	15	BFC237353224	141-3813
0.33	330	13.5	17.5	7	15	BFC237353334	141-3814
0.47	470	18	26	8.5	22.5	2222 373 51474	121-5543
1	1000	21	31	11	27.5	2222 373 51105	121-5540

Order Multiple=5
400 Volt d.c.

µF	Order Code	5+	100+	1K+	3K+	5K+
				Price Each		
0.01	121-5526●	0.144	0.102	0.083	0.076	0.075
0.022	121-5527●	0.144	0.102	0.083	0.076	0.075
0.033	121-5529●	0.148	0.105	0.086	0.079	0.076
0.15	141-3812●	0.320	0.270	0.250	0.200	0.147
0.22	141-3813●	0.370	0.320	0.290	0.240	0.178
0.33	141-3814●	0.480	0.410	0.370	0.310	0.240
0.047	121-5542●	0.260	0.161	0.128	0.116	0.103
0.1	121-5539●	0.310	0.175	0.139	0.126	0.112
0.47	121-5543●	0.560	0.390	0.330	0.310	0.300
1	121-5540●	0.710	0.520	0.410	0.390	0.380

630 Volt d.c. (250 Volt a.c.)

µF	nF	H	W	D	Lead Pitch	Mftrs. List No.	Order Code
		Dimensions mm					
0.01	10	10	12.5	4	10	2222 372 61103	116-6014
0.015	15	10	12.5	4	10	2222 372 61153	116-6015
0.022	22	10	12.5	4	10	2222 372 61223	116-6016
0.033	33	11	12.5	5	10	2222 372 61333	116-6017
0.047	47	12	12.5	6	10	2222 372 61473	116-6018
0.068	68	12	12.5	6	15	2222 373 63683	116-6019
0.1	100	13.5	17.5	7	15	2222 373 63104	116-6020
0.15	150	15	17.5	8.5	15	2222 373 63154	116-6021
0.22	220	16.5	17.5	10	15	2222 373 63224	116-6022
0.33	330	18	26	8.5	22.5	2222 373 63334	116-6023
0.47	470	19.5	26	10	22.5	2222 373 63474	116-6024
0.68	680	23	31	13	27.5	2222 373 63684	116-6026
1	1000	25	31	15	27.5	2222 373 63105	116-6027

208404

Order Multiple=5
630 Volt d.c.

µF	Order Code	5+	100+	1K+	3K+	5K+
				Price Each		
0.01	116-6014●	0.185	0.144	0.128	0.109	0.094
0.015	116-6015●	0.178	0.152	0.124	0.106	0.092
0.022	116-6016●	0.178	0.152	0.124	0.106	0.092
0.033	116-6017●	0.195	0.152	0.123	0.106	0.092
0.047	116-6018●	0.200	0.158	0.143	0.109	0.095
0.068	116-6019●	0.290	0.250	0.200	0.165	0.152
0.1	116-6020●	0.320	0.270	0.200	0.178	0.154
0.15	116-6021●	0.390	0.320	0.270	0.220	0.190
0.22	116-6022●	0.440	0.350	0.300	0.260	0.220
0.33	116-6023●	0.600	0.480	0.400	0.330	0.310
0.47	116-6024●	0.760	0.610	0.500	0.420	0.380
0.68	116-6026●	0.900	0.720	0.600	0.480	0.440
1	116-6027●	1.030	0.830	0.680	0.570	0.520

MKT 1820 Series



- Metallised polyester film capacitors

Applications:

- Blocking, bypassing, filtering, timing, coupling and decoupling circuits
- Interference suppression in low voltage applications
- High temperature operations

Tolerance ±10% Operating temperature -55°C to +125°C

63 Volt d.c.

nF	µF	H	W	D	Lead Pitch	Lead Length	Mftrs. List No.	Order Code
		Dimensions						
220	0.22	8	13	3.5	10	6	MKT1820422065	141-3751
1000	1	9.5	13	4.5	10	6	MKT1820510065	141-3753
4700	4.7	13.5	18	7.5	15	6	MKT1820547065	141-3754
10000	10	17.5	18	8.5	15	6	MKT1820610065	141-3755
15000	15	16.5	26.5	8.5	22.5	6	MKT1820615065	141-3756

RL Re-reeling available

Polyester - continued

MKT 1820 Series - continued

63 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
0.22	141-3751●	0.300	0.260	0.240	0.189	0.147
1	141-3753●	0.550	0.460	0.420	0.350	0.270
4.7	141-3754●	1.610	1.370	1.240	1.010	0.780
10	141-3755●	3.140	2.670	2.430	1.980	1.520
15	141-3756●	3.880	3.280	3.000	2.440	1.880

100 Volt d.c.

nF	µF	Dimensions H	W	D	Lead Pitch	Lead Length	Mftrs. List No.	Order Code
100	0.1	8	13	3.5	10	6	MKT1820410015	141-3757
1000	1	10.5	18	5.5	15	6	MKT1820510015	141-3758
1500	1.5	12.5	18	6.5	15	6	MKT1820515015	141-3759
2200	2.2	12.5	18	6.5	15	6	MKT1820522015	141-3760
3300	3.3	14.5	18	8.5	15	6	MKT1820533015	141-3761
10000	10	18.5	26.5	10.5	22.5	6	MKT1820610015	141-3762
15000	15	20.5	31.5	11.5	27.5	6	MKT1820615015	141-3763

100 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
0.1	141-3757●	0.290	0.250	0.220	0.178	0.137
1	141-3758●	0.430	0.370	0.330	0.280	0.210
1.5	141-3759●	0.580	0.490	0.450	0.370	0.290
2.2	141-3760●	0.710	0.610	0.550	0.450	0.350
3.3	141-3761●	0.930	0.790	0.710	0.580	0.450
10	141-3762●	2.110	1.800	1.640	1.340	1.030
15	141-3763●	3.120	2.650	2.410	1.970	1.510

250 Volt d.c.

nF	µF	Dimensions H	W	D	Lead Pitch	Lead Length	Mftrs. List No.	Order Code
22000	22	8	13	3.5	10	6	MKT1820322255	141-3765
47	0.047	8	13	3.5	10	6	MKT1820347255	141-3766
220	0.22	11.5	13	6.5	10	6	MKT1820422255	141-3767
330	0.33	10.5	18	5.5	15	6	MKT1820433255	141-3768
470	0.47	12.5	18	6.5	15	6	MKT1820447255	141-3769
680	0.68	13.5	18	7.5	15	6	MKT1820468255	141-3770
1000	1	14.5	18	8.5	15	6	MKT1820510255	141-3771

250 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
22	141-3765●	0.250	0.210	0.189	0.147	0.115
0.047	141-3766●	0.260	0.210	0.189	0.158	0.115
0.22	141-3767●	0.300	0.260	0.240	0.189	0.147
0.33	141-3768●	0.300	0.260	0.240	0.189	0.147
0.47	141-3769●	0.350	0.300	0.280	0.220	0.168
0.68	141-3770●	0.400	0.340	0.310	0.260	0.189
1	141-3771●	0.480	0.410	0.370	0.310	0.240

400 Volt d.c.

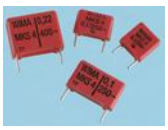
nF	µF	Dimensions H	W	D	Lead Pitch	Lead Length	Mftrs. List No.	Order Code
10	0.01	8	13	3.5	10	6	MKT1820310405	141-3772
220	0.22	12.5	18	6.5	15	6	MKT1820422405	141-3773
330	0.33	13.5	18	7.5	15	6	MKT1820433405	141-3774
680	0.68	16.5	26.5	8.5	22.5	6	MKT1820468405	141-3775
1000	1	18.5	26.5	10.5	22.5	6	MKT1820510405	141-3777
1500	1.5	20.5	31.5	11.5	27.5	6	MKT1820515405	141-3778

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400 Volt d.c.

nF	Order Code	1+	50+	100+	500+	1K+
0.01	141-3772●	0.250	0.210	0.189	0.158	0.115
0.22	141-3773●	0.290	0.250	0.220	0.178	0.137
0.33	141-3774●	0.330	0.280	0.260	0.200	0.158
0.68	141-3775●	0.620	0.530	0.480	0.390	0.310
1	141-3777●	0.760	0.640	0.580	0.470	0.370
1.5	141-3778●	0.980	0.830	0.760	0.620	0.470

MKS4 Series



- Metallised polyester capacitor
- Flame retardant plastic case with epoxy resin seal

Lead length=6

Operating temperature	-55°C to +100°C	Climatic category	55/100/56
Insulation resitance @ 20°C	30000MΩ for C ≤ 0.33µF	Tolerance	±10%
	1000 sec(MΩ x µF) for C > 0.33µF	Power factor	0.008
Temperature coefficient	±300 ppm/°C		

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**.

63 Volt d. c. (40 Volt a. c.)

µF	nF	Dimensions H	W	D	Lead Dia	Lead Pitch	Order Code
0.22	220	9	13	4	0.7	10	100-6050
0.47	470	9	13	4	0.7	10	100-6052
2.2	2200	15	18	8	0.8	15	100-6054
3.3	3300	14	18	7	0.8	15	100-6055
4.7	4700	15	18	8	0.8	15	100-6056
6.8	6800	16.5	26.5	10.5	0.8	22.5	100-6057

63 Volt d.c.

µF	Order Code	1+	50+	100+	250+	1K+
0.22	100-6050●	0.280	0.240	0.164	0.128	0.125
0.47	100-6052●	0.340	0.320	0.290	0.270	0.240
2.2	100-6054●	0.790	0.690	0.500	0.420	0.390
3.3	100-6055●	1.270	1.110	0.770	0.650	0.590
4.7	100-6056●	1.470	1.300	0.910	0.750	0.690
6.8	100-6057●	2.180	1.930	1.340	1.110	1.020

250 Volt d. c. (160 Volt a. c.)

µF	nF	Dimensions H	W	D	Lead Dia	Lead Pitch	Order Code
0.01	10	9	13	4	0.7	10	100-6041
0.022	22	8.5	10	3	0.7	10	100-6043
0.033	33	9	3	4	0.7	7.5	100-6045
0.047	47	9	13	4	0.7	10	100-6047
0.1	100	9.5	13	4	0.7	10	100-6049

250 Volt d.c.

µF	Order Code	1+	50+	100+	250+	1K+
0.01	100-6041●	0.290	0.260	0.220	0.162	0.157
0.022	100-6043●	0.310	0.270	0.220	0.168	0.165
0.033	100-6045●	0.280	0.240	0.200	0.153	0.145
0.047	100-6047●	0.210	0.193	0.174	0.153	0.128
0.1	100-6049●	0.240	0.200	0.181	0.160	0.137

400 Volt d. c. (200 Volt a. c.)

µF	nF	Dimensions H	W	D	Lead Dia	Lead Pitch	Order Code
10	10000	9	13	4	0.7	10	100-6042
0.022	22	9	13	4	0.7	10	100-6044
0.47	470	16.5	26.5	8.5	0.8	22.5	100-6051
2.2	2200	31.5	31.5	15	1	27.5	100-6053

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400 Volt d.c.

µF	Order Code	1+	50+	100+	250+	1K+
10	100-6042●	0.200	0.180	0.164	0.140	0.128
0.022	100-6044●	0.200	0.180	0.164	0.140	0.128
0.47	100-6051●	0.760	0.670	0.590	0.540	0.490
2.2	100-6053●	3.550	2.800	2.510	2.050	1.730

MKT1813 - Series



- Axial polyester film
- Wide voltage and temperature range

Operating temperature	-55°C to + 100°C
Tolerance	±10%

63 Volt d. c. (40 Volt a. c.)

µF	nF	Dimensions L	Dia.	Lead Length	Lead Dia.	List No. Mftrs.	Order Code
0.22	220	11	5			MKT1813422065	141-3817
0.33	330	14	6	40	0.7	MKT1813-433/06-5-G	116-6825
0.47	470	14	7	40	0.8	MKT1813-447/06-5-G	116-6826
1	1000	19	7	40	0.8	MKT1813-510/06-5-G	116-6828
1.5	1500	19	8.5	40	0.8	MKT1813-515/06-5-G	116-6829
2.2	2200	26.5	8.5	40	0.8	MKT1813-522/06-5-G	116-6830
3.3	3300	26.5	10	40	0.8	MKT1813-533/06-5-G	116-6831
4.7	4700	26.5	11.5	40	0.8	MKT1813-547/06-5-G	116-6832
10	10000	31.5	14.5	40	0.8	MKT1813-610/06-5-G	116-6833

63 Volt d.c. (40 Volt a.c.)

µF	Order Code	5+	50+	100+	500+	1K+
0.22	141-3817●	0.41	0.35	0.32	0.26	0.20
0.33	116-6825●	0.41	0.37	0.33	0.30	0.28
0.47	116-6826●	0.41	0.37	0.36	0.33	0.32
1	116-6828●	0.63	0.61	0.59	0.53	0.48
1.5	116-6829●	0.68	0.62	0.55	0.49	0.45
2.2	116-6830●	0.86	0.78	0.70	0.62	0.55
3.3	116-6831●	1.25	1.09	0.97	0.87	0.79
4.7	116-6832●	1.73	1.63	1.59	1.42	1.35
10	116-6833●	2.70	2.15	1.94	1.74	1.57

250 Volt d. c. (160 Volt a. c.)

µF	nF	Dimensions L	Dia.	Lead Length	Lead Dia	Mftrs. List No.	Order Code
0.022	22	11	5	40	0.6	MKT1813-322/25-5-G	116-6835
0.047	47	14	6	40	0.07	MKT1813-347/25-5-G	116-6836
0.1	100	14	6	40	0.7	MKT1813-410/25-5-G	116-6837
0.22	220	19	7	40	0.8	MKT1813-422/25-5-G	116-6838
0.33	330	19	8	40	0.8	MKT1813-433/25-5-G	116-6841
0.47	470	19	9	40	0.8	MKT1813-447/25-5-G	116-6842
0.68	680	26.5	8.5	40	0.8	MKT1813-468/25-5-G	116-6843
1	1000	26.5	10	40	0.8	MKT1813-510/25-5-G	116-6844
1.5	1500	31.5	11	40	0.8	MKT1813-515/25-5-G	116-6845
2.2	2200	31.5	13	40	0.8	MKT1813-522/25-5-G	116-6846
3.3	3300	31.5	15.5	40	0.8	MKT1813-533/25-5-G	116-6847
4.7	4700	41.5	15.5	40	0.8	MKT1813-547/25-5-G	116-6848
6.8	6800	41.5	17.5	40	1	MKT1813-568/25-5-G	116-6849
10	10000	41.5	21	40	1	MKT1813-610/25-5-G	116-6850

250 Volt d.c. (160 Volt a.c.)

µF	Order Code	5+	50+	100+	500+	1K+
0.022	116-6835●	0.250	0.230	0.220	0.210	0.192
0.047	116-6836●	0.300	0.270	0.240	0.210	0.190
0.1	116-6837●	0.310	0.280	0.250	0.220	0.200
0.22	116-6838●	0.420	0.380	0.330	0.300	0.270
0.33	116-6841●	0.500	0.470	0.460	0.420	0.410
0.47	116-6842●	0.490	0.440	0.390	0.350	0.310
0.68	116-6843●	0.440	0.420	0.410	0.350	0.340
1	116-6844●	0.600	0.540	0.470	0.420	0.380

RL Re-reeling available

Farnell

250 Volt d.c. (160 Volt a.c.)

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
1.5	116-6845●	0.810	0.780	0.750	0.690	0.630
2.2	116-6846●	0.980	0.880	0.770	0.690	0.620
3.3	116-6847●	1.130	1.080	1.060	0.950	0.890
4.7	116-6848●	1.710	1.540	1.360	1.200	1.070
6.8	116-6849●	2.200	1.980	1.750	1.550	1.390
10	116-6850●	2.760	2.510	2.240	1.980	1.760

400 Volt d. c. (200 Volt a. c.)

µF	nF	Dimensions L	Dia.	Lead Length	Lead Dia	Mftrs. List No.	Order Code
0.01	10	11	5	40	0.6	MKT1813-310/40-5-G	116-6851
0.022	22	14	6	40	0.7	MKT1813-322/40-5-G	116-6853
0.033	33	14	6	40	0.7	MKT1813-333/40-5-G	116-6854
0.047	47	14	7	40	0.8	MKT1813-347/40-5-G	116-6855
0.22	220	26.5	8	40	0.8	MKT1813-422/40-5-G	116-6857
1	1000	31.5	13.5	40	0.8	MKT1813-510/40-5-G	116-6859
1.5	1500	41.5	14	40	0.8	MKT1813-515/40-5-G	116-6861
2.2	2200	41.5	16.5	40	1	MKT1813-522/40-5-G	116-6862

400 Volt d.c. (200 Volt a.c.)

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.01	116-6851●	0.290	0.260	0.240	0.200	0.181
0.022	116-6853●	0.300	0.260	0.230	0.210	0.190
0.033	116-6854●	0.300	0.280	0.250	0.230	0.200
0.047	116-6855●	0.320	0.290	0.260	0.230	0.200
0.22	116-6857●	0.380	0.350	0.340	0.310	0.300
1	116-6859●	0.940	0.850	0.740	0.660	0.590
1.5	116-6861●	0.920	0.880	0.850	0.770	0.730
2.2	116-6862●	1.350	1.290	1.270	1.140	1.070

630 Volt d. c. (220 Volt a. c.)

pF	nF	Dimensions L	Dia.	Lead Length	Lead Dia	Mftrs. List No.	Order Code
470	0.47	11	5	40	0.6	MKT1813-147/63-5-G	116-6863
1000	1	11	5	40	0.6	MKT1813-210/63-5-G	116-6865
1500	1.5	11	5	40	0.6	MKT1813-215/63-5-G	116-6866
2200	2.2	11	5	40	0.6	MKT1813-222/63-5-G	116-6867
3300	3.3	11	5	40	0.6	MKT1813-233/63-5-G	116-6868
4700	4.7	11	5	40	0.6	MKT1813-247/63-5-G	116-6869
6800	6.8	14	6	40	0.7	MKT1813-268/63-5-G	116-6870

630 Volt d.c. (220 Volt a.c.)

pF	Order Code	Price Each 5+	50+	100+	500+	1K+
470	116-6863●	0.45	0.42	0.41	0.37	0.34
1000	116-6865●	0.34	0.31	0.29	0.27	0.25
1500	116-6866●	0.26	0.24	0.23	0.22	0.20
2200	116-6867●	0.33	0.29	0.28	0.26	0.24
3300	116-6868●	0.33	0.29	0.28	0.26	0.24
4700	116-6869●	0.33	0.29	0.28	0.26	0.24
6800	116-6870●	0.31	0.28	0.27	0.25	0.23

630 Volt d. c. (220 Volt a. c.)

µF	nF	Dimensions L	Dia.	Lead Length	Lead Dia	Mftrs. List No.	Order Code
0.01	10	14	6	40	0.7	MKT1813-310/63-5-G	116-6871
0.015	15	14	6.5	40	0.7	MKT1813-315/63-5-G	116-6872
0.022	22	14	7.5	40	0.8	MKT1813-322/63-5-G	116-6873
0.047	47	19	7.7	40	0.8	MKT1813-347/63-5-G	116-6874
0.068	68	19	8.5	40	0.8	MKT1813-368/63-5-G	116-6875
0.1	100	19	10.5	40	0.8	MKT1813-410/63-5-G	116-6877
0.15	150	26.5	10	40	0.8	MKT1813-415/63-5-G	116-6878
0.22	220	26.5	11.5	40	0.8	MKT1813-422/63-5-G	116-6879
0.47	470	31.5	14.5	40	0.8	MKT1813-447/63-5-G	116-6880

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630 Volt d.c. (220 Volt a.c.)

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.01	116-6871●	0.34	0.31	0.29	0.27	0.25
0.015	116-6872●	0.34	0.31	0.29	0.28	0.25
0.022	116-6873●	0.35	0.32	0.31	0.29	0.26
0.047	116-6874●	0.41	0.39	0.38	0.35	0.33
0.068	116-6875●	0.29	0.28	0.27	0.25	0.23
0.1	116-6877●	0.57	0.50	0.49	0.45	0.41
0.15	116-6878●	0.53	0.51	0.48	0.43	0.39
0.22	116-6879●	0.71	0.66	0.63	0.58	0.53
0.47	116-6880●	0.91	0.86	0.85	0.76	0.69

100 Volt d. c. (63 Volt a. c.)

µF	nF	Dimensions L	Dia.	Lead Length	Lead Dia	Mftrs. List No.	Order Code
0.1	100	11	5			MKT1813410015	141-3822
0.47	470	19	6.5			MKT1813447015	141-3823
1	1000	19	8.5			MKT1813510015	141-3824
10	10000	31.5	16.5			MKT1813610015	141-3825

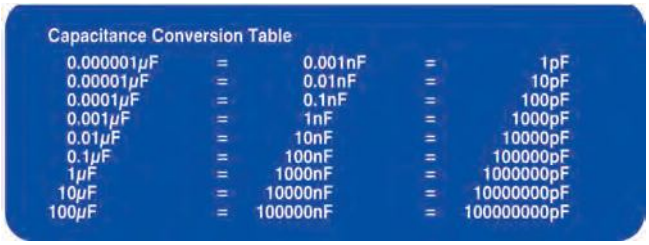
100 Volt d.c. (63 Volt a.c.)

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
0.1	141-3822●	0.350	0.300	0.280	0.220	0.168
0.47	141-3823●	0.490	0.420	0.380	0.320	0.250
1	141-3824●	0.650	0.550	0.500	0.410	0.320
10	141-3825●	2.510	2.130	1.950	1.590	1.220

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Polypropylene



A very low loss dielectric with high dielectric strength, high insulation resistance and a negative temperature coefficient. It has excellent high frequency performance and will withstand high voltage, fast rise time pulses. Suitable for tuned circuits, filter networks, timing networks, stable oscillator circuits, resonant circuits and other high performance pulse handling applications.

208417

FKP2 Series



- Polypropylene film and foil
- Flame retardant plastic case **UL94V-0**
- Resin end seal and stand off feet

Lead length=6, Lead dia.=0.5, Lead pitch=5

Operating temperature	-55°C to +85°C	Tolerance	±5%
Insulation resistance@20°C	50000MΩ	Power factor @ 1kHz, 20°C	0.0003 for C ≤ 1000pF
Temperature coefficient	-200ppm/°C		0.0004 for C ≥ 1000pF
Climate category	55/85/56		

N.B. For ease of selection, capacitance value is listed in both **pF** and **nF**.

63 Volt d.c (40 Volt a.c.)

pF	nF	Dimensions H	W	D	Order Code
3.3	0.0033	6	7.2	4.5	100-5985
4.7	0.0047	6	7.2	5.5	100-5987
6.8	0.0068	6	7.2	5.5	100-5989
10	0.01	7	7.2	6.5	100-5977

Order Multiple=5
63 Volt d.c.

pF	Order Code	Price Each 5+	50+	100+	1K+	5K+
3.3	100-5985●	0.290	0.210	0.165	0.100	0.096
4.7	100-5987●	0.290	0.210	0.165	0.100	0.096
6.8	100-5989●	0.320	0.240	0.173	0.118	0.115
10	100-5977●	0.320	0.240	0.173	0.118	0.115

100 Volt d.c (63 Volt a.c.)

pF	nF	Dimensions H	W	D	Order Code
1000	1	6	7.2	4.5	100-5978
1500	1.5	6	7.2	4.5	100-5980
2200	2.2	6	7.2	4.5	100-5982
100	0.1	6	7.2	4.5	100-5979
150	0.15	6	7.2	4.5	100-5981
220	0.22	6	7.2	4.5	100-5983
330	0.33	6	7.2	4.5	100-5986
470	0.47	6	7.2	4.5	100-5988
680	0.68	6	7.2	4.5	100-5990

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Order Multiple=5
100 Volt d.c.

pF	Order Code	Price Each 5+	50+	100+	1K+	5K+
1000	100-5978●	0.290	0.200	0.164	0.100	0.096
1500	100-5980●	0.220	0.160	0.130	0.078	0.075
2200	100-5982●	0.290	0.200	0.164	0.100	0.096
100	100-5979●	0.310	0.240	0.170	0.116	0.113
150	100-5981●	0.310	0.240	0.170	0.116	0.113
220	100-5983●	0.310	0.240	0.170	0.116	0.113
330	100-5986●	0.310	0.240	0.170	0.116	0.113
470	100-5988●	0.310	0.240	0.170	0.116	0.113
680	100-5990●	0.320	0.240	0.172	0.117	0.114

1000 Volt d.c.

pF	nF	Dimensions H	W	D	Order Code
33	0.033	6.5	7.2	2.5	151-9287
47	0.047	6.5	7.2	4.5	151-9289
68	0.068	6.5	7.2	2.5	151-9291
100	0.1	6	7.2	4.5	151-9280
150	0.15	6	7.2	4.5	151-9283
220	0.22	6	7.2	4.5	151-9285
330	0.33	6	7.2	4.5	151-9286
470	0.47	7	7.2	5.5	151-9288
680	0.68	7	7.2	5.5	151-9290
1000	1	8	7.2	6.5	151-9279
1500	1.5	8.5	7.2	7.2	151-9282
2200	2.2	10	7.2	8.5	151-9284

494486

Order Multiple=5
1000 Volt d.c.

pF	Order Code	Price Each 5+	25+	50+	100+	500+
33	151-9287●	0.122	0.102	0.088	0.077	0.068
47	151-9289●	0.122	0.102	0.088	0.077	0.068
68	151-9291●	0.122	0.102	0.088	0.077	0.068

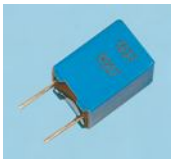
RL Re-reeling available

Polypropylene - continued

100	**151-9280●**	0.122	0.102	0.088	0.077	0.068
150	**151-9283●**	0.122	0.102	0.088	0.077	0.068
220	**151-9285●**	0.122	0.102	0.088	0.077	0.068
330	**151-9286●**	0.122	0.102	0.088	0.077	0.068
470	**151-9288●**	0.131	0.109	0.093	0.082	0.072
680	**151-9290●**	0.131	0.109	0.093	0.082	0.072
1000	**151-9279●**	0.143	0.119	0.102	0.090	0.080
1500	**151-9282●**	0.171	0.143	0.122	0.107	0.095
2200	**151-9284●**	0.200	0.170	0.146	0.128	0.113

MKP 1837 – Precision Film

VISHAY



- Precison metallised polypropylene film
- 5mm box
- Flame retardant case to **UL94V-0**

Operating temperature	-55°C to +100°C	Voltage Rating	160V dc
IEC test classification	55/100/56	Permissible AC voltage	100V ac
Capacitance tolerance	±1%	Lead Pitch	55/100/56

µF	Dimensions H	W	L	Mftrs. List No.	Order Code
0.01	5.5	7	7.5	MKP1837-310-161-G	116-6881
0.015	5.5	7	7.5	MKP1837-315-161-G	116-6882
0.022	5.5	7	7.5	MKP1837-322-161-G	116-6883
0.033	7.5	9	7.5	MKP1837-333-161-G	116-6884
0.047	7.5	9	7.5	MKP1837-347-161-G	116-6885
0.068	7.5	9	7.5	MKP1837-368-161-G	116-6886
0.1	9	11	7.5	MKP1837-410-161-G	116-6887

208556

		Price Each				
µF	Order Code	5+	50+	100+	500+	1K+
0.01	**116-6881●**	0.94	0.87	0.81	0.71	0.64
0.015	**116-6882●**	0.93	0.88	0.82	0.71	0.64
0.022	**116-6883●**	0.99	0.91	0.88	0.73	0.66
0.033	**116-6884●**	1.15	1.08	1.02	0.88	0.75
0.047	**116-6885●**	1.05	0.97	0.92	0.77	0.69
0.068	**116-6886●**	0.79	0.74	0.70	0.59	0.53
0.1	**116-6887●**	1.17	1.09	1.03	0.88	0.76

PHE448 Series

EVOX RIFA A KEMET Company



New

- High frequency and high voltage applications, requiring capacitors with extremely high current handling capability, i.e. high dU/dt values
- Polypropylene film dielectric with aluminum foil and metallized film as electrodes, encapsulated in self-extinguishing material meeting the requirements of UL94V-0

Tolerance ±5%
Lead Pitch 15mm

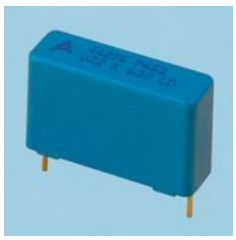
µF	Voltage	Dimensions H	W	D	Lead Pitch	Dia	Mftrs. LIst No.	Order Code
3.3	1600V dc	12.5	18	6.5	15	0.8	PHE448RB4330JR06	167-8912
4.7	1600V dc	12.5	18	6.5	15	0.8	PHE448RB4470JR06	167-8913
10	1600V dc	16	18	8.5	15	0.8	PHE448RB5100JR06	167-8914
22	1600V dc	19	18	11	15	0.8	PHE448RB5220JR06	167-8915
0.1	2000V dc	10.5	18	5.5	15	0.8	PHE448SB3100JR06	167-8916
0.15	2000V dc	10.5	18	5.5	15	0.8	PHE448SB3150JR06	167-8918
0.22	2000V dc	10.5	18	5.5	15	0.8	PHE448SB3220JR06	167-8919
0.33	2000V dc	10.5	18	5.5	15	0.8	PHE448SB3330JR06	167-8920
0.47	2000V dc	10.5	18	5.5	15	0.8	PHE448SB3470JR06	167-8921
1	2000V dc	10.5	18	5.5	15	0.8	PHE448SB4100JR06	167-8922
1.5	2000V dc	12.5	18	6.5	15	0.8	PHE448SB4150JR06	167-8923
2.2	2000V dc	16	18	8.5	15	0.8	PHE448SB4220JR06	167-8924

527572

Order Multiple=5		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
3.3	**167-8912●**	0.33	0.30	0.26	0.24	0.21
4.7	**167-8913●**	0.34	0.31	0.27	0.25	0.22
10	**167-8914●**	0.35	0.32	0.28	0.26	0.23
22	**167-8915●**	0.55	0.52	0.48	0.46	0.41
0.1	**167-8916●**	0.21	0.19	0.17	0.15	0.14
0.15	**167-8918●**	0.21	0.19	0.17	0.15	0.14
0.22	**167-8919●**	0.21	0.19	0.17	0.15	0.14
0.33	**167-8920●**	0.21	0.19	0.17	0.15	0.14
0.47	**167-8921●**	0.21	0.19	0.17	0.15	0.14
1	**167-8922●**	0.23	0.21	0.19	0.17	0.15
1.5	**167-8923●**	0.24	0.22	0.19	0.17	0.16
2.2	**167-8924●**	0.27	0.24	0.22	0.20	0.18

MKP-B32652/3 Series

EPCOS



- High performance wound metallised polypropylene film capicitors
- Flame retardant case to **UL94V-0**
- TV S-correction, flyback and electronic ballast circuit applications

Operating temperature	-55°C to +100°C
Climatic category	55/100/56
Tolerance	±10%
Service life	200000 hours

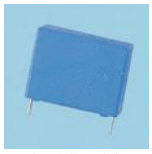
Lead dia.=0.8

Capacitance µF	Voltage V (d.c.)	V (a.c)	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.001	2000	700	10.5	18	5	15	B32652A2102K	975-1254
0.0022	2000	700	12.5	18	7	15	B32652A2222K	975-1262
0.0047	2000	700	17.5	18	9	15	B32652A2472K	975-1270
0.01	1600	500	15	26.5	6	22.5	B32653A1103K	975-1289
0.022	1250	500	15	26.5	6	22.5	B32653A7223K	975-1297
0.047	1000	250	15	26.5	6	22.5	B32653A0473K	975-1300
0.068	1000	250	15	26.5	6	22.5	B32653A0683K	975-1319
0.1	630	250	15	26.5	6	22.5	B32653A6104K	975-1327
0.22	630	250	16.5	26.5	8.5	22.5	B32653A6224K	975-1335
0.47	630	250	20.5	26.5	11	22.5	B32653A6474K	975-1343
0.68	400	200	16.5	26.5	10.5	22.5	B32653A4684K	975-1351

234230

		Price Each			
µF	Order Code	1+	50+	100+	500+
2000 Volt d.c.					
0.001	**975-1254●**	0.330	0.290	0.260	0.195
0.0022	**975-1262●**	0.310	0.270	0.250	0.189
0.0047	**975-1270●**	0.430	0.360	0.340	0.280
1600 Volt d.c.					
0.01	**975-1289●**	0.570	0.490	0.460	0.380
1250 Volt d.c.					
0.022	**975-1297●**	0.530	0.460	0.430	0.350
1000 Volt d.c.					
0.047	**975-1300●**	0.510	0.440	0.390	0.340
0.068	**975-1319●**	0.570	0.470	0.440	0.360
630 Volt d.c.					
0.1	**975-1327●**	0.570	0.490	0.450	0.370
0.22	**975-1335●**	0.730	0.570	0.530	0.470
0.47	**975-1343●**	0.840	0.710	0.650	0.520
400 Volt d.c.					
0.68	**975-1351●**	0.560	0.490	0.440	0.390

2222 378 Series



- High performance AC and pulse metallised polypropylene film capacitors
- Flame retardant polypropylene case
- SMPS and motor control applications

Operating temperature	-55°C to +85°C	Tolerance	±5%
Insulation resitance	100000MΩ	Power factor @10kHz, 20°C	0.02
Climatic category	55/085/56		

Lead dia.=0.8

Capacitance µF	Voltage V (d.c.)	V (a.c)	Pulse Rating V/µs	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.0047	2000	600	2000	16.5	26	7	22.5	2222 378 92472	121-5561
0.01	2000	600	2000	19.5	26	10	22.5	2222 378 92103	121-5560
0.022	1600	500	1600	19.5	26	10	22.5	2222 378 82223	121-5558
0.047	1600	500	900	23	31	13	27.5	2222 378 82473	121-5559
0.1	1000	600	600	19.5	31	10	27.5	2222 378 72104	121-5556
0.22	1000	400	300	31	31	21	27.5	2222 378 72224	121-5557
0.47	630	300	120	25	31	15	27.5	2222 378 62474	121-5555
1	250	160	60	21	31	11	27.5	2222 378 42105	121-5552
2.2	250	160	30	25	31	15	27.5	2222 378 42225	121-5554

208391

		Price Each			
µF	Order Code	1+	100+	1K+	3K+
2000 Volt d.c.					
0.0047	**121-5561●**	0.54	0.32	0.27	0.20
0.01	**121-5560●**	0.66	0.40	0.33	0.28
1600 Volt d.c.					
0.022	**121-5558●**	0.66	0.40	0.33	0.28
0.047	**121-5559●**	1.06	0.64	0.52	0.41
1000 Volt d.c.					
0.1	**121-5556●**	1.31	0.81	0.65	0.51
0.22	**121-5557●**	1.92	1.15	0.93	0.75
630 Volt d.c.					
0.47	**121-5555●**	1.63	0.99	0.80	0.64
250 Volt d.c.					
1	**121-5552●**	1.01	0.62	0.49	0.39
2.2	**121-5554●**	1.67	1.00	0.82	0.65

£ € 40,000 PRICES REDUCED

RL Re-reeling available

Farnell

PHE426 Series

EVOX RIFA A KEMET Company



New

- Single metallized film pulse capacitors
- Polypropylene dielectric
- Applications include pulse operation in SMPS, TV monitor, electrical ballast and other high frequency applications demanding stable operation

Operating temperature -55°C to +85°C
Temperature coefficient +50ppm/°C, -100ppm/°C

250V

Capacitance nF	Capacitance µF	Tolerance	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
100	0.1	±5%	11	7.2	6	5	PHE426HJ6100JR05	157-2146
220	0.22	±5%	10.5	18	5.5	15	PHE426HB6220JR06	157-2142
470	0.47	±5%	14.5	18	7.5	15	PHE426HB6470JR06	157-2144
1000	1	±5%	16.5	26	7	22.5	PHE426HD7100JR06L2	157-2145
2200	2.2	±5%	20.5	31.5	10.5	27.5	PHE426HF7220JR06L2	157-2147
4700	4.7	±5%	23	31.5	13.5	27.5	PHE426HF7470JR06L2	157-2148

µF	Order Code	Price Each 5+	75+	250+	500+	1K+	2K+
0.1	157-2146●	0.185	0.165	0.155	0.144	0.134	0.113
0.22	157-2142●	0.290	0.260	0.240	0.230	0.220	0.187
0.47	157-2144●	0.370	0.340	0.310	0.290	0.280	0.240
1	157-2145●	0.600	0.550	0.510	0.460	0.440	0.380
2.2	157-2147●	1.150	1.070	0.980	0.920	0.870	0.740
4.7	157-2148●	1.750	1.610	1.480	1.390	1.310	1.130

400V

Capacitance nF	Capacitance µF	Tolerance	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.022	22	±5%	9	13	4	10	PHE426KA5220JR05	157-2149
2.2	2200	±5%	24.5	31.5	14.5	27.5	PHE426KF7220JR06L2	157-2150

506974

µF	Order Code	Price Each 5+	75+	250+	500+	1K+	2K+
0.022	157-2149●	0.144	0.124	0.113	0.103	0.093	0.082
2.2	157-2150●	1.430	1.320	1.220	1.140	1.070	0.930

PHE450 Series

EVOX RIFA A KEMET Company



New

- Double metallized film pulse capacitors
- Polypropylene dielectric
- Suitable for high frequency applications with high current stress
- Applications include deflection circuits in TV sets, protection circuits in SMPS and electronic ballasts

Operating temperature -55°C to +85°C

400V

Capacitance nF	Capacitance µF	Tolerance	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
100	0.1	±10%	12.5	18	6.5	15	PHE450KB6100JR06	157-2151

µF	Order Code	Price Each 5+	75+	250+	500+	1K+	2K+
0.1	157-2151●	0.41	0.35	0.33	0.31	0.27	0.25

1000V

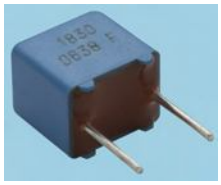
Capacitance nF	Capacitance µF	Tolerance	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.01	10	-0%, +10%	10.5	18	5.5	15	PHE450PB5100JR06	157-2152

506975

µF	Order Code	Price Each 5+	75+	250+	500+	1K+	2K+
0.01	157-2152●	0.210	0.175	0.165	0.155	0.134	0.124

KP 1830 Series

VISHAY



- Polypropylene film capacitors

Applications:

- Oscillator, timing and LC/RC filter circuits
- High frequency coupling of fast digital and analog IC's

Tolerance ±1% Operating temperature -55°C to +100°C

63 Volt d.c. nF	µF	Dimensions H	W	D	Lead Pitch	Lead Length	Mftrs. List No.	Order Code
22	0.022	9	7.2	7.5	5	6	KP1830322061	141-3952

63 Volt d.c. nF	Order Code	Price Each 1+	50+	100+	500+	1K+
22	141-3952●	1.08	0.92	0.83	0.68	0.53

630 Volt d.c. pF	nF	Dimensions H	W	D	Lead Pitch	Lead Length	Mftrs. List No.	Order Code
100	0.1	6	7.2	4.5	5	6	KP1830110631	141-3944
220	0.22	6	7.2	4.5	5	6	KP1830122631	141-3945
470	0.47	6	7.2	4.5	5	6	KP1830147631	141-3947
1000	1	6	7.2	4.5	5	6	KP1830210631	141-3948

630 Volt d.c. pF	Order Code	Price Each 1+	50+	100+	500+	1K+
100	141-3944●	0.53	0.45	0.41	0.34	0.26
220	141-3945●	0.53	0.45	0.41	0.34	0.26
470	141-3947●	0.54	0.45	0.42	0.34	0.27
1000	141-3948●	0.55	0.47	0.42	0.35	0.27

250 Volt d.c. nF	µF	Dimensions H	W	D	Lead Pitch	Lead Length	Mftrs. List No.	Order Code
2.2	0.0022	6	7.2	4.5	5	6	KP1830222251	141-3949
4.7	0.0047	7	7.2	5.5	5	6	KP1830247251	141-3950
10	0.01	9	7.2	7.5	5	6	KP1830310251	141-3951

494033

250 Volt d.c. nF	Order Code	Price Each 1+	50+	100+	500+	1K+
2.2	141-3949●	0.58	0.49	0.45	0.37	0.29
4.7	141-3950●	0.70	0.60	0.54	0.44	0.34
10	141-3951●	1.02	0.88	0.79	0.64	0.49

MKP 1840 Series

VISHAY



- Metallised polypropylene film capacitors
- Miniature case size

Applications:

- High frequency and pulse operations
- Deflection circuits
- Loudspeaker crossover networks
- Timing and sample and hold circuits

Tolerance ±5% Operating temperature -55°C to +100°C

400 Volt d.c. nF	µF	Dimensions H	W	D	Lead Pitch	Lead Length	Mftrs. List No.	Order Code
10	0.01	8.5	7.5	3.5	5	6	MKP1840310404M	141-3869
22	0.022	9	10	4	7.5	6	MKP1840322404M	141-3870
47	0.047	10.5	10.3	5	7.5	6	MKP1840347404M	141-3871
100	0.1	10.5	18	5.5	15	6	MKP1840410404M	141-3872
220	0.22	13.5	18	7.5	15	6	MKP1840422404M	141-3873
470	0.47	15.5	26.5	7.5	22.5	6	MKP1840447404M	141-3874
1000	1	21	26.5	11	22.5	6	MKP1840510404M	141-3875
2200	2.2	24.5	31.5	15	27.5	6	MKP1840522404M	141-3876
4700	4.7	32.2	41.5	18	37.5	6	MKP1840547404M	141-3877

400 Volt d.c. nF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	141-3869●	0.200	0.168	0.158	0.126	0.095
22	141-3870●	0.210	0.178	0.158	0.137	0.105
47	141-3871●	0.270	0.240	0.210	0.168	0.126
100	141-3872●	0.260	0.220	0.200	0.158	0.126
220	141-3873●	0.320	0.280	0.250	0.200	0.158
470	141-3874●	0.590	0.500	0.460	0.380	0.290
1000	141-3875●	0.970	0.830	0.750	0.610	0.470
2200	141-3876●	1.460	1.240	1.120	0.920	0.700
4700	141-3877●	2.820	2.390	2.170	1.770	1.370

1000 Volt d.c. nF	µF	Dimensions H	W	D	Lead Pitch	Lead Length	Mftrs. List No.	Order Code
4.7	0.0047	9	13	4	10	6	MKP1840247104M	141-3878
10	0.01	10.5	13	5.5	10	6	MKP1840310104M	141-3881
22	0.022	10.5	18	5.5	15	6	MKP1840322104M	141-3882
47	0.047	13.5	18	7.5	15	6	MKP1840347104M	141-3883
100	0.1	15.5	26.5	7.5	22.5	6	MKP1840410104M	141-3884
220	0.22	18.5	26.5	10.5	22.5	6	MKP1840422104M	141-3885
470	0.47	23.5	31.5	13.5	27.5	6	MKP1840447104M	141-3886
1000	1	33	31.5	18	27.5	6	MKP1840510104M	141-3887

493620

1000 Volt d.c. nF	Order Code	Price Each 1+	50+	100+	500+	1K+
4.7	141-3878●	0.240	0.189	0.178	0.147	0.105
10	141-3881●	0.280	0.240	0.210	0.168	0.126
22	141-3882●	0.300	0.250	0.220	0.178	0.137
47	141-3883●	0.410	0.350	0.320	0.270	0.200
100	141-3884●	0.780	0.660	0.600	0.480	0.380
220	141-3885●	1.170	1.010	0.920	0.750	0.580
470	141-3886●	2.080	1.770	1.610	1.320	1.010
1000	141-3887●	4.150	3.530	3.200	2.620	2.020

RL Re-reeling available

Farnell

Polypropylene - continued

MKP 385 Series

2000 Volts d.c.



- Polypropylene film capacitors
- Low contact resistance
- Low loss dielectric
- Small dimensions for high density packaging

Applications:

- Where steep pulses occur
- Electronic lighting
- Motor control circuits

Tolerance ±5% Operating temperature -55°C to +110°C

Capacitance nF	Capacitance pF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
1	1000	10	12.5	4	10	BFC238560102	141-3888
1	1000	11	18	5	15	BFC238580102	141-3889
1.5	1500	10	12.5	4	10	BFC238560152	141-3890
1.5	1500	11	18	5	15	BFC238580152	141-3891
2.2	2200	11	12.5	5	10	BFC238560222	141-3893
2.2	2200	11	18	5	15	BFC238580222	141-3894
3.3	3300	12	12.8	6	10	BFC238560332	141-3895
3.3	3300	11	18	5	15	BFC238580332	141-3896
4.7	4700	11	17.5	5	15	BFC238560472	141-3897
6.8	6800	12	17.5	6	15	BFC238560682	141-3898
10	10000	13.5	17.5	7	15	BFC238560103	141-3899
15	15000	16.5	17.5	10	15	BFC238560153	141-3900

494225

pF	Order Code	Price Each 1+	50+	100+	500+	1K+
1	141-3888	0.250	0.210	0.189	0.158	0.115
1	141-3889	0.310	0.270	0.240	0.189	0.147
1.5	141-3890	0.260	0.220	0.200	0.158	0.126
1.5	141-3891	0.310	0.270	0.240	0.189	0.147
2.2	141-3893	0.280	0.240	0.210	0.168	0.137
2.2	141-3894	0.760	0.730	0.720	0.700	0.680
3.3	141-3895	0.310	0.270	0.250	0.189	0.147
3.3	141-3896	0.310	0.270	0.240	0.189	0.147
4.7	141-3897	0.310	0.270	0.240	0.189	0.147
6.8	141-3898	0.340	0.290	0.270	0.210	0.158
10	141-3899	0.380	0.330	0.300	0.250	0.189
15	141-3900	0.460	0.390	0.360	0.290	0.220

2222 375 Series



- Metallised polypropylene film
- High current pulse applications include deflection circuits in monitors

Operating temperature -55°C to +105°C
Tolerance ±5%
Climatic category 55/105/56

Lead dia.=0.8

1000 Volt d.c. (400 Volt a.c.)

µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.022	19.5	26	6.5	22.5	2222 375 20223	116-6090
0.033	21	26	8	22.5	2222 375 20333	116-6091
0.047	19	30	6	27.5	2222 375 20473	116-6092
0.056	20.5	30	7.5	27.5	2222 375 20563	116-6093
0.068	21.5	30	8.5	27.5	2222 375 20683	116-6094
0.082	22.5	30	9.5	27.5	2222 375 20823	116-6095
0.1	23.5	30	10.5	27.5	2222 375 20104	116-6096

1000 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+	3K+
0.022	116-6090	0.59	0.50	0.42	0.34	0.30	0.22
0.033	116-6091	0.63	0.57	0.46	0.38	0.32	0.26
0.047	116-6092	0.72	0.65	0.54	0.43	0.39	0.30
0.056	116-6093	0.78	0.68	0.58	0.45	0.41	0.31
0.068	116-6094	0.66	0.59	0.50	0.39	0.35	0.27
0.082	116-6095	0.93	0.82	0.68	0.54	0.47	0.37
0.1	116-6096	1.07	0.94	0.78	0.62	0.55	0.42

1600 Volt d. c. (500 Volt a. c.)

µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.0047	19	26	6	22.5	2222 375 30472	116-6097
0.0068	19.5	26	6.5	22.5	2222 375 30682	116-6099
0.0082	20	26	7	22.5	2222 375 30822	116-6100
0.01	21	26	8	22.5	2222 375 30103	116-6101
0.015	22.5	26	9.5	22.5	2222 375 30153	116-6102
0.018	23.5	26	11.5	22.5	2222 375 30183	116-6103
0.022	22.5	30	9.5	27.5	2222 375 30223	116-6105
0.033	24.5	30	11.5	27.5	2222 375 34333	116-6106

1600 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+	3K+
0.0047	116-6097	0.410	0.360	0.310	0.260	0.220	0.163
0.0068	116-6099	0.350	0.310	0.250	0.200	0.182	0.135
0.0082	116-6100	0.490	0.430	0.360	0.300	0.270	0.185
0.01	116-6101	0.530	0.460	0.390	0.310	0.280	0.198
0.015	116-6102	0.470	0.420	0.340	0.280	0.250	0.182
0.018	116-6103	0.640	0.580	0.470	0.380	0.330	0.260
0.022	116-6105	0.710	0.640	0.530	0.420	0.380	0.290
0.033	116-6106	0.840	0.770	0.620	0.480	0.430	0.330

2000 Volt d.c. (600 Volt a.c.)

µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
0.0033	19	26	6	22.5	2222 375 40332	116-6107
0.0047	19.5	26	6.5	22.5	2222 375 40472	116-6108
0.0056	20	26	7	22.5	2222 375 40562	116-6109
0.0068	21	26	8	22.5	2222 375 40682	116-6110
0.0082	21.5	26	8.5	22.5	2222 375 40822	116-6111
0.01	22.5	26	9.5	22.5	2222 375 40103	116-6112
0.018	24.5	30	11.5	27.5	2222 375 40183	116-6113
0.022	26	30	13	27.5	2222 375 40223	116-6114

208469

2000 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+	3K+
0.0033	116-6107	0.450	0.400	0.320	0.280	0.240	0.173
0.0047	116-6108	0.380	0.340	0.280	0.220	0.200	0.144
0.0056	116-6109	0.490	0.430	0.370	0.300	0.260	0.191
0.0068	116-6110	0.430	0.370	0.310	0.250	0.210	0.163
0.0082	116-6111	0.430	0.370	0.310	0.250	0.210	0.158
0.01	116-6112	0.590	0.530	0.420	0.340	0.300	0.240
0.018	116-6113	0.820	0.720	0.610	0.470	0.420	0.330
0.022	116-6114	0.940	0.830	0.680	0.550	0.470	0.380

FP-CA Series – Audio Capacitors



- Designed for high performance audio systems.
- They are hand wound and have their insulated copper leads hand soldered before being assembled in a plastic case and resin sealed.
- This construction results in the capacitors having low ESR and low inductance and possessing high stability with respect to both temperature and frequency.

630 Volt d. c.

µF	nF	Dimensions L	Dia.	Mftrs. List No.	Order Code
1	1000	50	25	FP-CA-1-AU	143-8471
2.2	2200	50	25	FP-CA-2.2-AU	143-8472
3.3	3300	50	30	FP-CA-3.3-AU	143-8473
4.7	4700	50	30	FP-CA-4.7-AU	143-8474
6.8	6800	70	30	FP-CA-6.8-AU	143-8476
10	10000	70	35	FP-CA-10-AU	143-8477
12	12000	70	40	FP-CA-12-AU	163-6646
16	16000	70	40	FP-CA-16-AU	163-6647
20	20000	70	45	FP-CA-20-AU	163-6648
30	30000	100	45	FP-CA-30-AU	163-6651

482121

µF	Order Code	Price Each 1+	50+	100+	250+	1K+
1	143-8471	3.21	2.89	2.57	2.45	2.33
2.2	143-8472	3.93	3.42	3.16	2.90	2.80
3.3	143-8473	4.75	4.35	3.88	3.54	3.42
4.7	143-8474	5.06	4.66	4.19	3.85	3.73
6.8	143-8476	6.83	5.76	5.41	5.07	4.81
10	143-8477	7.92	6.84	6.51	6.16	5.90
12	NEW 163-6646	8.23	7.33	6.58	6.09	5.86
16	NEW 163-6647	9.04	8.04	7.22	6.69	6.43
20	NEW 163-6648	10.40	9.25	8.32	7.70	7.41
30	NEW 163-6651	11.88	10.57	9.50	8.79	8.46

MKP 1845 Series



- Metallised polypropylene film capacitors
- Deflection circuits
- Snubber and electronic ballast circuits
- Timing and sample and hold circuits

Applications:

- High current and high pulse operations

Tolerance ±5% Operating temperature -55°C to +100°C

1000 Volt d.c. nF	µF	Dimensions L	∅	Lead Length	Mftrs. List No.	Order Code
10	0.01	29	6.5	40	MKP1845310104	141-3931
22	0.022	29	9	40	MKP1845322104	141-3932
47	0.047	34	11	40	MKP1845347104	141-3933
100	0.1	34	15.5	40	MKP1845410104	141-3935
220	0.22	44	18	40	MKP1845422104	141-3936

1000 Volt d.c. nF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	141-3931	1.13	0.97	0.89	0.71	0.56
22	141-3932	1.41	1.19	1.09	0.89	0.68
47	141-3933	1.50	1.29	1.16	0.95	0.73
100	141-3935	2.04	1.73	1.58	1.29	0.99
220	141-3936	2.88	2.45	2.22	1.82	1.40

2000 Volt d.c. nF	µF	Dimensions L	∅	Lead Length	Mftrs. List No.	Order Code
1	0.001	29	6.5	40	MKP1845210204	141-3937
2.2	0.0022	29	6.5	40	MKP1845222204	141-3938
4.7	0.0047	29	8	40	MKP1845247204	141-3939
10	0.01	29	11	40	MKP1845310204	141-3940
22	0.022	34	13	40	MKP1845322204	141-3941
47	0.047	44	15	40	MKP1845347204	141-3942
100	0.1	44	21	40	MKP1845410204	141-3943

493822

RL Re-reeling available

2000 Volt d.c.		Price Each				
nF	Order Code	1+	50+	100+	500+	1K+
1	141-3937●	1.18	1.01	0.92	0.75	0.58
2.2	141-3938●	1.14	0.97	0.89	0.71	0.56
4.7	141-3939●	1.22	1.04	0.95	0.77	0.59
10	141-3940●	1.41	1.19	1.08	0.89	0.68
22	141-3941●	1.73	1.47	1.34	1.09	0.84
47	141-3942●	2.10	1.79	1.63	1.33	1.02
100	141-3943●	3.16	2.69	2.44	1.99	1.53

MKP 1839 Series



New

- Metallised polypropylene film capacitors
- Minitature case size

Applications:

- Pulse operations
- Deflection circuits
- Storage
- Timing and sample and hold circuits

Tolerance ±5% Operating temperature -55°C to +100°C

160 Volt d.c.		Dimensions		Lead		
nF	µF	L	∅	Length	Mftrs. List No.	Order Code
47	0.047	11	5.5	40	MKP1839347164	141-3914
100	0.1	14	6.5	40	MKP1839410164	141-3915
220	0.22	19	7	40	MKP1839422164	141-3916
470	0.47	19	9	40	MKP1839447164	141-3917
1000	1	26.5	10.5	40	MKP1839510164	141-3918
2200	2.2	31.5	13	40	MKP1839522164	141-3919
4700	4.7	41.5	15.5	40	MKP1839547164	141-3920
10000	10	41.5	22	40	MKP1839610164	141-3921

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160 Volt d.c.		Price Each				
nF	Order Code	1+	50+	100+	500+	1K+
47	141-3914●	0.48	0.42	0.38	0.31	0.25
100	141-3915●	0.54	0.45	0.41	0.34	0.27
220	141-3916●	0.62	0.53	0.48	0.39	0.31
470	141-3917●	0.91	0.78	0.70	0.57	0.44
1000	141-3918●	1.17	1.01	0.92	0.75	0.58
2200	141-3919●	1.97	1.67	1.51	1.24	0.96
4700	141-3920●	3.93	3.35	3.04	2.47	1.92
10000	141-3921●	6.71	5.70	5.19	4.22	3.25

400 Volt d.c.		Dimensions		Lead		
nF	µF	L	∅	Length	Mftrs. List No.	Order Code
10	0.01	11	5	40	MKP1839310404	141-3923
22	0.022	11	5	40	MKP1839322404	141-3924
47	0.047	14	6	40	MKP1839347404	141-3925
100	0.1	14	7.5	40	MKP1839410404	141-3926
220	0.22	19	8.5	40	MKP1839422404	141-3927
470	0.47	26.5	9	40	MKP1839447404	141-3928
1000	1	26.5	12.5	40	MKP1839510404	141-3929
2200	2.2	31.5	16	40	MKP1839522404	141-3930

400 Volt d.c.		Price Each				
nF	Order Code	1+	50+	100+	500+	1K+
10	141-3923●	0.43	0.37	0.34	0.28	0.21
22	141-3924●	0.47	0.40	0.37	0.30	0.24
47	141-3925●	0.57	0.48	0.44	0.36	0.28
100	141-3926●	0.64	0.55	0.49	0.40	0.31
220	141-3927●	0.87	0.73	0.67	0.55	0.42
470	141-3928●	1.11	0.95	0.87	0.70	0.55
1000	141-3929●	2.09	1.78	1.62	1.32	1.02
2200	141-3930●	3.33	2.83	2.56	2.09	1.62

PC/HV/S Series

LCR Components



- Low loss film and foil polypropylene
- Flame retardant polyester outer case epoxy end seals

Operating temperature	-55°C to +100°C	Tolerance	±20%
Insulation resistance	100000MΩ	Power factor @ 1kHz	0.0005
Temperature coefficient	-200ppm/°C	Pulse rating 1000V	1000V/µS
Climate category	40/85/56	Pulse rating 1500V	2000V/µS

N.B. For ease of selection, capacitance value is listed in both **µF** and **nF**.

1000 Volt d. c. (350 Volt a. c.)		Dimensions		
µF	nF	L	Dia.	Order Code
1	1000	20	9	952-0287
2.2	2200	20	9	952-0295
4.7	4700	20	9	952-0309
0.01	10	20	9	952-0317
22	22000	28	9.5	952-0325
47	47000	32	12	952-0333
0.1	100	33	14.5	952-0341
0.22	220	33	20	952-0350
0.47	470	46	24	952-0368

Order Multiple=5

1000 Volt d.c.		Price Each			
µF	Order Code	5+	25+	100+	500+
1	952-0287●	0.26	0.25	0.23	0.22
2.2	952-0295●	0.26	0.25	0.23	0.22
4.7	952-0309●	0.28	0.26	0.23	0.22
0.01	952-0317●	0.33	0.32	0.30	0.25
22	952-0325●	0.44	0.41	0.38	0.32
47	952-0333●	0.51	0.49	0.43	0.38
0.1	952-0341●	0.79	0.76	0.68	0.63
0.22	952-0350●	1.68	1.59	1.40	1.15
0.47	952-0368●	3.28	3.13	2.73	2.30

1500 Volt d. c. (450 Volt a. c.)		Dimensions		
µF	nF	L	Dia.	Order Code
0.01	10	28	10	952-0376
0.022	22	28	13	952-0384
0.047	47	33	16	952-0392
0.1	100	33	22	952-0406

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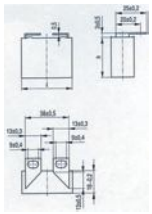
Order Multiple=5

1500 Volt d.c.		Price Each			
µF	Order Code	5+	25+	100+	500+
0.01	952-0376●	0.34	0.33	0.31	0.26
0.022	952-0384●	0.39	0.37	0.34	0.32
0.047	952-0392●	0.52	0.49	0.43	0.40
0.1	952-0406●	1.17	1.12	0.98	0.87

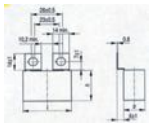
B32656/32686 Series

EPCOS


Case style 1


Case style 1


Case style 2


Case style 2

- High performance metallised polypropylene film pulse capacitors
- High pulse strength
- Designed for snubbering power semiconductors
- For direct mounting to IGBT modules

Operating temperature -55°C to +100°C Tolerance ±10%
Climatic category 55/100/56

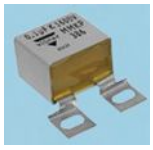
Capacitance		Pulse Rating	Dimensions			Case	Mftrs.	
µF	nF	V/µs	H	W	D	Style	List No.	Order Code
1000 Volt d.c. (500 Volt a.c.)								
0.68	680	90	28.5	42	16	1	B32656S0684K503	120-0820
1	1000	90	26.5	42	31	2	B32656S0105K500	120-0818
1.5	1500	90	26.5	42	31	2	B32656S0155K501	120-0819
1250 Volt d.c. (500 Volt a.c.)								
0.22	220	140	25	42	14	1	B32656S7224K504	120-0822
1	1000	140	37	42	28	2	B32656S7105K500	120-0821
1250 Volt d.c. (450 Volt a.c.)								
0.22	220	2800	32.5	41.5	18	1	B32686S7224K501	120-0826
1600 Volt d.c. (450 Volt a.c.)								
0.1	100	3500	32.5	41.5	18	1	B32686S1104K503	120-0824
2000 Volt d.c. (500 Volt a.c.)								
0.1	100	4500	39.5	41.5	20	1	B32686S2104K501	120-0825

333319

		Price Each			
µF	Order Code	1+	10+	50+	100+
1000 Volt d.c. (500 Volt a.c.)					
0.68	120-0820●	7.00	6.49	6.03	5.65
1	120-0818●	9.33	8.79	8.29	7.69
1.5	120-0819●	11.59	11.04	10.53	9.96
1250 Volt d.c. (500 Volt a.c.)					
0.22	120-0822●	6.85	6.30	5.83	5.34
1	120-0821●	7.89	7.00	6.41	5.66
1250 Volt d.c. (450 Volt a.c.)					
0.22	120-0826●	5.40	5.00	4.64	4.35
1600 Volt d.c. (450 Volt a.c.)					
0.1	120-0824●	6.64	6.13	5.76	5.28
2000 Volt d.c. (500 Volt a.c.)					
0.1	120-0825●	8.72	8.03	7.47	7.31

Snubber MMKP 386 Series

VISHAY



- AC and pulse double metallized polypropylene film capacitors
- Low inductive construction
- Low loss dielectric

Operating temperature	-55°C to +85°C
Tolerance	±10%
Screwhole pitch	27.5mm

RL Re-reeling available

Farnell

Polypropylene - continued

Snubber MMKP 386 Series - continued

µF	Dimensions H	W	D	Mftrs. List No.	Order Code
630 Volt d.c. (220 Volt a.c.)					
3.3	46	44	30	222238620335	128-9272
850 Volt d.c. (300 Volt a.c.)					
1.5	38	44	22	BFC238600155	141-3901
1.8	46	44	30	222238600185	128-9273
2.2	46	44	30	BFC238600225	141-3902
2.7	46	44	30	222238600275	128-9274
1000 Volt d.c. (350 Volt a.c.)					
0.33	30.5	33.5	22	222238630334	128-9276
0.47	30.5	33.5	22	222238630474	128-9277
0.68	38	44	22	222238630684	128-9278
1	38	44	22	222238630105	128-9279
1.5	46	44	30	222238630155	128-9280
1250 Volt d.c. (425 Volt a.c.)					
0.47	38	44	22	222238680474	128-9281
0.56	46	44	30	222238680564	128-9282
0.82	46	44	30	222238680824	128-9284
1600 Volt d.c. (550 Volt a.c.)					
0.1	30.5	33.5	22	222238650104	128-9288
0.22	38	44	22	222238650224	128-9290
0.33	38	44	22	222238650334	128-9291
0.47	46	44	30	222238650474	128-9292
0.56	46	44	30	222238650564	128-9293
2000 Volt d.c. (700 Volt a.c.)					
0.1	30.5	33.5	22	222238660104	128-9294
0.22	38	44	22	BFC238660224	141-3912
0.47	46	44	30	222238660474	128-9295
2500 Volt d.c. (900 Volt a.c.)					
0.1	38	44	22	222238670104	128-9296
0.27	46	44	30	222238670274	128-9297

451790

µF	Order Code	Price Each 1+	15+	30+	60+	+	+
630 Volt d.c. (220 Volt a.c.)							
3.3	**128-9272●**	7.61	7.23	6.88	6.32	– –	– –
850 Volt d.c. (300 Volt a.c.)							
1.5	**141-3901●**	6.95	6.72	6.31	5.49	– –	– –
1.8	**128-9273●**	8.67	8.24	7.82	7.20	– –	– –
2.2	**141-3902●**	8.73	8.45	7.94	6.90	– –	– –
2.7	**128-9274●**	9.84	9.35	8.88	8.17	– –	– –
1000 Volt d.c. (350 Volt a.c.)							
0.33	**128-9276●**	6.12	5.81	5.53	5.09	– –	– –
0.47	**128-9277●**	6.22	5.92	5.62	5.17	– –	– –
0.68	**128-9278●**	6.53	6.20	5.90	5.43	– –	– –
1	**128-9279●**	8.16	7.75	7.36	6.77	– –	– –
1.5	**128-9280●**	10.44	9.90	9.42	8.66	– –	– –
1250 Volt d.c. (425 Volt a.c.)							
0.47	**128-9281●**	6.83	6.50	6.17	5.67	– –	– –
0.56	**128-9282●**	6.89	6.54	6.21	5.71	– –	– –
0.82	**128-9284●**	8.78	8.34	7.93	7.29	– –	– –
1600 Volt d.c. (550 Volt a.c.)							
0.1	**128-9288●**	6.32	6.01	5.71	5.25	– –	– –
0.22	**128-9290●**	5.76	5.48	5.20	4.78	– –	– –
0.33	**128-9291●**	7.08	6.72	6.39	5.88	– –	– –
0.47	**128-9292●**	9.21	8.75	8.31	7.65	– –	– –
0.56	**128-9293●**	9.76	9.28	8.81	8.11	– –	– –
2000 Volt d.c. (700 Volt a.c.)							
0.1	**128-9294●**	6.73	6.40	6.08	5.60	– –	– –
0.22	**141-3912●**	6.39	6.19	5.81	5.04	– –	– –
0.47	**128-9295●**	9.52	9.05	8.60	7.92	– –	– –
2500 Volt d.c. (900 Volt a.c.)							
0.1	**128-9296●**	7.52	7.13	6.77	6.23	– –	– –
0.27	**128-9297●**	9.72	9.23	8.77	8.07	– –	– –

High Current DC Link Capacitors

CDE CORNELL DUBILIER

New



Type 947C series uses the most advanced metallized film technology for long life, high reliability in DC link applications. Their high-voltage and high-current ratings allow for replacement of series-parallel banks of aluminum electrolytic capacitors in high ripple current applications.

Applications:
Industrial: Motor Drives, Elevators, and Overhead Cranes, Welders
Inverters: >5kW
Renewable Energy Inverters: Wind, Solar, Fuel Cell
Aircraft Inverters: Power Supplies and Motor Drives
Transportation: Electric Vehicles, Traction

µF	Ripple (A) @ 20Hz 85°C	ESR max. mΩ @ 20°C 100kHz	Dia.	Length	Mass (kg)	Mftrs. List No.	Order Code
800 Volt d.c.							
360	72	1.3	93	97	0.9	947C361K801CAMS	154-4972
490	70	1.6	93	120	1.0	947C491K801CBMS	154-4973
600	68	2.0	93	145	1.2	947C601K801CCMS	154-4975
730	68	2.3	93	170	1.3	947C731K801CDMS	154-4976
1000 Volt d.c.							
230	67	1.5	93	97	0.9	947C231K102CAMS	154-4977
310	63	2.0	93	120	1.0	947C311K102CBMS	154-4978
390	62	2.4	93	145	1.2	947C391K102CCMS	154-4979
470	60	2.9	93	170	1.3	947C471K102CDMS	154-4980
1200 Volt d.c.							
160	62	1.8	93	97	0.9	947C161K122CAMS	154-4981
210	57	2.4	93	120	1.0	947C211K122CBMS	154-4982
270	56	2.9	93	145	1.2	947C271K122CCMS	154-4983
320	56	3.4	93	170	1.3	947C321K122CDMS	154-4984

499840

µF	Order Code	Price Each 1+	5+	25+
800 Volt d.c.				
360	**154-4972●**	70.41	63.37	55.57
490	**154-4973●**	83.44	75.11	65.87
600	**154-4975●**	97.66	87.90	77.08
730	**154-4976●**	111.89	100.71	88.32
1000 Volt d.c.				
230	**154-4977●**	57.99	52.20	45.78
310	**154-4978●**	67.39	60.66	53.19
390	**154-4979●**	77.61	69.86	61.26
470	**154-4980●**	87.89	79.10	69.37
1200 Volt d.c.				
160	**154-4981●**	52.73	47.46	41.63
210	**154-4982●**	60.55	54.51	47.80
270	**154-4983●**	69.10	62.20	54.55
320	**154-4984●**	77.69	69.92	61.32

Capacitor Kits

MKS2/FKP2/FKS2 Kit

WIMA



- Kit contains 18 values
- MKS2 FKP2 and FKS2 ranges
- Can be restocked when required

Kit contains 20 each of the following :-
MKS2 0.01µf/63V, 0.022µF/63V, 0.047µF/63V, 0.1µF/63V 0.22µF/63V, 0.47µF/63V, 1µF/63V, 2.2µF/50V*
FKP2 100pF/100V, 220pF/100V, 470pF/100V, 1000pF/100V, 2200pF/100V, 4700pF/63V, 10000pF/63V
FKS2 1000pF/100V, 2200pF/100V, 4700pF/100V
* = 10 pieces only

208435

Order Code	Price Each 1+	5+	10+
100-6066●	85.09	78.81	74.83

Polystyrene

An extremely low loss dielectric with low dielectric absorption, good long term stability, very high insulation resistance, and a small negative temperature coefficient. Suitable for tuned circuits, filter networks, timing circuits and other high stability applications whilst being physically smaller than Mica.

208418

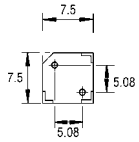
EXFS/HR Series – 63 Volt d.c. (40 Volt a.c.)

LCR Components



- Extended foil radial polystyrene
- Flame retardant epoxy resin case
- High rise shape allows high packing density

H=13
Lead length=4±1
Lead dia.=0.6



Drilling plan

Operating temperature	-40°C to +70°C	Climate category	40/70/56
Insulation resistance	500000MΩ	Tolerance	±1% or 1.5pF whichever>
Temperature coefficient	-110±60ppm/°C	Power factor @ 1kHz	0.0005

Note: 10,000pF is Polypropylene material, MKP/HR Series

208627

pF	Order Code	Price Each 5+	25+	50+	100+	1K+
100	**952-0180●**	0.77	0.76	0.70	0.57	0.47
150	**952-0198●**	0.77	0.76	0.70	0.57	0.47
220	**952-0201●**	0.77	0.76	0.70	0.57	0.47
330	**952-0210●**	0.77	0.76	0.70	0.57	0.47
470	**952-0228●**	0.77	0.76	0.70	0.57	0.47
1000	**952-0236●**	0.77	0.76	0.70	0.57	0.47
2200	**952-0244●**	0.77	0.76	0.70	0.57	0.47
3300	**952-0252●**	0.77	0.76	0.70	0.57	0.47
4700	**952-0260●**	0.81	0.79	0.72	0.63	0.49
6800	**952-0279●**	0.81	0.79	0.72	0.63	0.49
10000	**952-0830●**	0.67	0.66	0.65	0.54	0.45

RL Re-reeling available

Farnell

FSC Series – 160 Volt d.c. (40 Volt a.c.)

LCR Components



Lead dia 0.4 for C ≤330pF 0.6 for C >330pF

● Low cost polystyrene axial capacitors ● Small size high performance

Operating temperature	-40°C to +85°C	Tolerance	1pF for C ≤33p 2.5% for C >33pF
Insulation resistance	500000MΩ		
Temperature coefficient	N 150±50ppm/°C	Power factor @ 1kHz	0.0005
Climate category	40/85/56		

pF	Dimensions L	Dia.	Order Code	pF	Dimensions L	Dia.	Order Code
10	8	4	951-9955	470	12	5	952-0058
15	8	4	951-9963	680	12	5	952-0066
22	8	4	951-9971	1000	12	5	952-0074
33	8	4	951-9980	1200	10	8	952-0090
47	8	4	951-9998	1500	10	8	952-0104
56	8	4	952-0082	2200	10	8	952-0112
68	8	4	952-0007	2700	10	8	952-0120
100	8	4	952-0015	3300	10	8	952-0139
120	8	4	952-0171	4700	15	9.5	952-0147
150	8	4	952-0023	6800	15	9.5	952-0155
220	8	4	952-0031	10000	20	15	952-0163
330	8	4	952-0040				

208628

pF	Order Code	Price Each 1+	50+	100+	1K+
10	951-9955●	1.15	1.02	0.82	0.63
15	951-9963●	1.15	1.02	0.82	0.63
22	951-9971●	1.15	1.02	0.82	0.63
33	951-9980●	1.15	1.02	0.82	0.63
47	951-9998●	1.15	1.02	0.82	0.63
56	952-0082●	1.15	1.02	0.82	0.63
68	952-0007●	1.15	1.02	0.82	0.63
100	952-0015●	1.15	1.02	0.82	0.63
120	952-0171●	1.13	1.03	0.89	0.66
150	952-0023●	1.15	1.02	0.82	0.63
220	952-0031●	1.15	1.02	0.82	0.63
330	952-0040●	1.15	1.02	0.82	0.63
470	952-0058●	1.15	1.02	0.82	0.63
680	952-0066●	1.15	1.02	0.82	0.63
1000	952-0074●	1.15	1.02	0.82	0.63
1200	952-0090●	1.13	1.03	0.89	0.66
1500	952-0104●	1.15	1.02	0.82	0.63
2200	952-0112●	1.15	1.02	0.82	0.63
2700	952-0120●	1.31	1.12	0.92	0.70
3300	952-0139●	1.32	1.11	0.88	0.67
4700	952-0147●	1.80	1.55	1.26	0.94
6800	952-0155●	2.23	1.86	1.51	1.16
10000	952-0163●	2.23	1.86	1.51	1.16

FSC/EX Series

LCR Components



Lead dia.=0.8

● High performance low cost axial polystyrene ● Close tolerance, ±1%

Operating temperature	-40°C to +70°C	Tolerance	±1%
Insulation resistance	10000MΩ	Power factor @ 1kHz	0.0005
Temperature coefficient	-110 ±60ppm/°C		

pF	nF	Dimensions L	Dia.	Order Code	pF	nF	Dimensions L	Dia.	Order Code
63 Volt d.c. (25 Volt a.c.)									
10000	10	17	6.5	952-0414	22000	22	17	7	952-0430
15000	15	17	7	952-0422	33000	33	17	8	952-0449
160 Volt d.c. (40 Volt a.c.)					3600	3.6	12.9	6	952-0546
1200	1.2	12.5	5.5	952-0457	3900	3.9	17	6	952-0554
1500	1.5	12.5	5.5	952-0465	4700	4.7	17	6	952-0562
1800	1.8	12.5	5.5	952-0473	5100	5.1	17	6	952-0570
2000	2	12.5	5.5	952-0481	5600	5.6	17	6	952-0589
2200	2.2	12.5	5.5	952-0490	6200	6.2	17	6	952-0597
2700	2.7	12.5	5.5	952-0511	6800	6.8	17	6	952-0600
3000	3	12.9	6	952-0520	7500	7.5	17	7	952-0619
3300	3.3	12.9	6	952-0538	8200	8.2	17	6	952-0627
250 Volt d.c. (125 Volt a.c.)					910	0.91	12.9	5.5	952-0643
820	0.82	12.9	5.5	952-0635	1000	1	12.9	5.5	952-0651
630 Volt d.c. (250 Volt a.c.)					300	0.3	12.9	6	952-0740
100	0.1	12.5	6	952-0660	330	0.33	12.9	6	952-0759
120	0.12	12.5	6	952-0678	360	0.36	12.9	5.5	952-0767
150	0.15	12.5	6	952-0686	390	0.39	12.9	5.5	952-0775
180	0.18	12.5	6	952-0694	430	0.43	12.9	5.5	952-0783
200	0.2	12.5	6	952-0708	470	0.47	12.9	5.5	952-0791
220	0.22	12.9	6	952-0716	510	0.51	12.9	5.5	952-0805
240	0.24	12.9	6	952-0724	560	0.56	12.9	5.5	952-0813
270	0.27	12.9	6	952-0732	680	0.68	12.9	6	952-0821

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pF	Order Code	Price Each 1+	100+	1K+	3K+
63 Volt d.c.					
10000	952-0414●	0.97	0.94	0.78	0.66
15000	952-0422●	1.10	1.03	0.90	0.75
22000	952-0430●	1.22	1.19	0.96	0.81
33000	952-0449●	1.61	1.55	1.29	1.09
160 Volt d.c.					
1200	952-0457●	0.78	0.75	0.63	0.52
1500	952-0465●	0.78	0.75	0.63	0.52
1800	952-0473●	0.78	0.75	0.63	0.52
2000	952-0481●	0.78	0.75	0.63	0.52
2200	952-0490●	0.78	0.75	0.63	0.52
2700	952-0511●	0.80	0.78	0.63	0.54
3000	952-0520●	0.80	0.78	0.63	0.54
3300	952-0538●	0.80	0.78	0.63	0.54
3600	952-0546●	0.80	0.78	0.63	0.54
3900	952-0554●	0.87	0.82	0.69	0.56
4700	952-0562●	0.93	0.91	0.76	0.66
5100	952-0570●	0.93	0.91	0.76	0.66
5600	952-0589●	0.99	0.96	0.80	0.69
6200	952-0597●	0.99	0.96	0.80	0.69
6800	952-0600●	0.99	0.96	0.80	0.69
7500	952-0619●	0.99	0.96	0.80	0.69
8200	952-0627●	1.10	1.03	0.90	0.75
250 Volt d.c.					
820	952-0635●	0.78	0.75	0.63	0.52
910	952-0643●	0.78	0.75	0.63	0.52
1000	952-0651●	0.78	0.75	0.63	0.52
630 Volt d.c.					
100	952-0660●	0.78	0.75	0.63	0.52
120	952-0678●	0.78	0.75	0.63	0.52
150	952-0686●	0.78	0.75	0.63	0.52
180	952-0694●	0.78	0.75	0.63	0.52
200	952-0708●	0.78	0.75	0.63	0.52
220	952-0716●	0.78	0.75	0.63	0.52
240	952-0724●	0.61	0.54	0.49	0.44
270	952-0732●	0.78	0.75	0.63	0.52
300	952-0740●	0.78	0.75	0.63	0.52
330	952-0759●	0.78	0.75	0.63	0.52
360	952-0767●	0.62	0.61	0.49	0.42
390	952-0775●	0.80	0.78	0.63	0.54
430	952-0783●	0.80	0.78	0.63	0.54
470	952-0791●	0.80	0.78	0.63	0.54
510	952-0805●	0.80	0.78	0.63	0.54
560	952-0813●	0.80	0.78	0.63	0.54
680	952-0821●	0.80	0.78	0.63	0.54

Silvered Mica

Standard Dipped Mica Capacitors

CDE CORNELL DUBILIER



Stability and mica go hand-in-hand when you need to count on stable capacitance over a wide temperature range. CDE's standard dipped silvered mica capacitors are the first choice fortiming and close tolerance applications.

● High temperature - up to +150°C
● 100,000 V/µs dV/dt pulse capability minimum

Tolerance	±0.5pF	≤ 47pF (except 10 pF = 5%)
	±1%	≥56pF
Temp. coefficient (ppm/°C)	± 200ppm/°C	2.2 - 18pF
	-20 to +100ppm/°C	22 - 82pF
	-70 to +70ppm/°C	≥100pF
Capacitance drift	±0.5% + 0.1pF	2.2 - 18pF
	±0.1% + 0.1pF	22 - 82pF
	±0.05% + 0.1pF	≥100pF
Operating temp.	-55°C to +125°C	
Rated voltage	500Vdc	

Capacitance	Dimensions H	W	D	Lead Dia	Lead Pitch	Mftrs. List No.	Order Code
2.2pF	9.1	11.4	4.3	0.6	5.9	CD15CD(2.2)DO3F	126-4864
3.3pF	9.1	11.4	4.3	0.6	5.9	CD15CD(3.3)DO3F	126-4865
4.7pF	9.1	11.4	4.3	0.6	5.9	CD15CD(4.7)DO3F	126-4866
6.8pF	9.1	11.4	4.3	0.6	5.9	CD15CD(6.8)DO3F	126-4867
10pF	9.1	11.4	4.3	0.6	5.9	CD15CD100J03F	126-4868
15pF	9.1	11.4	4.3	0.6	5.9	CD15CD150D03F	126-4869
18pF	9.1	11.4	4.3	0.6	5.9	CD15CD180D03F	126-4870
22pF	9.1	11.4	4.3	0.6	5.9	CD15ED220D03F	126-4871
27pF	9.1	11.4	4.3	0.6	5.9	CD15ED270D03F	126-4872
33pF	9.1	11.4	4.3	0.6	5.9	CD15ED330D03F	126-4873
39pF	9.1	11.4	4.3	0.6	5.9	CD15ED390D03F	126-4875
47pF	9.1	11.4	4.3	0.6	5.9	CD15ED470D03F	126-4876
56pF	9.1	11.4	4.3	0.6	5.9	CD15ED560F03F	126-4877
68pF	9.1	11.4	4.6	0.6	5.9	CD15ED680F03F	126-4878
82pF	9.1	11.4	4.6	0.6	5.9	CD15ED820F03F	126-4879
100pF	9.1	11.7	4.6	0.6	5.9	CD15FD101F03F	126-4880
120pF	9.4	11.7	4.6	0.6	5.9	CD15FD121F03F	126-4881
150pF	9.4	11.7	4.8	0.6	5.9	CD15FD151F03F	126-4882
180pF	9.4	11.7	4.8	0.6	5.9	CD15FD181F03F	126-4883
220pF	9.7	11.7	5.1	0.6	5.9	CD15FD221F03F	126-4884
270pF	9.9	11.9	5.3	0.6	5.9	CD15FD271F03F	126-4885
330pF	9.9	11.9	5.3	0.6	5.9	CD15FD331F03F	126-4887
390pF	9.9	11.9	5.3	0.6	5.9	CD15FD391F03F	126-4888
470pF	10.2	11.9	5.6	0.6	5.9	CD15FD471F03F	126-4889
560pF	13	16.5	5.3	0.8	8.7	CD19FD561F03F	126-4892
680pF	13	16.5	5.3	0.8	8.7	CD19FD681F03F	126-4893
820pF	13	16.5	5.3	0.8	8.7	CD19FD821F03F	126-4894

RL Re-reeling available

Farnell

Silvered Mica - continued

Standard Dipped Mica Capacitors - continued

1nF	13.2	16.5	5.6	0.8	8.7	CD19FD102FO3F	126-4890
1.5nF	13.2	16.8	5.8	0.8	8.7	CD19FD152FO3F	126-4895
1.8nF	13.5	17	6.1	0.8	8.7	CD19FD182FO3F	126-4896
2.2nF	13.5	17	6.4	0.8	8.7	CD19FD222FO3F	126-4897
2.7nF	13.7	17.3	6.9	0.8	8.7	CD19FD272FO3F	126-4899
3.6nF	14.2	17.3	7.6	0.8	8.7	CD19FD362FO3F	126-4900
4.7nF	14.7	17.8	8.9	0.8	8.7	CD19FD472FO3F	126-4901
6.8nF	22.4	19.8	7.6	1	11.1	CD30FD682FO3F	126-4902
8.2nF	22.4	20.1	8.1	1	11.1	CD30FD822FO3F	126-4903
10nF	22.6	20.3	8.6	1	11.1	CD30FD103FO3F	126-4905
22nF	23.6	21.1	11.7	1	11.1	CD30FD223FO3F	126-4906
33nF	22.6	36.6	9.1	1	27	CD42FD333FO3F	126-4907
47nF	23.1	37.3	11.4	1	27	CD42FD473FO3F	126-4908

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Capacitance	Order Code	Price Each 1+	50+	100+	250+
2.2pF	126-4864	0.66	0.57	0.53	0.48
3.3pF	126-4865	0.66	0.57	0.53	0.48
4.7pF	126-4866	0.66	0.57	0.53	0.48
6.8pF	126-4867	0.66	0.57	0.53	0.48
10pF	126-4868	0.66	0.57	0.53	0.48
15pF	126-4869	0.66	0.57	0.53	0.48
18pF	126-4870	0.66	0.57	0.53	0.48
22pF	126-4871	0.74	0.63	0.58	0.55
27pF	126-4872	1.26	1.09	1.01	0.97
33pF	126-4873	1.26	1.09	1.01	0.97
39pF	126-4875	1.26	1.09	1.01	0.97
47pF	126-4876	1.26	1.09	1.01	0.97
56pF	126-4877	1.26	1.09	1.01	0.97
68pF	126-4878	1.26	1.09	1.01	0.97
82pF	126-4879	1.26	1.09	1.01	0.97
100pF	126-4880	1.26	1.09	1.01	0.97
120pF	126-4881	1.26	1.09	1.01	0.97
150pF	126-4882	1.26	1.09	1.01	0.97
180pF	126-4883	1.26	1.09	1.01	0.97
220pF	126-4884	1.26	1.09	1.01	0.97
270pF	126-4885	1.26	1.09	1.01	0.97
330pF	126-4887	1.54	1.36	1.26	1.23
390pF	126-4888	1.54	1.36	1.26	1.23
470pF	126-4889	1.54	1.36	1.26	1.23
560pF	126-4892	1.54	1.36	1.26	1.23
680pF	126-4893	1.54	1.36	1.26	1.23
820pF	126-4894	1.54	1.36	1.26	1.23
1nF	126-4890	1.54	1.36	1.26	1.23
1.5nF	126-4895	1.71	1.45	1.35	1.30
1.8nF	126-4896	1.90	1.66	1.53	1.48
2.2nF	126-4897	2.01	1.77	1.65	1.60
2.7nF	126-4899	2.21	1.92	1.78	1.75
3.6nF	126-4900	2.56	2.20	2.06	2.02
4.7nF	126-4901	2.56	2.20	2.06	2.02
6.8nF	126-4902	3.97	3.52	3.28	3.23
8.2nF	126-4903	4.43	3.91	3.64	3.58
10nF	126-4905	5.40	4.68	4.37	4.30
22nF	126-4906	8.81	7.55	7.05	6.88
33nF	126-4907	14.49	13.46	13.21	12.57
47nF	126-4908	18.74	17.78	17.21	16.94

Suppression

Capacitance Conversion Table

0.000001µF	=	0.001nF	=	1pF
0.00001µF	=	0.01nF	=	10pF
0.0001µF	=	0.1nF	=	100pF
0.001µF	=	1nF	=	1000pF
0.01µF	=	10nF	=	10000pF
0.1µF	=	100nF	=	100000pF
1µF	=	1000nF	=	1000000pF
10µF	=	10000nF	=	10000000pF
100µF	=	100000nF	=	100000000pF

Suppression Capacitors

EPCOS

- **Class X:** Suitable for use in situations where failure of the capacitor would not lead to danger of electric shock. X capacitors are designed for connection directly across the mains supply between current carrying conductors. Two sub classes exist, X2 is for general applications and meet a 2.5KV peak pulse voltage test. Class X1 have enhanced characteristics for heavier duty applications and meet a 4KV peak pulse voltage test. These kinds of peak voltage can be caused by lightning in overhead cables, switching surges in neighbouring equipment or in the device in which the capacitor is being used to suppress interferences.
- **Class Y:** Suitable for use in situations where failure of the capacitor could result in a dangerous electric shock. Y capacitors are designed for connection directly between a current carrying conductor and earth. Two sub classes also exist for Y capacitors, subjected to the same voltage tests as the X class.

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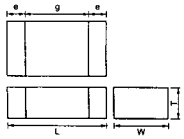
Class X1, Y2 and X2 Ceramic GC and GB Series – Surface Mount

muRata innovator in Electronics

SMD

250V ac





Supplied on 12mm blister tape
Reel = 1k pcs, 500pcs, GB

- Surface mount ceramic safety capacitors for AC line use
- GC – recognised as X1, Y2 by **IEC384-14 2nd edition** and as line bypass by **UL1414**
- Approved to **VDE, BS1, SEV** and **SEMKO**
- GB – recognised as X2 by **IEC384-14 2nd edition**
- Approved to **VDE, SEV** and **SEMKO**

Voltage rating	250V ac	Capacitance Tolerance	±10%
Test voltage	1500V rms,60s (GC)	Dielectric characteristic	X7RΩ
	1075V rms,60s (GB)	Operating temperature	-55°C to +125°C

Capacitance pF	nF	Dimensions L	W	T	e min.	g min	Mftrs. List No.	Order Code
GC Series (Class X1, Y2)								
100	0.1	5.7	5	2	0.3	4.0	GA355DR7GC101KY02L	952-7583
220	0.22	5.7	5	2	0.3	4.0	GA355DR7GC221KY02L	952-7621
330	0.33	5.7	5	2	0.3	4.0	GA355DR7GC331KY02L	353-2069
470	0.47	5.7	5	2	0.3	4.0	GA355DR7GC471KY02L	952-7656
1000	1	5.7	5	2	0.3	4.0	GA355DR7GC102KY02L	952-7591
1500	1.5	5.7	5	2	0.3	4.0	GA355DR7GC152KY02L	952-7613
2200	2.2	5.7	5	2	0.3	4.0	GA355DR7GC222KY02L	952-7630
3300	3.3	5.7	5	2	0.3	4.0	GA355DR7GC332KY02L	952-7648
4700	4.7	5.7	5	2	0.3	4.0	GA355DR7GC472KY02L	952-7664
GB Series (Class X2)								
10000	10	5.7	5	2	0.3	4.0	GA355DR7GB103KY02L	952-7559
15000	15	5.7	5	2	0.3	4.0	GA355DR7GB153KY02L	952-7567
22000	22	5.7	5	2	0.3	4.0	GA355DR7GB223KY02L	952-7575
33000	33	5.7	5	2.7	0.3	4.0	GA355XR7GB333KY06L	952-7680

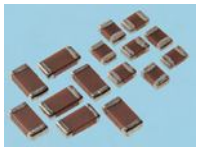
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nF	Order Code	Price Each 1+	50+	100+	500+	1K+
GC Series (Class X1, Y2)						
0.1	SMD 952-7583 RL	1.12	0.82	0.76	0.58	0.51
0.22	SMD 952-7621 RL	1.26	0.91	0.84	0.65	0.57
0.33	SMD 353-2069 RL	1.57	1.13	1.04	0.81	0.71
0.47	SMD 952-7656 RL	1.36	0.98	0.90	0.70	0.63
1	SMD 952-7591 RL	1.37	0.99	0.92	0.70	0.62
1.5	SMD 952-7613 RL	1.40	1.01	0.94	0.72	0.64
2.2	SMD 952-7630 RL	1.37	0.99	0.92	0.70	0.62
3.3	SMD 952-7648 RL	1.40	1.01	0.94	0.72	0.64
4.7	SMD 952-7664 RL	1.72	1.23	1.14	0.89	0.79
GB Series (Class X2)						
10	SMD 952-7559 RL	1.64	1.21	1.07	0.89	0.77
15	SMD 952-7567 RL	1.49	1.08	0.98	0.76	0.67
22	SMD 952-7575 RL	2.08	1.57	1.38	1.15	0.99
33	SMD 952-7680 RL	2.55	1.88	1.66	1.39	1.21

Class X1/Y2 and X2/Y3 Safety Capacitors

Phycomp YAGEO

250V ac



Certificates:
- **TUV:** IEC 60384-14:2005
- **UL:** EN132400:1994+A2+A3+A4

Capacitance pF	nF	Dielectric	Tolerence	Voltage Impulse Sparkover (V)	Mftrs. List No.	Order Code
				X1/Y2, 1808 Case Size		
10	0.01	NP0	±5%	5000	225053311523	130-5134
100	0.1	NP0	±5%	5000	225053311536	130-5136
220	0.22	X7R	±10%	5000	225053315641	130-5144
1000	1	X7R	±10%	5000	225053315649	130-5145
				X1/Y2, 1812 Case Size		
22	0.022	NP0	±5%	5000	225053411527	130-5139
100	0.1	NP0	±5%	5000	225053411536	130-5140
220	0.22	NP0	±5%	5000	225053411541	130-5142
470	0.47	NP0	±5%	5000	225053411545	130-5143
220	0.22	X7R	±10%	5000	225053415641	130-5146
1000	1	X7R	±10%	5000	225053415649	130-5147
				X2/Y3, 1808 Case Size		
1000	1	X7R	±10%	2500	225052315649	130-5151

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pF	Order Code	Order Multiple=5 Price Each 5+	25+	100+	500+	1K+
X1/Y2, 1808 Case Size						
10	SMD 130-5134	0.350	0.290	0.270	0.250	0.220
100	SMD 130-5136	0.400	0.350	0.320	0.280	0.250
220	SMD 130-5144	0.250	0.220	0.200	0.181	0.157
1000	SMD 130-5145	0.520	0.440	0.410	0.380	0.330
X1/Y2, 1812 Case Size						
22	SMD 130-5139	0.320	0.270	0.260	0.230	0.200
100	SMD 130-5140	0.420	0.370	0.340	0.310	0.260
220	SMD 130-5142	0.490	0.420	0.390	0.350	0.310

RL Re-reeling available

Farnell

Order Multiple=5			Price Each			
pF	Order Code	5+	25+	100+	500+	1K+
X1/Y2, 1812 Case Size						
470	SMD 130-5143●	0.580	0.480	0.450	0.410	0.360
220	SMD 130-5146●	0.270	0.230	0.210	0.194	0.163
1000	SMD 130-5147●	0.550	0.470	0.430	0.390	0.340
X2/Y3, 1808 Case Size						
1000	SMD 130-5151●	0.340	0.280	0.260	0.240	0.210

Class Y2/X1 Ceramic – TS Series

Panasonic ideas for life

250V ac



- Leaded ceramic safety capacitors
- Meet requirements of **IEC60384-14 2nd Edition class X1, Y2**
- Approved to **UL, CSA, BSI, VDE, SEV, SEMKO, FIMKO, NEMKO, DEMKO**
- **UL** recognised

Voltage rating 250V Operating temperature -25°C to +125°C
-25°C to + 85°C **(UL, CSA)**

Capacitance pF	nF	Tolerence	Dimensions Body Dia.	Thickness	Lead Pitch	Mftrs. List No.	Order Code
100	0.1	±20%	7	7	7.5	ECKATS101MB	119-8360
470	0.47	±20%	7	7	7.5	ECKATS471MB	119-8363
1000	1	±20%	7	7	7.5	ECKATS102ME	119-8364
1500	1.5	±20%	8	7	7.5	ECKATS152ME	119-8365
2200	2.2	±20%	9	7	7.5	ECKATS222ME	119-8366
3300	3.3	±20%	11.5	7	7.5	ECKATS332ME	119-8367
4700	4.7	±20%	14	7	10	ECKATS472ME	119-8368
10000	10	±20%	16	7	10	ECKATS103MF	119-8369

234314

		Price Each				
nF	Order Code	5+	50+	100+	500+	1K+
0.1	**119-8360**●	0.230	0.220	0.149	0.076	0.069
0.47	**119-8363**●	0.230	0.220	0.149	0.076	0.069
1	**119-8364**●	0.240	0.220	0.155	0.079	0.072
1.5	**119-8365**●	0.270	0.260	0.176	0.090	0.081
2.2	**119-8366**●	0.270	0.260	0.179	0.086	0.083
3.3	**119-8367**●	0.240	0.220	0.200	0.130	0.117
4.7	**119-8368**●	0.410	0.350	0.220	0.129	0.125
10	**119-8369**●	0.660	0.390	0.270	0.176	0.171

Class X1 and Y2 Ceramic – KH Series

muRata

250V ac



- Leaded ceramic safety capacitors
- Meet requirements of **IEC384-14 2nd Edition 1993 class X1, Y2**
- Approved to **CSA, BSI, SEMKO, SEV, VDE, FIMKO, NEMKO, DEMKO** and **NSW (SAA)**
- **UL** recognised

Voltage rating 250V ac Operating temperature -25°C to +125°C
Test voltage 2600V rms -25°C to + 85°C **(UL, CSA)**

Capacitance pF	nF	Tolerence	Dimensions Body Dia.	Thickness	Lead Pitch	Lead Length	Mftrs. List No.	Order Code
100	0.1	±10%	8	8	7.5	25	DE2B3KH101KA3B	952-6978
150	0.15	±10%	8	8	7.5	25	DE2B3KH151KA3B	952-6986
220	0.22	±10%	8	8	7.5	25	DE2B3KH221KA3B	952-6994
470	0.47	±10%	8	8	7.5	25	DE2B3KH471KA3B	952-7001
1000	1	±20%	8	8	7.5	25	DE2E3KH102MA3B	952-7010
1500	1.5	±20%	8	8	7.5	25	DE2E3KH152MA3B	952-7028
2200	2.2	±20%	8	8	7.5	25	DE2E3KH222MA3B	952-7036
3300	3.3	±20%	10	8	7.5	25	DE2E3KH332MA3B	952-7044
4700	4.7	±20%	13	8	7.5	25	DE2E3KH472MA3B	952-7052
10000	10	±20%	16	8	7.5	25	DE2F3KH103MA3B	952-7060

227197

		Price Each				
nF	Order Code	10+	50+	100+	500+	1K+
0.1	**952-6978**● RL	0.150	0.123	0.102	0.084	0.075
0.15	**952-6986**● RL	0.150	0.123	0.102	0.084	0.075
0.22	**952-6994**● RL	0.176	0.112	0.076	0.055	0.048
0.47	**952-7001**● RL	0.176	0.109	0.075	0.054	0.048
1	**952-7010**● RL	0.162	0.113	0.077	0.055	0.046
1.5	**952-7028**● RL	0.200	0.123	0.084	0.066	0.060
2.2	**952-7036**● RL	0.200	0.137	0.093	0.067	0.057
3.3	**952-7044**● RL	0.270	0.172	0.118	0.089	0.080
4.7	**952-7052**● RL	0.320	0.220	0.153	0.110	0.091
10	**952-7060**● RL	0.430	0.270	0.200	0.169	0.156

Class X1 and Y1 Ceramic – KX Series

muRata

250V ac



- Leaded ceramic safety capacitors
- Meet requirements of **IEC384-14 2nd Edition 1993 class X1, Y1**
- Approved to **CSA, BSI, SEMKO, SEV, VDE, FIMKO, NEMKO, DEMKO** and **IMQ**
- **UL** recognised

Voltage rating 250V ac Operating temperature -25°C to +125°C
Test voltage 4000V rms -25°C to + 85°C **(UL,CSA)**

Capacitance pF	nF	Tolerance	Dimensions Body Dia.	Thickness	Lead Pitch	Lead Length	Mftrs. List No.	Order Code
100	0.1	±10%	9	10	10	25	DE1B3KX101KA5B	353-1910
150	0.15	±10%	9	10	10	25	DE1B3KX151KA5B	353-1922
220	0.22	±10%	9	10	10	25	DE1B3KX221KA5B	353-1934
330	0.33	±10%	9	10	10	25	DE1B3KX331KA5B	353-1946
470	0.47	±10%	9	10	10	25	DE1B3KX471KA5B	353-1958
680	0.68	±10%	10	10	10	25	DE1B3KX681KA5B	353-1960
1000	1	±20%	9	10	10	25	DE1E3KX102MA5B	353-1971
1500	1.5	±20%	11	10	10	25	DE1E3KX152MA5B	353-1983
2200	2.2	±20%	12	10	10	25	DE1E3KX222MA5B	353-1995
3300	3.3	±20%	14	10	10	25	DE1E3KX332MA5B	353-2008
3900	3.9	±20%	15	10	10	25	DE1E3KX392MA5B	353-2010
4700	4.7	±20%	16	10	10	25	DE1E3KX472MA5B	353-2021

227198

		Price Each				
nF	Order Code	10+	50+	100+	500+	1K+
0.1	**353-1910**● RL	0.220	0.184	0.155	0.122	0.113
0.15	**353-1922**● RL	0.220	0.184	0.155	0.122	0.113
0.22	**353-1934**● RL	0.220	0.184	0.155	0.122	0.113
0.33	**353-1946**● RL	0.220	0.184	0.155	0.122	0.113
0.47	**353-1958**● RL	0.220	0.184	0.155	0.122	0.113
0.68	**353-1960**● RL	0.280	0.210	0.186	0.148	0.134
1	**353-1971**● RL	0.220	0.185	0.159	0.119	0.117
1.5	**353-1983**● RL	0.240	0.198	0.163	0.125	0.118
2.2	**353-1995**● RL	0.290	0.220	0.194	0.153	0.140
3.3	**353-2008**● RL	0.320	0.260	0.220	0.175	0.162
3.9	**353-2010**● RL	0.290	0.240	0.196	0.157	0.141
4.7	**353-2021**● RL	0.380	0.320	0.270	0.200	0.198

X2Y® Series

YAGEO

SMD Ceramic EMI Filters



New

X2Y® products are comprised of two identical Y-capacitors and one X-capacitor, integrated into a 4- terminal device, which is available in standard MLCC sizes. Thanks to the unique multilayer construction the device provides noise cancellation within the device, reducing ESL from nanohenry to picohenry levels.
Using the unique balance between the Y-caps and the shielded multilayer structure the X2Y® products offer superior filtering and decoupling.

Dielectric X7R Operating Temperature -55°C to +125°C
Tolerance ±20%

528765

			Price Each		
nF	Order Code	1+	25+	100+	500+
0603 Case Size - 10 Volt d.c.					
100	SMC 168-8523●	0.38	0.32	0.28	0.25
0603 Case Size - 25 Volt d.c.					
22	SMC 168-8521●	0.36	0.30	0.26	0.23
0603 Case Size - 50 Volt d.c.					
10	SMC 168-8520●	0.36	0.30	0.26	0.23
0603 Case Size - 100 Volt d.c.					
2.2	SMC 168-8519●	0.36	0.30	0.26	0.23
0805 Case Size - 16 Volt d.c.					
100	SMC 168-8525●	0.44	0.37	0.33	0.29
0805 Case Size - 25 Volt d.c.					
22	SMC 168-8524●	0.44	0.37	0.33	0.29
1206 Case Size - 50 Volt d.c.					
100	SMC 168-8526●	0.58	0.48	0.43	0.38
1210 Case Size - 50 Volt d.c.					
220	SMC 168-8527●	0.77	0.64	0.56	0.50

Class Y Ceramic — WYO & WKO Series

VISHAY

250V ac & 300V ac



Lead dia.(WY)=0.6
Lead dia. (WKO)=0.8

- Approved to **CSA** and **EN132400**
- **UL** recognised

N.B. For ease of selection capacitance value is listed in both **pF** and **µF**

Tolerance ±20%
Insulation resistance 6000MΩ
Operating temperature -40°C to +85°C
Test voltage WYO 1800V ac for 2s
WKO 2500V ac for 2s
Power factor 0.025

250Vac pF	µF	Dimensions Body Dia.	Thickness	Lead Pitch	Lead Length	Mftrs. List No.	Order Code
2200000	2.2	9	4.5	5	30	WYO222MCMBF0KR	116-6661
4700000	4.7	12	4.5	7.5	30	WYO472MCMCF0KR	116-6662
300Vac							
1000000	1	10	5	7.5	30	WKO102MCPCJ0KR	116-6663
4700000	4.7	14.5	5	12.5	30	WKO472MCPEJ0KR	116-6664

RL Re-reeling available

Farnell

Suppression - continued

Class Y Ceramic — WYO & WKO Series - continued

250V ac & 300V ac - continued

204230

Order Multiple=5				Price Each		
µF	Order Code	5+	50+	100+	500+	1K+
250Vac						
2.2	**116-6661●**	0.190	0.168	0.151	0.109	0.092
4.7	**116-6662●**	0.280	0.250	0.220	0.160	0.157
300Vac						
1	**116-6663●**	0.280	0.220	0.168	0.134	0.122
4.7	**116-6664●**	0.510	0.370	0.300	0.210	0.210

Class X1 — Polyester film

305V ac



- AC suppresion capacitors
- Epoxy resin sealed, flame retardant plastic case **UL 94V-0**

Tolerance ±20%
Operating temperature -40°C to 100°C

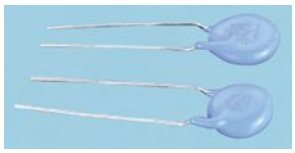
N.B For ease of selection, capacitance value is listed in both **nF** & **pF**

		Dimensions			Lead	Mftrs.	
nF	pF	H	W	D	Pitch	List No.	Order Code
1	1000	10.3	17.8	5.3	15	F1710210M3DBB0	141-3863
3.3	3300	10.3	17.8	5.3	10	F1710233M3DBB0	141-3862

493568

		Price Each				
nF	Order Code	1+	50+	100+	500+	1K+
1	**141-3863●**	0.200	0.168	0.158	0.126	0.095
3.3	**141-3862●**	0.200	0.168	0.147	0.126	0.095

DE Series – 250V



- Radial leaded ceramic safety capacitors for EMC applications

DE1 - CLass X1, Y1

			Dimensions			Mftrs.	
pF	nF	Tolerance	Diameter	Depth	Lead Pitch	List No.	Order Code
10	0.01	5%	9	8	10	DE11XKX100JN5A	**151-5808**
22	0.022	5%	9	8	10	DE11XKX220JA5B	**151-5811**
100	0.1	10%	8	7	10	DE1B3KX101KA4BL01	**151-5812**
150	0.15	10%	8	7	10	DE1B3KX151KA4BL01	**151-5813**
220	0.22	10%	8	7	10	DE1B3KX221KA4BL01	**151-5814**
330	0.33	10%	8	7	10	DE1B3KX331KA4BL01	**151-5815**
470	0.47	10%	8	7	10	DE1B3KX471KA4BL01	**151-5816**
680	0.68	10%	9	7	10	DE1B3KX681KA4BL01	**151-5817**
1000	1	20%	9	7	10	DE1E3KX102MA4BL01	**151-5818**
2200	2.2	20%	9	7	10	DE1E3KX222MA4BL01	**151-5821**
3300	3.3	20%	9	7	10	DE1E3KX332MA4BL01	**151-5823**
3900	3.9	20%	13	8	10	DE1E3KX392MA5BA01	**151-5824**
4700	4.7	20%	12	7	10	DE1E3KX472MA4BL01	**151-5825**

		Price Each				
pF	Order Code	1+	50+	100+	250+	500+
10	**151-5808●**	0.450	0.360	0.270	0.200	0.163
22	**151-5811●**	0.300	0.240	0.173	0.133	0.102
100	**151-5812●**	0.310	0.250	0.184	0.133	0.112
150	**151-5813●**	0.310	0.250	0.184	0.133	0.112
220	**151-5814●**	0.310	0.250	0.184	0.143	0.112
330	**151-5815●**	0.300	0.240	0.173	0.133	0.102
470	**151-5816●**	0.330	0.260	0.194	0.143	0.112
680	**151-5817●**	0.390	0.310	0.240	0.173	0.143
1000	**151-5818●**	0.270	0.210	0.163	0.122	0.092
2200	**151-5821●**	0.370	0.300	0.210	0.163	0.133
3300	**151-5823●**	0.480	0.390	0.290	0.210	0.173
3900	**151-5824●**	0.590	0.470	0.360	0.270	0.210
4700	**151-5825●**	0.610	0.490	0.370	0.280	0.220

DE2 - Class X1, Y2

			Dimensions			Mftrs.	
pF	nF	Tolerance	Diameter	Depth	Lead Pitch	List No.	Order Code
10	0.01	5%	8	5	5	DE21XKY100JA2BM01	**151-5826**
15	0.015	5%	8	5	5	DE21XKY150JA2BM01	**151-5827**
22	0.022	5%	8	5	5	DE21XKY220JA2BM01	**151-5828**
33	0.033	5%	8	5	5	DE21XKY330JA2BM01	**151-5830**
47	0.047	5%	8	5	5	DE21XKY470JA2BM01	**151-5831**
68	0.068	5%	8	5	5	DE21XKY680JA2BM01	**151-5832**
100	0.1	10%	7	5	5	DE2B3KY101KA2BM01	**151-5833**
150	0.15	10%	7	5	5	DE2B3KY151KA2BM01	**151-5835**
220	0.22	10%	7	5	5	DE2B3KY221KA2BM01	**151-5836**
330	0.33	10%	7	5	5	DE2B3KY331KA2BM01	**151-5837**
470	0.47	10%	7	5	5	DE2B3KY471KA2BM01	**151-5838**
680	0.68	10%	8	5	5	DE2B3KY681KA2BM01	**151-5839**
1000	1	20%	7	5	5	DE2E3KY102MA2BM01	**151-5840**
1500	1.5	20%	7	5	5	DE2E3KY152MA2BM01	**151-5841**
2200	2.2	20%	8	5	5	DE2E3KY222MA2BM01	**151-5842**
3300	3.3	20%	9	5	5	DE2E3KY332MA2BM01	**151-5843**
4700	4.7	20%	10	5	5	DE2E3KY472MA2BM01	**151-5844**
10000	10	20%	14	5	7.5	DE2F3KY103MA3BM02	**151-5845**

496729

		Price Each				
pF	Order Code	1+	50+	100+	250+	500+
10	**151-5826●**	0.220	0.184	0.133	0.102	0.082
15	**151-5827●**	0.220	0.184	0.133	0.102	0.082
22	**151-5828●**	0.260	0.200	0.153	0.112	0.092
33	**151-5830●**	0.220	0.184	0.133	0.102	0.082
47	**151-5831●**	0.220	0.184	0.133	0.102	0.082
68	**151-5832●**	0.220	0.184	0.133	0.102	0.082
100	**151-5833●**	0.220	0.173	0.133	0.102	0.082
150	**151-5835●**	0.220	0.173	0.133	0.102	0.082
220	**151-5836●**	0.220	0.173	0.133	0.102	0.082
330	**151-5837●**	0.220	0.173	0.133	0.102	0.082
470	**151-5838●**	0.220	0.173	0.133	0.102	0.082
680	**151-5839●**	0.240	0.184	0.143	0.102	0.082
1000	**151-5840●**	0.220	0.173	0.133	0.102	0.082
1500	**151-5841●**	0.220	0.173	0.133	0.102	0.082
2200	**151-5842●**	0.240	0.194	0.143	0.102	0.082
3300	**151-5843●**	0.270	0.200	0.153	0.122	0.092
4700	**151-5844●**	0.300	0.250	0.184	0.133	0.112
10000	**151-5845●**	0.570	0.450	0.340	0.260	0.200

R46 Series



- X2 CLASS (IEC 60384-14) - MKP Series
- Metallized polypropylene film capacitor
- Self-healing properties
- Typical applications: interference suppression and across-the-line applications
- Suitable for use in situations where failure of the capacitor would not lead to danger of electric shock

Voltage Rating 275V ac
Tolerance ±10%
Lead Length 25mm

Lead Pitch: 10mm

			Dimensions				
nF	µF	H	W	D	Mftrs. List No.	Order Code
10	0.01	9	13	4	R46KF210050N0K	167-9293
15	0.015	9	13	4	R46KF215050N0K	167-9294
22	0.022	9	13	4	R46KF222050N0K	167-9295
33	0.033	11	13	5	R46KF233050M1K	167-9297
47	0.047	11	13	5	R46KF247050N0K	167-9298
68	0.068	12	13	6	R46KF268050M1K	167-9299
100	0.1	12	13	6	R46KF310050P0K	167-9300

		Price Each				
µF	Order Code	10+	25+	50+	100+	+
0.01	**167-9293●**	0.192	0.128	0.096	0.077	– –
0.015	**167-9294●**	0.192	0.128	0.096	0.077	– –
0.022	**167-9295●**	0.192	0.128	0.096	0.077	– –
0.033	**167-9297●**	0.192	0.128	0.096	0.077	– –
0.047	**167-9298●**	0.192	0.128	0.096	0.077	– –
0.068	**167-9299●**	0.216	0.144	0.108	0.087	– –
0.1	**167-9300●**	0.244	0.163	0.122	0.098	– –

Lead Pitch: 15mm

			Dimensions				
nF	µF	H	W	D	Mftrs. List No.	Order Code
10	0.01	11	18	5	R46KI21005001K	167-9301
15	0.015	11	18	5	R46KI21505001K	167-9303
22	0.022	11	18	5	R46KI22205001K	167-9304
33	0.033	11	18	5	R46KI23305001K	167-9305
47	0.047	11	18	5	R46KI24705001K	167-9306
68	0.068	11	18	5	R46KI26805001K	167-9307
100	0.1	11	18	5	R46KI310050M1K	167-9308
150	0.15	12	18	6	R46KI315050M2K	167-9309
220	0.22	14	18	8	R46KI322050M2K	167-9310
330	0.33	15	18	9	R46KI333050N0K	167-9311
470	0.47	19	18	11	R46KI347050M1K	167-9312

		Price Each				
µF	Order Code	10+	25+	50+	100+	+
0.01	**167-9301●**	0.171	0.114	0.086	0.068	– –
0.015	**167-9303●**	0.171	0.114	0.086	0.068	– –
0.022	**167-9304●**	0.171	0.114	0.086	0.068	– –
0.033	**167-9305●**	0.171	0.114	0.086	0.068	– –
0.047	**167-9306●**	0.171	0.114	0.086	0.068	– –
0.068	**167-9307●**	0.171	0.114	0.086	0.068	– –
0.1	**167-9308●**	0.166	0.111	0.083	0.067	– –
0.15	**167-9309●**	0.166	0.111	0.083	0.067	– –
0.22	**167-9310●**	0.300	0.198	0.149	0.119	– –
0.33	**167-9311●**	0.400	0.270	0.199	0.159	– –
0.47	**167-9312●**	0.450	0.300	0.224	0.180	– –

Lead Pitch: 22.5mm

			Dimensions				
nF	µF	H	W	D	Mftrs. List No.	Order Code
150	0.15	15	27	6	R46KN31505001K	167-9313
220	0.22	15	27	6	R46KN322050M1K	167-9315
330	0.33	15	27	6	R46KN333050N0K	167-9316
470	0.47	16	27	7	R46KN347050N0K	167-9317
680	0.68	19	27	10	R46KN368050M2K	167-9318
1000	1	20	27	11	R46KN410050N1K	167-9319

		Price Each				
µF	Order Code	5+	10+	25+	50+	+
0.15	**167-9313●**	0.330	0.219	0.165	0.132	– –
0.22	**167-9315●**	0.380	0.260	0.192	0.154	– –
0.33	**167-9316●**	0.420	0.280	0.212	0.170	– –
0.47	**167-9317●**	0.470	0.310	0.233	0.187	– –
0.68	**167-9318●**	0.530	0.350	0.270	0.212	– –
1	**167-9319●**	0.670	0.450	0.330	0.260	– –

RL Re-reeling available

Lead Pitch: 27.5mm

nF	µF	Dimensions H	W	D	Mftrs. List No.	Order Code
680	0.68	17	32	9	R46KR368050M1K	167-9320
1000	1	20	32	11	R46KR410050M1K	167-9321
1500	1.5	22	32	13	R46KR415050M1K	167-9322
2200	2.2	25	32	13	R46KR422050M2K	167-9323
3300	3.3	33	32	18	R46KR433050M2K	167-9324
4700	4.7	33	32	18	R46KR447050M2K	167-9325

µF	Order Code	Price Each 5+	10+	25+	50+	+
0.68	**167-9320●**	0.63	0.42	0.32	0.30	– –
1	**167-9321●**	0.71	0.47	0.36	0.34	– –
1.5	**167-9322●**	0.91	0.61	0.45	0.43	– –
2.2	**167-9323●**	1.15	0.77	0.58	0.56	– –
3.3	**167-9324●**	1.86	1.24	0.93	0.90	– –
4.7	**167-9325●**	2.89	1.93	1.44	1.37	– –

Lead Pitch: 37.5mm

nF	µF	Dimensions H	W	D	Mftrs. List No.	Order Code
2200	2.2	24	42	13	R46KW422050M1K	167-9327
5600	5.6	40	42	20	R46KW456050M1K	167-9328
6800	6.8	40	42	20	R46KW468050M2K	167-9329
10000	10	45	42	30	R46KW510050M1K	167-9330

527587

µF	Order Code	Price Each 5+	10+	25+	50+	+
2.2	**167-9327●**	1.61	1.07	0.79	0.76	– –
5.6	**167-9328●**	3.58	2.39	1.79	1.70	– –
6.8	**167-9329●**	4.55	2.99	2.27	2.10	– –
10	**167-9330●**	5.84	3.89	2.92	2.85	– –

Class X1,X2 and Y2 Metallised Polypropylene 2222 336 Series

275V ac (X1, X2), 250V ac (Y2)



- Approved to **VDE, SEV, SEMKO, DEMKO, SETI, IMQ, OVE** and **CSA**
- **UL** recognised
- Meets the latest requirements of **IEC384-14**

Operating temperature	-55°C to 100°C	
Tolerance	±20%	
Insulation resistance	C<.33uF	15000MΩ
	C5 >.33uF	5000 sec (MΩ x uF)
Pulse rise time	X1, Y1	200Vµs
	X2	100Vµs

N.B. For ease of selection, capacitance value is listed in both **nF** and **µf**

nF	µF	Dimensions H	W	D	Lead Pitch	Lead Diameter	Mftrs. List No.	Order Code
Class X1								
22	0.022	11	17.5	5	15	0.6	2222 336 10223	116-6513
33	0.033	12	17.5	6	15	0.6	2222 336 10333	116-6535
47	0.047	13.5	17.5	7	15	0.8	2222 336 10473	116-6514
68	0.068	15	17.5	8.5	15	0.8	2222 336 10683	116-6536
100	0.1	16.5	17.5	10	15	0.8	2222 336 10104	116-6515
150	0.15	18	26	8.5	22.5	0.8	2222 336 10154	116-6537
220	0.22	19.5	26	10	22.5	0.8	2222 336 10224	116-6516
330	0.33	23	31	13	27.5	0.8	2222 336 10334	116-6538
470	0.47	25	31	15	27.5	0.8	2222 336 10474	116-6518
1000	1	31	31	21	27.5	0.8	2222 336 10105	116-6519
Class X2								
10	0.01	11	12.5	5	10	0.6	2222 336 20103	116-6520
15	0.015	11	12.5	5	10	0.6	2222 336 20153	116-6539
22	0.022	11	12.5	5	10	0.6	2222 336 20223	116-6521
33	0.033	12	12.5	6	10	0.6	2222 336 20333	116-6540
47	0.047	11	17.5	5	15	0.6	2222 336 20473	116-6522
68	0.068	11	17.5	5	15	0.6	2222 336 20683	116-6541
100	0.1	12	17.5	6	15	0.6	2222 336 20104	116-6523
150	0.15	15	17.5	8.5	15	0.8	2222 336 20154	116-6543
220	0.22	16.5	17.5	10	15	0.8	2222 336 20224	116-6524
330	0.33	18	26	8.5	22.5	0.8	2222 336 20334	116-6544
470	0.47	19.5	26	10	22.5	0.8	2222 336 20474	116-6525
680	0.68	21	31	11	27.5	0.8	2222 336 20684	116-6545
1000	1	23	31	13	27.5	0.8	2222 336 20105	116-6526
Class Y2								
1	0.001	10	12.5	4	10	0.6	2222 336 60102	116-6527
1.5	0.0015	10	12.5	4	10	0.6	2222 336 60152	116-6546
2.2	0.0022	10	12.5	4	10	0.6	2222 336 60222	116-6528
3.3	0.0033	11	12.5	5	10	0.6	2222 336 60332	116-6547
4.7	0.0047	12	12.5	6	10	0.6	2222 336 60472	116-6531
6.8	0.0068	12	12.5	6	10	0.6	2222 336 60682	116-6548
10	0.01	11	17.5	5	15	0.6	2222 336 60103	116-6532
22	0.022	13.5	17.5	7	15	0.8	2222 336 60223	116-6533
47	0.047	16.5	17.5	10	15	0.8	2222 336 60473	116-6534

204000

Order Multiple=5 µF	Order Code	Price Each 5+	100+	1K+	3K+
Class X1					
0.022	**116-6513●**	0.320	0.194	0.163	0.123
0.033	**116-6535●**	0.300	0.178	0.144	0.116
0.047	**116-6514●**	0.310	0.187	0.151	0.120
0.068	**116-6536●**	0.380	0.220	0.189	0.150
0.1	**116-6515●**	0.390	0.250	0.199	0.156
0.15	**116-6537●**	0.440	0.280	0.240	0.182
0.22	**116-6516●**	0.450	0.270	0.220	0.188
0.33	**116-6538●**	1.000	0.610	0.490	0.410
0.47	**116-6518●**	1.010	0.620	0.490	0.400
1	**116-6519●**	0.820	0.780	0.730	0.630

Order Multiple=5 µF	Order Code	Price Each 5+	100+	1K+	3K+
Class X2					
0.01	**116-6520●**	0.280	0.163	0.133	0.104
0.015	**116-6539●**	0.300	0.181	0.142	0.113
0.022	**116-6521●**	0.280	0.164	0.133	0.106
0.033	**116-6540●**	0.280	0.159	0.131	0.103
0.047	**116-6522●**	0.270	0.155	0.131	0.103
0.068	**116-6541●**	0.290	0.170	0.142	0.112
0.1	**116-6523●**	0.300	0.180	0.155	0.112
0.15	**116-6543●**	0.370	0.220	0.181	0.143
0.22	**116-6524●**	0.430	0.280	0.220	0.180
0.33	**116-6544●**	0.490	0.320	0.270	0.198
0.47	**116-6525●**	0.730	0.450	0.370	0.300
0.68	**116-6545●**	1.090	1.070	0.540	0.430
1	**116-6526●**	1.370	0.820	0.660	0.530
Class Y2					
0.001	**116-6527●**	0.103	0.099	0.094	0.076
0.0015	**116-6546●**	0.360	0.210	0.178	0.133
0.0022	**116-6528●**	0.240	0.142	0.113	0.091
0.0033	**116-6547●**	0.300	0.181	0.151	0.119
0.0047	**116-6531●**	0.290	0.169	0.143	0.107
0.0068	**116-6548●**	0.390	0.250	0.188	0.151
0.01	**116-6532●**	0.310	0.182	0.148	0.117
0.022	**116-6533●**	0.330	0.199	0.160	0.128
0.047	**116-6534●**	0.200	0.191	0.180	0.147

Class X2 Metallised Polypropylene 2222 338-2 Series

275V ac



- Approved to **SEV, VDE, FI, N, D, S, IMQ, OVE** and **CSA**
- **UL** recognised
- Meets the requirements of **IEC 60384-14 2nd Edition** and **EN 132400**

Operating temperature	-55°C to 105°C	
Tolerance	±20%	
Insulation resistance	C <0.33µF	>15000MΩ
RC for C	>0.33µF	>5000s
Pulse rise time	X2	100V/µs

N.B. For ease of selection, capacitance value is listed in both **nf** and **µf**

nF	µF	Dimensions H	W	D	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
1	0.001	9	10	4	0.5	7.5	2222 338 20102	121-5444
1.5	0.0015	9	10	4	0.5	7.5	2222 338 20152	121-5448
2.2	0.0022	9	10	4	0.5	7.5	2222 338 20222	121-5454
3.3	0.0033	9	10	4	0.5	7.5	2222 338 20332	121-5458
4.7	0.0047	9	10	4	0.5	7.5	2222 338 20472	121-5463
6.8	0.0068	9	10	4	0.5	7.5	2222 338 20682	121-5466
10	0.01	9	10	4	0.5	7.5	2222 338 20103	121-5445
15	0.015	9	10	4	0.5	7.5	2222 338 20153	121-5451
22	0.022	9	10	4	0.5	7.5	2222 338 20223	121-5455
33	0.033	10.5	10	5	0.5	7.5	2222 338 20333	121-5459
47	0.047	11.5	10	6	0.5	7.5	2222 338 20473	121-5464
68	0.068	12	12.5	6	0.6	10	2222 338 20683	121-5467
100	0.1	12	12.5	6	0.6	10	2222 338 20104	121-5446
150	0.15	13.5	17.5	7	0.8	15	2222 338 20154	121-5452
220	0.22	15	17.5	8.5	0.8	15	2222 338 20224	121-5456
330	0.33	16.5	17.5	10	0.8	15	2222 338 20334	121-5460
470	0.47	18	26	8.5	0.8	22.5	2222 338 20474	121-5465
680	0.68	19.5	26	10	0.8	22.5	2222 338 20684	121-5468
1000	1	22	26	12	0.8	22.5	2222 338 20105	121-5447
1500	1.5	25	31	15	0.8	27.5	2222 338 20155	121-5453
2200	2.2	28	31	18	0.8	27.5	2222 338 20225	121-5457
3300	3.3	31	31	21	0.8	27.5	2222 338 20335	121-5461

204180

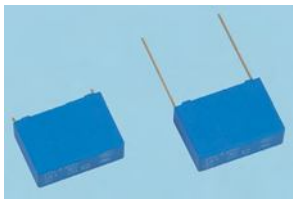
µF	Order Code	Price Each 5+	100+	1K+	3K+
0.001	**121-5444●**	0.310	0.230	0.147	0.122
0.0015	**121-5448●**	0.152	0.104	0.087	0.068
0.0022	**121-5454●**	0.198	0.142	0.097	0.075
0.0033	**121-5458●**	0.198	0.148	0.101	0.080
0.0047	**121-5463●**	0.380	0.280	0.176	0.146
0.0068	**121-5466●**	0.390	0.300	0.188	0.155
0.01	**121-5445●**	0.420	0.310	0.197	0.164
0.015	**121-5451●**	0.320	0.230	0.161	0.128
0.022	**121-5455●**	0.430	0.310	0.200	0.168
0.033	**121-5459●**	0.300	0.250	0.149	0.117
0.047	**121-5464●**	0.380	0.280	0.176	0.146
0.068	**121-5467●**	0.220	0.166	0.108	0.085
0.1	**121-5446●**	0.420	0.310	0.195	0.162
0.15	**121-5452●**	0.450	0.320	0.210	0.171
0.22	**121-5456●**	0.570	0.410	0.260	0.220
0.33	**121-5460●**	0.540	0.410	0.300	0.250
0.47	**121-5465●**	1.010	0.740	0.470	0.390
0.68	**121-5468●**	0.690	0.510	0.380	0.310
1	**121-5447●**	0.920	0.860	0.790	0.650
1.5	**121-5453●**	2.230	1.630	1.040	0.860
2.2	**121-5457●**	2.710	1.980	1.260	1.050
3.3	**121-5461●**	2.430	1.900	1.200	0.960

£ € 40,000 PRICES REDUCED

RL Re-reeling available

Suppression - continued

Class X2 - Metallised Polypropylene
2222 338-4 Series
300V ac



- Class X2 metallised polypropylene suppression capacitors
- Approved to **ENEC** and **CSA-C22.2 No 8**
- **UL** recognised
- Meets the requirements of **IEC 60384-14 2nd edition** and **EN 132400**

Voltage rating (ac)	300 V	Climatic category	55/105/56/B
Voltage rating (dc)	630 V	Operating temperature	-55°C to +105°C
Tolerance	±20%		

nF	Dimensions mm H	W	D	Lead Dimensions Pitch	Dia.	Length	Mftrs. List No.	Order Code
10	11	17.5	5	15	0.6	5	2222 338 40103	116-6441
15	11	17.5	5	15	0.6	5	2222 338 40153	116-6442
22	11	17.5	5	15	0.6	5	2222 338 40223	116-6443
33	11	17.5	5	15	0.6	5	2222 338 40333	116-6444
47	11	17.5	5	15	0.6	5	2222 338 40473	116-6445
68	11	17.5	5	15	0.6	5	2222 338 40683	116-6446
100	12	17.5	6	15	0.6	5	2222 338 40104	116-6447
220	15	17.5	8.5	15	0.8	5	2222 338 40224	116-6448
330	16.5	17.5	10	15	0.8	5	2222 338 40334	116-6449
470	18	26	8.5	22.5	0.8	5	2222 338 40474	116-6450
680	19.5	26	10	22.5	0.8	5	2222 338 40684	116-6452
µF								
1	22	26	12	22.5	0.8	5	2222 338 40105	116-6453
1.5	25	31	15	27.5	0.8	5	2222 338 40155	116-6454
2.2	28	31	18	27.5	0.8	5	2222 338 40225	116-6455
3.3	31	31	21	27.5	0.8	5	2222 338 40335	116-6456
4.7	35	42	18	37.5	1.0	5	2222 338 40475	116-6457
6.8	21.5	38.5	43	37.5			BFC233840685	141-3854
10	38	59.5	21	55	1.0	5	2222 338 40106	116-6458
nF								
10	11	17.5	5	15	0.6	25	2222 338 41103	116-6459
47	11	17.5	5	15	0.6	25	2222 338 41473	116-6461
68	11	17.5	5	15	0.6	25	2222 338 41683	116-6462
100	12	17.5	6	15	0.6	25	2222 338 41104	116-6464
150	13.5	17.5	7	15	0.8	25	2222 338 41154	116-6465
220	15	17.5	8.5	15	0.8	25	2222 338 41224	116-6466
330	16.5	17.5	10	15	0.8	25	2222 338 41334	116-6467
470	18	26	8.5	22.5	0.8	25	2222 338 41474	116-6468
680	19.5	26	10	22.5	0.8	25	2222 338 41684	116-6469
1	22	26	12	22.5	0.8	25	2222 338 41105	116-6470
µF								
1.5	25	31	15	27.5	0.8	25	2222 338 41155	116-6471
2.2	28	31	18	27.5	0.8	25	2222 338 41225	116-6472
3.3	31	31	21	27.5	0.8	25	2222 338 41335	116-6473
4.7	35	42	18	37.5	1.0	25	2222 338 41475	116-6474
6.8	38	42	21	15	0.6	25	2222 338 41685	116-6476
10	38	59.5	21	55	1.0	25	2222 338 41106	116-6477
10	28	42.5	42	37.5			BFC233848159	141-3856

233739

Order Multiple=5 nF	Order Code	Price Each 5+	50+	100+	250+	500+	1K+
10	**116-6441●**	0.290	0.280	0.260	0.210	0.190	0.163
15	**116-6442●**	0.290	0.280	0.260	0.210	0.185	0.169
22	**116-6443●**	0.210	0.200	0.189	0.183	0.178	0.173
33	**116-6444●**	0.270	0.260	0.220	0.190	0.167	0.150
47	**116-6445●**	0.270	0.260	0.220	0.190	0.167	0.150
68	**116-6446●**	0.270	0.260	0.220	0.198	0.173	0.146
100	**116-6447●**	0.290	0.280	0.260	0.220	0.190	0.163
220	**116-6448●**	0.360	0.350	0.330	0.300	0.270	0.220
330	**116-6449●**	0.420	0.400	0.380	0.330	0.300	0.270
470	**116-6450●**	0.660	0.630	0.590	0.490	0.440	0.400
680	**116-6452●**	0.850	0.820	0.760	0.650	0.580	0.520
µF							
1	**116-6453●**	1.090	1.040	0.970	0.830	0.750	0.650
1.5	**116-6454●**	1.450	1.400	1.280	1.090	0.980	0.850
2.2	**116-6455●**	1.750	1.690	1.530	1.350	1.190	1.040
3.3	**116-6456●**	2.580	2.470	2.300	1.970	1.750	1.520
4.7	**116-6457●**	3.730	3.560	3.250	2.830	2.510	2.200
6.8	**141-3854●**	6.700	5.690	5.180	4.220	3.250	– –
10	**116-6458●**	6.410	6.150	5.630	4.890	4.320	3.790
nF							
10	**116-6459●**	0.280	0.270	0.250	0.210	0.185	0.159
47	**116-6461●**	0.270	0.260	0.220	0.190	0.167	0.150
68	**116-6462●**	0.280	0.270	0.240	0.200	0.178	0.150
100	**116-6464●**	0.290	0.280	0.260	0.220	0.190	0.163
150	**116-6465●**	0.290	0.280	0.260	0.220	0.198	0.170
220	**116-6466●**	0.360	0.350	0.330	0.300	0.270	0.220
330	**116-6467●**	0.420	0.400	0.380	0.330	0.300	0.270
470	**116-6468●**	0.660	0.630	0.590	0.490	0.440	0.400
680	**116-6469●**	0.830	0.810	0.750	0.650	0.590	0.530
1	**116-6470●**	1.090	1.040	0.970	0.830	0.750	0.650
µF							
1.5	**116-6471●**	1.450	1.400	1.280	1.090	0.980	0.850
2.2	**116-6472●**	1.750	1.690	1.530	1.350	1.190	1.040
3.3	**116-6473●**	2.580	2.470	2.300	1.970	1.750	1.520
4.7	**116-6474●**	3.730	3.560	3.250	2.830	2.510	2.200
6.8	**116-6476●**	4.760	4.570	4.170	3.620	3.200	2.820
10	**116-6477●**	6.410	6.150	5.630	4.890	4.320	3.790
10	**141-3856●**	8.780	7.470	6.780	5.530	4.260	– –

Class X1 Metallised Polypropylene
2222 338-1 Series
440V ac



- Class X1 metallised polypropylene suppression capacitors
- Meets requirements of **IEC384-14 2nd Edition**
- Approved to **EN132400**
- **UL** recognised
- Suitable for use in UPS power supplies and 3-phase applications

Lead length = 3.5

N.B. For ease of selection, capacitance value is listed in both **nF** and **µF**

Operating temperature	-55°C to + 105°C	Pulse rise time	250V/µs 15mm pitch
Capacitance tolerance	±20%		150V/µs 22.5mm pitch
Insulation resistance (C<0.33µF)	≤15000MΩ		100V/µs 27.5mm pitch
RC (C>0.33µF)	≤5000s		

nF	µF	Dimensions H	W	D	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
10	0.01	11	17.5	5	0.6	15	2222 338 10103	116-6427
22	0.022	11	17.5	5	0.6	15	2222 338 10223	116-6428
33	0.033	12	17.5	6	0.6	15	2222 338 10333	116-6429
47	0.047	13.5	17.5	7	0.8	15	2222 338 10473	116-6430
68	0.068	15	17.5	8.5	0.8	15	2222 338 10683	116-6431
100	0.1	16.5	17.5	10	0.8	15	2222 338 10104	116-6432
150	0.15	18	26	8.5	0.8	22.5	2222 338 10154	116-6433
220	0.22	19.5	26	10	10	22.5	2222 338 10224	116-6434
330	0.33	23	31	13	0.8	27.5	2222 338 10334	116-6435
470	0.47	25	31	15	0.8	27.5	2222 338 10474	116-6436
680	0.68	28	31	18	0.8	27.5	2222 338 10684	116-6437
1000	1	31	31	21	0.8	27.5	2222 338 10105	116-6439

227201

Order Multiple=5 µF	Order Code	Price Each 5+	50+	100+	500+	1K+	3K+
0.01	**116-6427●**	0.570	0.490	0.320	0.270	0.230	0.200
0.033	**116-6429●**	0.320	0.280	0.270	0.190	0.187	0.139
0.047	**116-6430●**	0.510	0.450	0.290	0.240	0.210	0.183
0.068	**116-6431●**	0.240	0.230	0.220	0.210	0.199	0.189
0.1	**116-6432●**	0.460	0.390	0.320	0.260	0.230	0.200
0.15	**116-6433●**	0.780	0.590	0.380	0.310	0.270	0.240
0.22	**116-6434●**	0.860	0.710	0.460	0.380	0.330	0.290
0.33	**116-6435●**	0.970	0.800	0.510	0.430	0.370	0.330
0.47	**116-6436●**	0.690	0.530	0.510	0.390	0.360	0.310
0.68	**116-6437●**	1.970	1.650	1.080	0.900	0.770	0.690
1	**116-6439●**	2.480	2.120	1.360	1.130	0.970	0.860

PHE840M Series

EVOX RIFA A KEMET Company

New



- Metallized polypropylene
- Suitable for use as electromagnetic interference suppressor in all X2 and across-the-line applications

Operating temperature	-55°C to +105°C
Tolerance	±20%
Voltage rating	275V

Capacitance nF	µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
47	0.047	10.5	18	5.5	15	PHE840MB5470MB04R17	157-2154
100	0.1	12.5	18	5.5	15	PHE840MB6100MB05R17	157-2159
220	0.22	14.5	26	6.5	22.5	PHE840MD6220MD13R06L2	157-2153
470	0.47	16	26	8	22.5	PHE840MY6470MD14R06L2	157-2160
1000	1	23	26	13.5	22.5	PHE840MD7100MD20R06L2	157-2156
2200	2.2	24	41	13	37.5	PHE840MR7220MR05R06L2	157-2157
4700	4.7	36	41	19	37.5	PHE840MR7470MR03R06L2	157-2158

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µF	Order Code	Price Each 5+	75+	250+	500+	1K+	2K+
0.047	**157-2154●**	0.280	0.230	0.220	0.210	0.175	0.155
0.1	**157-2159●**	0.260	0.220	0.196	0.185	0.165	0.155
0.22	**157-2153●**	0.530	0.440	0.410	0.390	0.340	0.300
0.47	**157-2160●**	0.690	0.580	0.550	0.520	0.440	0.400
1	**157-2156●**	1.130	0.960	0.900	0.850	0.730	0.670
2.2	**157-2157●**	3.250	2.750	2.590	2.430	2.100	1.910
4.7	**157-2158●**	4.220	3.580	3.370	3.160	2.740	2.460

Class X2 — Polypropylene film
305V ac

VISHAY



- AC suppresion capacitors
- Epoxy resin sealed, flame retardant plastic case **UL 94V-0**

Tolerance	%±20
Operating temperature	-40°C to 100°C

N.B For ease of selection, capacitance value is listed in both **nF** & **µF**

nF	µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
47	0.047	10.3	12.8	5.3	10	F1778347M3DBB0	141-3845
100	0.1	12.5	12.8	6.4	15	F1778410M3F0W0	141-3846
220	0.22	10.3	17.8	5.3	15	F1778422M3FCB0	141-3847
470	0.47	10.3	17.8	5.3	15	F1778447M3ICT0	141-3848
1000	1	20	26.3	12.3	22.5	F1778510M3KCT0	141-3849

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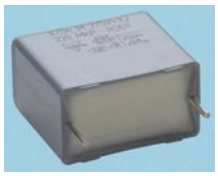
RL Re-reeling available

Farnell

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
0.047	141-3845●	0.250	0.200	0.178	0.147	0.115
0.1	141-3846●	0.220	0.189	0.168	0.137	0.105
0.22	141-3847●	0.360	0.310	0.280	0.240	0.178
0.47	141-3848●	0.520	0.440	0.400	0.330	0.260
1	141-3849●	0.920	0.780	0.700	0.580	0.440

MKP 339 X2 Series

275V ac



- Polypropylene film capacitors
- For X2 electromagnetic interference suppression in across the line applications (50/60 Hz) with a maximum mains voltage of 275 Vac
- Epoxy resin sealed, flame retardant plastic case
- **UL** recognised

Voltage rating 275V ac Operating temperature -55°C to +105°C

Capacitance µF	Capacitance nF	Tolerance	Dimensions H	W	D	Lead Pitch	Lead Length	Mftrs. List No.	Order Code
0.1	100	±20%	12	12.5	6	10	5	BFC233922104	141-3837
0.1	100	±20%	11	17.5	5	15	5	BFC233923104	141-3838
0.22	220	±20%	13.5	17.5	7	15	5	BFC233922224	141-3839
0.33	330	±20%	15	17.5	8.5	15	5	BFC233922334	141-3840
0.47	470	±20%	16.5	17.5	10	15	5	BFC233922474	141-3841
1	1000	±20%	19.5	26	10	22.5	5	BFC233922105	141-3842
2.2	2200	±20%	25	31	15	27.5	5	BFC233922225	141-3844

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nF	Order Code	Price Each 1+	50+	100+	500+	1K+
0.0001	141-3837●	0.210	0.178	0.158	0.126	0.105
0.0001	141-3838●	0.168	0.137	0.126	0.105	0.084
0.00022	141-3839●	0.300	0.260	0.220	0.178	0.137
0.00033	141-3840●	0.360	0.310	0.280	0.220	0.168
0.00047	141-3841●	0.400	0.340	0.310	0.260	0.189
0.001	141-3842●	0.760	0.640	0.590	0.470	0.370
0.0022	141-3844●	1.490	1.280	1.150	0.940	0.720

Class X2 – Metallised Polyester ECQU Series

250V ac



- Class X2 metallised polyester suppression capacitors
- Meets requirements of **IEC384-14 2nd Edition 1993 class X2**
- Approved to **UL1414** and **EN132400**
- **UL** recognised

Lead length = 20

Operating temperature -40°C to +100°C
-40°C to +85°C **(UL, CSA)**
Capacitance tolerance ±10% / ±20%

Insulation resistance
C<0.33µF 15000MΩ
C>0.33µF 5000MΩ
Climatic Category 40/100/21

N.B. For ease of selection, capacitance value is listed in both **nF** and **µF**

Capacitance nF	µF	Dimensions H	W	D	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
+10% Tolerance								
10	0.01	11.5	15	5	12.5	0.6	ECQU2A103KLA	167-3302
15	0.015	11.5	15	5	12.5	0.6	ECQU2A153KLA	167-3303
22	0.022	11.5	15	5	12.5	0.6	ECQU2A223KLA	167-3304
33	0.033	13	15	6	12.5	0.6	ECQU2A333KLA	167-3305
47	0.047	13	15	6	12.5	0.6	ECQU2A473KLA	167-3306
68	0.068	11.5	17.5	4.5	15	0.6	ECQU2A683KLA	167-3307
100	0.1	12	17.5	5.5	15	0.6	ECQU2A104KLA	167-3308
150	0.15	14.5	17.5	6.5	15	0.6	ECQU2A154KLA	167-3310
220	0.22	16	17.5	8	15	0.6	ECQU2A224KLA	167-3311
330	0.33	17.5	17.5	9.5	15	0.8	ECQU2A334KLA	167-3313
470	0.47	17.5	25.5	8.5	22.5	0.8	ECQU2A474KLA	167-3314
560	0.56	19.5	25.5	10.5	22.5	0.8	ECQU2A564KLA	167-3315
680	0.68	19.5	25.5	10.5	22.5	0.8	ECQU2A684KLA	167-3316
1000	1	22	25.5	12	22.5	0.8	ECQU2A105KLA	167-3317
1500	1.5	26	30.5	16.5	27.5	0.8	ECQU2A155KLA	167-3318
+20% Tolerance								
10	0.01	11.5	15	5	12.5	0.6	ECQU2A103ML	119-8290
22	0.022	11.5	15	5	12.5	0.6	ECQU2A223ML	119-8291
100	0.1	12.1	17.5	5	15	0.6	ECQU2A104ML	119-8295
150	0.15	14.5	17.5	6.5	15	0.6	ECQU2A154ML	119-8296
220	0.22	17.5	17.5	8	15	0.6	ECQU2A224ML	119-8297
330	0.33	17.5	17.5	9.5	15	0.6	ECQU2A334ML	119-8298
470	0.47	17.5	25.5	8.5	22.5	0.8	ECQU2A474ML	119-8299
680	0.68	19.5	25.5	10.5	22.5	0.8	ECQU2A684ML	119-8301
1000	1	22	25.5	12	22.5	0.8	ECQU2A105ML	119-8302

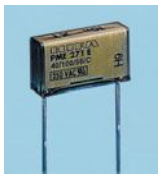
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µF	Order Code	Price Each 5+	50+	100+	500+	1K+
10% Tolerance						
10	NEW 167-3302●	0.149	0.129	0.113	0.101	0.081
15	NEW 167-3303●	0.149	0.129	0.113	0.101	0.081
22	NEW 167-3304●	0.149	0.129	0.113	0.101	0.081
33	NEW 167-3305●	0.149	0.129	0.113	0.101	0.081
47	NEW 167-3306●	0.142	0.122	0.107	0.096	0.076
68	NEW 167-3307●	0.145	0.125	0.110	0.098	0.079

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
10% Tolerance						
100	NEW 167-3308●	0.149	0.129	0.113	0.101	0.081
150	NEW 167-3310●	0.184	0.163	0.143	0.122	0.102
220	NEW 167-3311●	0.210	0.184	0.163	0.143	0.122
330	NEW 167-3313●	0.300	0.260	0.220	0.194	0.163
470	NEW 167-3314●	0.370	0.320	0.280	0.250	0.194
560	NEW 167-3315●	0.400	0.360	0.330	0.280	0.240
680	NEW 167-3316●	0.460	0.420	0.380	0.330	0.270
1000	NEW 167-3317●	0.580	0.520	0.480	0.410	0.340
1500	NEW 167-3318●	1.500	1.410	1.290	1.120	0.940
20% Tolerance						
10	119-8290●	0.171	0.139	0.119	0.092	0.082
22	119-8291●	0.176	0.130	0.098	0.069	0.068
100	119-8295●	0.176	0.130	0.097	0.066	0.058
150	119-8296●	0.200	0.151	0.113	0.067	0.066
220	119-8297●	0.240	0.182	0.143	0.104	0.102
330	119-8298●	0.320	0.240	0.220	0.176	0.169
470	119-8299●	0.420	0.300	0.230	0.184	0.179
680	119-8301●	0.620	0.450	0.340	0.250	0.240
1000	119-8302●	0.680	0.500	0.450	0.330	0.310
	Order Code	1+	3+	+	+	+
Design Kit	167-3319●	56.070	50.550	– –	– –	– –

Class X1 Metallised Paper

300V ac - PME 271E Series 110°C



- Metallised paper construction gives excellent stability and reliability in continuous operation applications
- Highest possible safety due to excellent flammability characteristics
- Encapsulation material self-extinguishing to **UL94V-0**
- Good self-healing properties ensures long working life even if subjected to over-voltages
- Approvals include **EN132400, SEMKO, DEMKO, NEMKO, VDE & SEV**
- **UL** recognised

Tolerance ≤0.1µF±20%, >0.1µF±10%
Insulation resistance (at 500Vdc after 60s@+23°C) 12000MΩ
Operating temperature -40°to +110°C
Voltage rating 300Vac, 630V dc
Climatic category 40/110/56
Nominal lead length 30

Value µF	Dimensions H	W	D	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
0.01	10.5	18.5	5.2	15.2	0.8	PME271E510M	971-7323
0.047	14.3	18.5	8.5	15.2	0.8	PME271E547M	971-7331
0.1	16.5	24	11.3	20.3	0.8	PME271E610M	971-7340
0.22	19	30.5	12.1	25.4	1	PME271E622K	971-7358

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µF	Order Code	Price Each 1+	50+	100+	250+	500+	1K+
0.01	971-7323●	0.52	0.43	0.38	0.34	0.30	0.27
0.047	971-7331●	0.71	0.61	0.54	0.47	0.42	0.37
0.1	971-7340●	1.15	0.98	0.87	0.76	0.67	0.60
0.22	971-7358●	1.63	1.38	1.22	1.08	0.95	0.83

Class X2 Metallised Paper

275V ac PME271M Series + 110°C



- Self-healing metallised paper Class X2 suppression capacitors
- Self-extinguishing encapsulated material flame retardant to **UL94V-0**
- Safety approvals for world wide use
- Approvals include **SEMKO, DEMKO, NEMKO, EI, VDE, SEV, CSA, IMQ, OVE and EN132400**
- **UL** recognised

Tolerance ≤0.1µF±20%, >0.1µF±10%
Dissipation factor ≤1.3% @ 1kHz
Insulation resistance @ 500Vdc after 60s ≤0.33µF ≥12,000 MΩ<0.33µF 4000MΩ
Operating temperature -40° to +110°C
Voltage rating 275V ac
Climatic category 40/110/56
Nominal lead length 30

Value µF	Dimensions H	W	D	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
0.033	12.5	18.5	6	15.2	0.8	PME271M533M	971-7439
0.047	13.5	18.5	6	15.2	0.8	PME271M547M	971-7447
0.068	13.5	18.5	7.8	15.2	0.8	PME271M568M	971-7455
0.1	14	24	7.6	20.3	0.8	PME271M610M	971-7463
0.15	15	24	9	20.3	0.8	PME271M615K	971-7471
0.22	16.5	24	11.3	20.3	0.8	PME271M622K	971-7480
0.33	19	30.5	12.1	25.4	1	PME271M633K	971-7498
0.47	22	30.5	15.3	25.4	1	PME271M647K	971-7501

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µF	Order Code	Price Each 1+	50+	100+	250+
0.033	971-7439●	0.37	0.32	0.28	0.25
0.047	971-7447●	0.39	0.33	0.29	0.26
0.068	971-7455●	0.34	0.29	0.26	0.22
0.1	971-7463●	0.45	0.38	0.34	0.30
0.15	971-7471●	0.56	0.47	0.41	0.37
0.22	971-7480●	0.70	0.60	0.53	0.46
0.33	971-7498●	1.03	0.88	0.77	0.68
0.47	971-7501●	1.21	1.02	0.91	0.80

RL Re-reeling available

Suppression - continued

Class X2 with Resistor

250V ac PMR209 Series + 85°C

EVOX RIFA A KEMET Company



- Metallised paper X2 capacitor with integral series resistor
- Applications include contact protection, suppression of contacts and transient suppression in AC and DC circuits
- Long life when exposed to overvoltages due to excellent self-healing properties
- Approvals include **SEMKO, DEMKO, NEMKO, VDE, SEV, FI & EN132400**
- **UL** recognised

Capacitance tolerance	±20%	Resistor tolerance	±30%
Voltage rating	250V ac	Peak pulse voltage	1000V
630V dc	630V ac	Power rating	0.5W (case +85°C)
Insulation resistance @ 500V dc, +23°C after 60s			C≤0.33µF >3000MΩ
			C>0.33µF >3000MΩ

Nominal lead length 30mm

Value µF	Ω	Dimensions H	W	D	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
0.22	47	16.5	24	11.3	20.3	0.8	PMR209MC6220M047	971-7285
0.047	47	13	19	7.3	15.2	0.8	PMR209MB5470M047	971-7307
0.1	47	14	24	7.6	20.3	0.8	PMR209MC6100M047	971-7315
0.47	47	22	30.5	15.3	25.4	1	PMR209ME6470M047	971-7382
0.22	22	16.5	24	11.3	20.3	0.8	PMR209MC6220M022	971-7366
0.1	22	14	24	7.6	20.3	0.8	PMR209MC6100M022	971-7404
0.22	100	16.5	24	11.3	20.3	0.8	PMR209MC6220M100	971-7293
0.047	100	13	19	7.3	15.2	0.8	PMR209MB5470M100	971-7374
0.47	100	22	30.5	15.3	25.4	1	PMR209ME6470M100	971-7390
0.1	100	14	24	7.6	20.3	0.8	PMR209MC6100M100	971-7412
0.1	470	16.5	24	11.3	20.3	0.8	PMR209MC6100M470	971-7420

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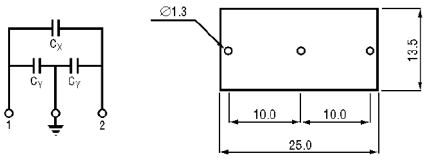
Value µF	Order Code	Price Each 1+	50+	100+	250+	500+	1K+
0.22	971-7285●	0.98	0.82	0.73	0.64	0.57	0.50
0.047	971-7307●	1.22	1.03	0.91	0.80	0.71	0.63
0.1	971-7315●	1.22	1.03	0.91	0.80	0.71	0.63
0.47	971-7382●	1.77	1.50	1.33	1.17	1.03	0.92
0.22	971-7366●	1.34	1.13	1.00	0.89	0.78	0.69
0.1	971-7404●	0.99	0.85	0.74	0.66	0.58	0.52
0.22	971-7293●	1.22	1.03	0.91	0.80	0.71	0.63
0.047	971-7374●	1.32	1.08	0.99	0.88	0.77	0.68
0.47	971-7390●	1.77	1.50	1.33	1.17	1.03	0.92
0.1	971-7412●	1.34	1.11	0.99	0.89	0.78	0.69
0.1	971-7420●	1.34	1.13	1.00	0.89	0.78	0.69

Class X2 Plus 2 x Y2 Delta Formation

275V ac PZB300 Series + 100°C

EVOX RIFA A KEMET Company





- Metallised paper suppression capacitors
- One Class X2 and two Class Y2 capacitors arranged in a delta formation
- Excellent self-healing properties
- Approved to **SEMKO, NEMKO, DEMKO, FI, VDE, SEV, OVE, IMQ, CSA & EN132400**
- **UL** recognised

Tolerance	±20%	Voltage rating	275V ac
Dissipation factor	≤1.3% @ 1kHz	Temperature range	-40°C to +100°C
Insulation resistance	≥ 12000 MΩ	Climatic category	40/100/46
(500Vdc after 60s	@ +23°C)	Min. lead length	30

CX µF	CF nF	Dimensions H	W	D	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
0.1	2 x 2.2	16	24	12.5	20	0.8	PZB300MC11	971-7609
0.1	2 x 4.7	16	24	12.5	20	0.8	PZB300MC13	971-7617
0.15	2 x 2.2	16	24	12.5	20	0.8	PZB300MC21R30	167-8910
0.15	2 x 4.7	16	24	12.5	20	0.8	PZB300MC23R30	167-8911

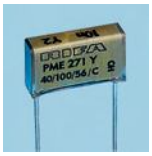
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Order Code	Price Each 1+	50+	100+	250+	500+	1K+
971-7609●	1.29	1.09	0.97	0.86	0.76	0.68
971-7617●	1.29	1.09	0.97	0.86	0.76	0.68
NEW 167-8910●	2.10	1.85	1.75	1.60	1.40	1.20
NEW 167-8911●	2.10	1.85	1.75	1.60	1.40	1.20

Class Y2 Metallised Paper

250V ac PME271Y Series + 110°C

EVOX RIFA A KEMET Company



- Excellent self-healing properties gives long life even when subjected to over-voltages
- Encapsulation material self-extinguishing and flame retardant to **UL94V-0**
- Safety approvals for worldwide use including **SEMKO, NEMKO, DEMKO, FI, VDE, SEV, OVE, IMQ, CSA** and **EN132400**

Tolerance	>0.1µF ±10%	Operating temperature	-40°C to +110°C
	≤0.1µF ±20%	Voltage rating	250V ac
Dissipation factor	≤1.3% @ 1kHz		1000V dc
Insulation resistance	C ≤0.33µF ≥12,000 MΩ	Climatic category	40/110/56
	C >0.33µF ≥4,000 MΩ	Nominal lead length	30

Value µF	Dimensions H	W	D	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
1	7.5	13.5	3.9	10.2	0.6	PME271Y410M	971-7510
0.0015	7.5	13.5	3.9	10.2	0.6	PME271Y415M	971-7528
2.2	7.5	13.5	3.9	10.2	0.6	PME271Y422M	971-7536
3.3	8.2	13.5	4.1	10.2	0.6	PME271Y433M	971-7544
4.7	10.5	13.5	5.1	10.2	0.6	PME271Y447M	971-7552
10	10.5	18.5	5.2	15.2	0.8	PME271Y510M	971-7560
22	13	19	7.3	15.2	0.8	PME271Y522M	971-7579
33	14	24	7.6	20.3	0.8	PME271Y533M	971-7587
47	15	24	9	20.3	0.8	PME271Y547M	971-7595

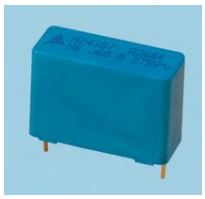
204103

Order Multiple=5 Value µF	Order Code	Price Each 5+	50+	100+	250+	500+	1K+
1	971-7510●	0.330	0.280	0.250	0.220	0.193	0.170
0.0015	971-7528●	0.330	0.280	0.250	0.220	0.193	0.170
2.2	971-7536●	0.340	0.290	0.260	0.230	0.200	0.177
3.3	971-7544●	0.350	0.300	0.260	0.230	0.200	0.179
4.7	971-7552●	0.360	0.310	0.270	0.240	0.210	0.183
10	971-7560●	0.400	0.370	0.350	0.320	0.310	0.280
22	971-7579●	0.470	0.430	0.400	0.370	0.360	0.320
33	971-7587●	0.480	0.410	0.360	0.320	0.280	0.250
47	971-7595●	0.570	0.480	0.420	0.370	0.330	0.290

Class X2, Miniature Polypropylene

305V ac, B3292* Series

EPCOS



- Miniature EMI suppression capacitors
- Plastic cases, flame retardant to **UL94V-0**
- **CSA** approved, **UL** recognised

Tolerance	±20%
Operating temperature	-40°C to +100°C
Voltage rating	275V ac
Climatic category	40/100/21

nF	µF	Dimensions H	W	D	∅ Lead	Mftrs. List No.	Order Code
Pitch 10mm							
47	0.047	12	13	6	0.6	B32921A2473M	975-1360
68	0.068	12	13	6	0.6	B32921A2683M	975-1378
Pitch 15mm							
100	0.1	11	18	6	0.8	B32922A2104M	975-1386
150	0.15	12.5	18	7	0.8	B32922A2154M	975-1394
220	0.22	14.5	18	8.5	0.8	B32922A2224M	975-1408
330	0.33	17.5	18	9	0.8	B32922A2334M	975-1416
Pitch 22.5mm							
470	0.47	16.5	26.5	8.5	0.8	B32923A2474M	975-1424
680	0.68	18.5	26.5	10.5	0.8	B32923A2684M	975-1432
Pitch 27.5mm							
1000	1	21	31.5	11	0.8	B32924A2105M	975-1440
1500	1.5	23	31.5	13.5	0.8	B32924A2155M	975-1459
2200	2.2	27.5	31.5	18	0.8	B32924A2225M	975-1467

234233

nF	µF	Order Code	Price Each 1+	50+	100+	500+	1K+
Pitch 10mm							
47	0.047	975-1360●	0.210	0.184	0.153	0.143	0.122
68	0.068	975-1378●	0.240	0.200	0.161	0.141	0.120
Pitch 15mm							
100	0.1	975-1386●	0.210	0.184	0.143	0.098	0.081
150	0.15	975-1394●	0.320	0.200	0.140	0.096	0.079
220	0.22	975-1408●	0.290	0.250	0.210	0.184	0.165
330	0.33	975-1416●	0.400	0.340	0.184	0.133	0.117
Pitch 22.5mm							
470	0.47	975-1424●	0.520	0.440	0.390	0.350	0.310
680	0.68	975-1432●	0.760	0.640	0.570	0.500	0.340
Pitch 27.5mm							
1000	1	975-1440●	0.950	0.800	0.700	0.630	0.420
1500	1.5	975-1459●	1.300	0.870	0.600	0.510	0.460
2200	2.2	975-1467●	2.150	1.950	1.570	1.350	1.180

Compact X2, Polypropylene

305 V ac, B3292* Series

EPCOS



- EMI suppression capacitors
- Very small case sizes
- Self-healing properties
- Plastic cases, flame retardant to **UL94V-0**
- **CSA** approved, **UL** recognised

Tolerance	±20%
Operating temperature	-40°C to +110°C
Voltage rating	305V ac

RL Re-reeling available

Farnell

nF	µF	H	W	D	∅ Lead mm	Mftrs List No.	Order Code
Pitch 10mm							
10	0.01	9	13	4	0.6	B32921C3103M	120-0827
15	0.015	9	13	4	0.6	B32921C3153M	160-9502
22	0.022	9	13	4	0.6	B32921C3223M	160-9503
33	0.033	9	13	4	0.6	B32921C3333M	160-9504
47	0.047	11	13	5	0.6	B32921C3473M	111-2839
Pitch 15mm							
22	0.022	10.5	18	5	0.8	B32922C3223M	160-9505
33	0.033	10.5	18	5	0.8	B32922C3333M	160-9507
47	0.047	10.5	18	5	0.8	B32922C3473M	160-9508
68	0.068	10.5	18	5	0.8	B32922C3683M	160-9509
100	0.1	10.5	18	5	0.8	B32922C3104M	111-2840
150	0.15	12	18	6	0.8	B32922C3154M	111-2841
220	0.22	12.5	18	7	0.8	B32922C3224M	111-2842
330	0.33	14	18	8	0.8	B32922C3334M	111-2844
Pitch 22.5mm							
150	0.15	15	26.5	6	0.8	B32923C3154M	160-9510
220	0.22	15	26.5	6	0.8	B32923C3224M	160-9511
330	0.33	28.5	41.5	16	0.8	B32923C3334M	120-0831
470	0.47	16.5	26.5	8.5	0.8	B32923C3474M	111-2845
680	0.68	16.5	26.5	10.5	0.8	B32923C3684M	111-2846
Pitch 27.5mm							
680	0.68	19	31.5	11	0.8	B32924C3684M	160-9512
1000	1	19	31.5	11	0.8	B32924C3105M	111-2847
1500	1.5	21.5	31.5	12.5	0.8	B32924C3155M	111-2848
2200	2.2	24.5	31.5	14	0.8	B32924C3225M	111-2849

423678

nF	µF	Order Code	Price Each 5+	50+	100+	500+
Pitch 10 mm						
10	0.01	**120-0827**●	0.270	0.240	0.178	0.157
15	0.015	NEW **160-9502**●	0.260	0.196	0.164	0.153
22	0.022	NEW **160-9503**●	0.260	0.196	0.164	0.153
33	0.033	NEW **160-9504**●	0.260	0.196	0.164	0.153
47	0.047	**111-2839**●	0.192	0.158	0.136	0.102
Pitch 15 mm						
22	0.022	NEW **160-9505**●	0.300	0.240	0.196	0.164
33	0.033	NEW **160-9507**●	0.300	0.240	0.196	0.164
47	0.047	NEW **160-9508**●	0.300	0.240	0.196	0.164
68	0.068	NEW **160-9509**●	0.300	0.240	0.196	0.164
100	0.1	**111-2840**●	0.220	0.175	0.140	0.105
150	0.15	**111-2841**●	0.300	0.250	0.185	0.139
220	0.22	**111-2842**●	0.310	0.260	0.210	0.150
330	0.33	**111-2844**●	0.440	0.350	0.300	0.220
Pitch 22.5 mm						
150	0.15	NEW **160-9510**●	0.630	0.460	0.380	0.310
220	0.22	NEW **160-9511**●	0.680	0.480	0.410	0.320
330	0.33	**120-0831**●	0.470	0.430	0.360	0.330
470	0.47	**111-2845**●	0.560	0.440	0.370	0.290
680	0.68	**111-2846**●	0.730	0.580	0.470	0.360
Pitch 27.5 mm						
680	0.68	NEW **160-9512**●	1.080	0.780	0.650	0.510
1000	1	**111-2847**●	0.930	0.750	0.610	0.450
1500	1.5	**111-2848**●	1.070	0.910	0.810	0.710
2200	2.2	**111-2849**●	2.190	1.810	1.490	1.120

Class X2 — Polyester film

275V ac



- Provided with 30mm leads to give extra flexibility in design and insertion
- Approved to **IEC384-14**

Tolerance	±10%%
Operating temperature	-40°C to °C100°C ≤0.1µF -40°C to 100°C >0.1µF

N.B For ease of selection, capacitance value is listed in both **nF** & **µF**

nF	µF	Dimensions H	W	D	Lead Pitch	Mftrs. List No.	Order Code
10	0.01	10.5	18	5.5	15	F1772-310-2030	116-6889
22	0.022	10.5	18	5.5	15	F1772-322-2030	116-6891
47	0.047	12.5	18	6.5	15	F1772-347-2030	116-6892
100	0.1	14.5	18	8.5	15	F1772-410-2030	116-6893
220	0.22	16.5	26.5	8.5	22.5	F1772-422-2030	116-6894
470	0.47	20.5	31.5	11.5	27.5	F1772-447-2030	116-6895
1000	1	24.5	31.5	11.5	27.5	F1772-510-2030	116-6896

204057

Order Multiple=5 µF	Order Code	Price Each 5+	50+	100+	1K+	3K+
0.01	**116-6889**●	0.350	0.270	0.240	0.180	0.177
0.022	**116-6891**●	0.370	0.280	0.250	0.191	0.188
0.047	**116-6892**●	0.390	0.310	0.260	0.200	0.199
0.1	**116-6893**●	0.460	0.350	0.320	0.250	0.240
0.22	**116-6894**●	0.640	0.490	0.420	0.350	0.330
0.47	**116-6895**●	1.060	0.810	0.710	0.580	0.540
1	**116-6896**●	1.260	0.980	0.860	0.680	0.640

£ € **40,000 PRICES REDUCED**

Class X2, Class Y Metallised Paper — MP3/Y Series

250V ac



- Offering excellent active and passive flame retardant properties
- Approved to **VDE565-1 SEV, SEMKO** and **DEMKO, OVE, SETI** (MP3 only)
- **UL** recognised

	MP3-X2
Tolerance	±20%-40°C110°C
Insulation resistance @ 20°C	C≤0.33µF:6000MΩ C>0.33µF:2000s (µF x MΩ)
Operating temperature	-40°C to +110°C20
Test Voltage	2700V dc for 2s
Power factor @ 1kHz, 20°C	0.01

N.B. For ease of selection capacitance value is listed in both **nF** and **µF** for MP3, **pF** and **nF** for MP3-Y

MP3 (Class X2) µF	nF	Dimensions H	W	D	Lead Pitch	Lead Dia.	Lead Length	Order Code
0.1	100	18	19	10	15	0.8	6	100-6059
0.22	220	22	28	10	22.5	0.8	6	100-6061
0.47	470	25	33	13	27.5	0.8	6	100-6062
MP3Y (Class Y) pF	nF	Dimensions H	W	D	Lead Pitch	Lead Dia.	Lead Length	Order Code
1000	1000000	8.5	13.5	4	10	0.7	16	100-6063
4700	4700000	10	13.5	5	10	0.7	16	100-6064
2200	2200000	8.5	13.5	4	10	0.7	16	100-6065

204229

	Order Code	Price Each 1+	25+	100+	250+	1K+
Class X2 µF						
0.1	**100-6059**●	0.67	0.60	0.52	0.50	0.49
0.22	**100-6061**●	1.08	0.93	0.86	0.78	0.77
0.47	**100-6062**●	1.89	1.63	1.49	1.31	1.29
Class Y pF						
1000	**100-6063**●	0.50	0.44	0.40	0.36	0.34
4700	**100-6064**●	0.54	0.47	0.41	0.39	0.38
2200	**100-6065**●	0.54	0.47	0.42	0.40	0.39

Class Y1 and Y2 — Polypropylene

250V ac



- Polypropylene range of Class Y capacitors
- Epoxy case flame retardant to **UL94V-0**
- Tolerance ±20%
- Climatic category 40/085/21 (B81123 Series) 40/100/21 (B81122 and B81121 Series)
- Approved to **CSA** and **VDE**
- **UL** recognised

nF	Dimensions H	W	D	Mftrs. List No.	Order Code
Class Y1 250V ac Test voltage 4800dc, 2s					
Pitch 15mm					
1	10.5	18	5	B81123C1102M	975-1475
1.5	11	18	6	B81123C1152M	975-1483
2.2	12.5	18	7	B81123C1222M	975-1491
3.3	14.5	18	8	B81123C1332M	975-1505
4.7	17.5	18	9	B81123C1472M	975-1513
Pitch 22.5mm					
5.6	16	26.5	7	B81123C1562M	975-1521
6.8	16.5	26.5	8.5	B81123C1682M	975-1530
10	18.5	26.5	10.5	B81123C1103M	975-1548
Class Y2 250V ac Test Voltage 2500Vdc, 2s					
Pitch 10mm					
1	9	13	4	B81122C1102M	975-1556
1.5	9	13	4	B81122C1152M	975-1564
2.2	11	13	5	B81122C1222M	975-1572
3.3	11	13	5	B81122C1332M	975-1580
4.7	12	13	6	B81122C1472M	975-1599
5.6	12	13	6	B81122C1562M	975-1602
6.9	12	13	6	B81122C1682M	975-1610
Pitch 15mm					
10	11	18	6	B81122A1103M	975-1629
15	12.5	18	7	B81122A1153M	975-1637
22	14.5	18	8.5	B81122A1223M	975-1645
27	14.5	8.5	8.5	B81122A1273M	975-1653
33	17.5	18	9	B81122A1333M	975-1661
Pitch 22.5mm					
47	16	26.5	7	B81122A1473M	975-1670
56	16.5	26.5	8.5	B81122A1563M	975-1688
68	16.5	26.5	10.5	B81122A1683M	975-1696
100	20.5	26.5	10.5	B81122A1104M	975-1700
Pitch 27.5mm					
150	21	31.5	11	B81122A1154M	975-1718
220	23	31.5	13.5	B81122A1224M	975-1726
330	27.5	31.5	18	B81122A1334M	975-1734

RL Re-reeling available

Suppression - continued

Class Y1 and Y2 — Polypropylene - continued

250V ac - continued

204162

nF	Mftrs List No	Order Code	Price Each 1+	50+	100+	500+
Class Y1 250V ac Tested to 4800Vdc						
Pitch 15mm						
1	B81123C1102M	**975-1475●**	0.350	0.250	0.160	0.115
1.5	B81123C1152M	**975-1483●**	0.380	0.340	0.280	0.240
2.2	B81123C1222M	**975-1491●**	0.360	0.320	0.280	0.200
3.3	B81123C1332M	**975-1505●**	0.440	0.380	0.320	0.280
4.7	B81123C1472M	**975-1513●**	0.600	0.410	0.280	0.220
Pitch 22.5mm						
5.6	B81123C1562M	**975-1521●**	0.590	0.410	0.280	0.270
6.8	B81123C1682M	**975-1530●**	0.600	0.520	0.420	0.380
10	B81123C1103M	**975-1548●**	0.880	0.800	0.590	0.410
Class Y2 250V ac Tested to 2500Vdc						
Pitch 10mm						
1	B81122C1102M	**975-1556●**	0.260	0.210	0.174	0.142
1.5	B81122C1152M	**975-1564●**	0.250	0.200	0.173	0.141
2.2	B81122C1222M	**975-1572●**	0.240	0.200	0.173	0.138
3.3	B81122C1332M	**975-1580●**	0.250	0.200	0.173	0.141
4.7	B81122C1472M	**975-1599●**	0.240	0.200	0.163	0.143
5.6	B81122C1562M	**975-1602●**	0.240	0.200	0.168	0.137
6.9	B81122C1682M	**975-1610●**	0.196	0.163	0.137	0.112
Pitch 15mm						
10	B81122A1103M	**975-1629●**	0.300	0.260	0.200	0.170
15	B81122A1153M	**975-1637●**	0.300	0.260	0.200	0.170
22	B81122A1223M	**975-1645●**	0.360	0.320	0.280	0.270
27	B81122A1273M	**975-1653●**	0.430	0.380	0.350	0.330
33	B81122A1333M	**975-1661●**	0.370	0.330	0.320	0.280
Pitch 22.5mm						
47	B81122A1473M	**975-1670●**	0.380	0.340	0.330	0.290
56	B81122A1563M	**975-1688●**	0.330	0.280	0.270	0.260
68	B81122A1683M	**975-1696●**	0.510	0.450	0.410	0.340
100	B81122A1104M	**975-1700●**	0.550	0.490	0.470	0.440
Pitch 27.5mm						
150	B81122A1154M	**975-1718●**	0.690	0.630	0.600	0.560
220	B81122A1224M	**975-1726●**	0.840	0.800	0.710	0.650
330	B81122A1334M	**975-1734●**	1.020	0.980	0.920	0.880

Class Y2 - Metallised Polypropylene 2222 338-6 Series

300V ac



- Class Y2 metallised polypropylene suppression capacitors
- Designed to meet the requirements of **IEC 60384-14 2nd edition** and **EN 132400**

Voltage rating (ac)	300 V
Voltage rating (dc)	1000 V
Tolerance	±20%
Climatic category	55/105/56/B
Operating temperature	-55°C to +105°C

nF	Dimensions mm H	W	D	Lead Dimensions Pitch	Dia.	Length	Mftrs. List No.	Order Code
1	9	10	4	7.5	0.5	3.5	2222 338 60102	116-6478
1	4	9	10	7.5			BFC233866102	141-3864
1.2	9	10	4	7.5	0.5	3.5	2222 338 60122	116-6479
1.5	9	10	4	7.5	0.5	3.5	2222 338 60152	116-6480
2.2	9	10	4	7.5	0.5	3.5	2222 338 60222	116-6482
2.7	9	10	4	7.5	0.5	3.5	2222 338 60272	116-6483
3.3	10.5	10	5	7.5	0.5	3.5	2222 338 60332	116-6484
3.9	10.5	10	5	7.5	0.5	3.5	2222 338 60392	116-6485
4.7	11.5	10	6	7.5	0.5	3.5	2222 338 60472	116-6486
5.6	11.5	10	6	7.5	0.5	3.5	2222 338 60562	116-6488
6.8	11	17.5	5	15	0.6	3.5	2222 338 60682	116-6489
8.2	11	17.5	5	15	0.6	3.5	2222 338 60822	116-6490
10	11	17.5	5	15	0.6	3.5	2222 338 60103	116-6491
10	6	12	12.5	10			BFC233868105	141-3866
12	11	17.5	5	15	0.6	3.5	2222 338 60123	116-6492
15	12	17.5	6	15	0.6	3.5	2222 338 60153	116-6493
22	13.5	17.5	7	15	0.8	3.5	2222 338 60223	116-6495
33	15	17.5	8.5	15	0.8	3.5	2222 338 60333	116-6497
39	15	17.5	8.5	15	0.8	3.5	2222 338 60393	116-6498
47	16.5	17.5	10	15	0.8	3.5	2222 338 60473	116-6500
56	16.5	17.5	10	15	0.8	3.5	2222 338 60563	116-6501
68	18	26	8.5	22.5	0.8	3.5	2222 338 60683	116-6502
100	19.5	26	10	22.5	0.8	3.5	2222 338 60104	116-6503
120	22	26	12	22.5	0.8	3.5	2222 338 60124	116-6504
150	22	26	12	22.5	0.8	3.5	2222 338 60154	116-6506
180	21	31	11	27.5	0.8	3.5	2222 338 60184	116-6507
220	23	31	13	27.5	0.8	3.5	2222 338 60224	116-6508
270	25	31	15	27.5	0.8	3.5	2222 338 60274	116-6509
390	28	31	18	27.5	0.8	3.5	2222 338 60394	116-6510
470	28	31	18	27.5	0.8	3.5	2222 338 60474	116-6511

233756

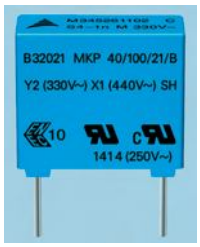
nF	Order Multiple=5 Order Code	Price Each 5+	50+	100+	250+	500+	1K+
1	**116-6478●**	0.200	0.199	0.187	0.163	0.140	0.125
1	**141-3864●**	0.300	0.260	0.240	0.189	0.147	– –
1.2	**116-6479●**	0.153	0.149	0.141	0.121	0.105	0.094
1.5	**116-6480●**	0.153	0.149	0.141	0.121	0.105	0.094
2.2	**116-6482●**	0.250	0.220	0.200	0.180	0.155	0.140
2.7	**116-6483●**	0.240	0.220	0.200	0.173	0.163	0.136
3.3	**116-6484●**	0.270	0.260	0.220	0.192	0.169	0.152
3.9	**116-6485●**	0.260	0.250	0.210	0.185	0.163	0.146
4.7	**116-6486●**	0.270	0.260	0.240	0.191	0.177	0.150
5.6	**116-6488●**	0.210	0.200	0.180	0.157	0.139	0.128
6.8	**116-6489●**	0.280	0.270	0.250	0.210	0.185	0.159
8.2	**116-6490●**	0.280	0.270	0.250	0.210	0.185	0.159
10	**116-6491●**	0.300	0.290	0.270	0.220	0.190	0.174
10	**141-3866●**	0.330	0.280	0.260	0.200	0.158	– –
12	**116-6492●**	0.290	0.280	0.260	0.210	0.185	0.169
15	**116-6493●**	0.300	0.290	0.270	0.240	0.200	0.173
22	**116-6495●**	0.300	0.290	0.270	0.240	0.200	0.173
33	**116-6497●**	0.300	0.290	0.280	0.250	0.210	0.181
39	**116-6498●**	0.310	0.300	0.280	0.250	0.210	0.180
47	**116-6500●**	0.330	0.320	0.300	0.270	0.240	0.197
56	**116-6501●**	0.400	0.390	0.350	0.320	0.290	0.260
68	**116-6502●**	0.470	0.450	0.410	0.370	0.320	0.290
100	**116-6503●**	0.420	0.400	0.370	0.320	0.290	0.250
120	**116-6504●**	0.590	0.570	0.530	0.440	0.400	0.360
150	**116-6506●**	0.650	0.630	0.590	0.490	0.440	0.390
180	**116-6507●**	0.730	0.700	0.640	0.560	0.490	0.430
220	**116-6508●**	0.840	0.820	0.750	0.650	0.580	0.490
270	**116-6509●**	0.690	0.650	0.600	0.520	0.470	0.420
390	**116-6510●**	0.790	0.760	0.700	0.600	0.550	0.470
470	**116-6511●**	1.080	1.040	0.960	0.820	0.750	0.640

Class Y2 — Polypropylene

300V ac

EPCOS

New



- Polypropylene range of Class Y2 capacitors for interference suppression
- Epoxy case flame retardant to **UL94V-0**
- Very small dimensions
- Good self-healing properties
- High voltage capability

nF	Dimensions H	W	D	Mftrs. List No.	Order Code
Pitch 10mm					
1	9	13	4	B32021A3102M	160-9513
1.5	9	13	4	B32021A3152M	160-9514
2.2	9	13	4	B32021A3222M	160-9515
3.3	9	13	4	B32021A3332M	160-9516
4.7	11	13	5	B32021A3472M	160-9517
5.6	11	13	5	B32021A3562M	160-9519
6.8	11	13	5	B32021A3682K	160-9521
Pitch 15mm					
10	10.5	18	5	B32022A3103M	160-9522
15	11	18	6	B32022A3153M	160-9523
22	12	18	6	B32022A3223M	160-9524
33	14	18	8	B32022A3333M	160-9525
Pitch 22.5mm					
47	15	26.5	6	B32023A3473M	160-9526
56	15	26.5	6	B32023A3563M	160-9527
68	16	26.5	7	B32023A3683M	160-9528
100	16.5	26.5	8.5	B32023A3104M	160-9529
Pitch 27.5mm					
150	19	31.5	11	B32024A3154M	160-9530
220	19	31.5	11	B32024A3224M	160-9532
330	23	31.5	13.5	B32024A3334M	160-9533

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nF	Mftrs List No	Order Code	Price Each 1+	50+	100+	500+	1K+
Pitch 15mm							
1	B32021A3102M	**160-9513●**	0.250	0.200	0.174	0.153	0.119
1.5	B32021A3152M	**160-9514●**	0.250	0.200	0.174	0.153	0.119
2.2	B32021A3222M	**160-9515●**	0.250	0.200	0.174	0.153	0.119
3.3	B32021A3332M	**160-9516●**	0.340	0.270	0.220	0.186	0.153
4.7	B32021A3472M	**160-9517●**	0.410	0.280	0.240	0.196	0.153
5.6	B32021A3562M	**160-9519●**	0.410	0.280	0.240	0.196	0.153
6.8	B32021A3682K	**160-9521●**	0.340	0.280	0.250	0.200	0.164
Pitch 22.5mm							
10	B32022A3103M	**160-9522●**	0.410	0.340	0.300	0.240	0.186
15	B32022A3153M	**160-9523●**	0.370	0.320	0.280	0.240	0.200
22	B32022A3223M	**160-9524●**	0.450	0.410	0.320	0.280	0.240
33	B32022A3333M	**160-9525●**	0.540	0.480	0.430	0.360	0.290
Pitch 15mm							
47	B32023A3473M	**160-9526●**	0.630	0.560	0.500	0.430	0.340
56	B32023A3563M	**160-9527●**	0.710	0.620	0.570	0.480	0.380
68	B32023A3683M	**160-9528●**	0.770	0.660	0.600	0.510	0.410
100	B32023A3104M	**160-9529●**	0.820	0.720	0.650	0.560	0.440
Pitch 22.5mm							
150	B32024A3154M	**160-9530●**	0.980	0.850	0.770	0.650	0.510
220	B32024A3224M	**160-9532●**	1.330	1.150	1.050	0.880	0.710
330	B32024A3334M	**160-9533●**	1.810	1.580	1.430	1.200	1.060

RL Re-reeling available

Motor Run

Stud mounting film capacitors suitable for a wide range of motor applications.

208420

MRP440 Series – Plastic Case

LCR Components



- Stud mounting motor run capacitors
- Self-healing metallised polypropylene
- Flame retardant to **UL94V-0**

Voltage rating 440V ac 50/60Hz Tolerance ±10%
Operating temperature -25°C to +85°C Power factor ≤0.001

Stud thread = M8 x 12,
Tabs = double 6.35

Dimensions µF	H	Dia.	Order code	Dimensions µF	H	Dia.	Order code	Dimensions µF	H	Dia.	Order code
1	55	30	119-0550	5	75	30	119-0554	20	98	45	119-0558
2	55	30	119-0551	8	75	35	119-0555	25	98	50	119-0559
3	55	30	119-0552	10	98	35	119-0557	30	98	50	119-0560
4	75	30	119-0553								

208583

µF	Order Code	Price Each 1+	10+	50+	100+	250+
1	119-0550●	1.91	1.88	1.81	1.59	1.49
2	119-0551●	1.85	1.81	1.76	1.55	1.44
3	119-0552●	1.72	1.69	1.66	1.44	1.37
4	119-0553●	2.52	2.47	2.41	2.12	2.00
5	119-0554●	2.67	2.62	2.57	2.25	2.11
8	119-0555●	3.16	3.10	3.04	2.68	2.49
10	119-0557●	3.69	3.61	3.48	3.04	2.88
20	119-0558●	5.62	5.51	5.32	4.65	4.38
25	119-0559●	6.72	6.58	6.38	5.57	5.25
30	119-0560●	7.24	7.10	6.90	6.02	5.68

MRP440 Series – Leaded Plastic Case

LCR Components



- Stud mounting motor run capacitors
- Self-healing metallised polypropylene
- Flame retardant to **UL94V-0**

Voltage rating 440V ac 50/60Hz Tolerance ±10%
Operating temperature -25°C to +85°C Power factor ≤0.001

Stud thread = M8 x 12

Dimensions µF	H	Dia.	Order code	Dimensions µF	H	Dia.	Order code
1.5	55	30	119-0561	6	75	35	119-0565
2	55	30	119-0562	8	75	35	119-0566
3	55	40	119-0563	10	98	35	119-0567
5	75	30	119-0564	20	98	45	119-0569

208584

µF	Order Code	Price Each 1+	10+	50+	100+	250+
1.5	119-0561●	2.30	2.25	2.18	1.90	1.80
2	119-0562●	2.44	2.39	2.34	2.06	1.94
3	119-0563●	2.61	2.54	2.49	2.20	2.07
5	119-0564●	3.07	3.00	2.89	2.51	2.38
6	119-0565●	3.25	3.17	3.07	2.70	2.54
8	119-0566●	2.57	2.52	2.45	2.14	2.01
10	119-0567●	4.08	4.00	3.88	3.39	3.19
20	119-0569●	6.01	5.88	5.73	5.00	4.71

MR Series – 440 Volt a.c. (Polypropylene)

LCR Components



- Stud mounting motor run capacitors
- Self-healing metallised polypropylene film
- Hermetically sealed aluminium can
- Manufactured to **BS EN 60252**

Stud thread=M8, Tabs=double 6.35

Operating temperature -25°C to +85°C Tolerance ±10%
Insulation resistance 1000secs (MΩ x µF) Power factor 0.001
Climatic category 40/85/21 Proof voltage 660VR for 1 min

Dimensions µF	H	Dia.	Order code	Dimensions µF	H	Dia.	Order code
1	60	35	119-0537	5	60	35	119-0541
2	60	35	119-0538	10	75	45	119-0542
3	60	30	119-0539	15	98	45	119-0543
4	60	35	119-0540	20	98	45	119-0545

208634

µF	Order Code	Price Each 1+	50+	100+	500+
1	119-0537●	3.01	2.38	1.77	1.27
2	119-0538●	3.69	2.82	2.04	1.50
3	119-0539●	4.30	3.38	2.49	1.79
4	119-0540●	4.94	3.80	2.71	2.02
5	119-0541●	5.60	4.30	3.04	2.28
10	119-0542●	6.90	5.41	3.99	2.99
15	119-0543●	8.50	6.66	4.92	3.69
20	119-0545●	10.14	7.92	5.85	4.38

Plastic Case



- Stud mounting motor start/run capacitors
- Self-healing metallised polypropylene
- Internal anti-pressure build-up safety mechanism
- Flame retardant to **UL94V-0**
- **VDE, CEI** and **SEV** approved

Stud thread=M8 x 10, Tabs=double 6.35

Max continuous voltage 450V ac Dissipation factor @ 20°C 0.002 (50Hz)
Tolerance ±5% Operating temperature -25°C to +85°C

Dimensions µF	H	Dia.	Mftrs List No.	Order code	Dimensions µF	H	Dia.	Mftrs List No.	Order code
1	55	28	4.16.15.69.64	121-9049	12	70	36	4.16.10.17.64	121-9057
2	55	28	4.16.15.01.64	121-9050	15	70	36	4.16.10.22.64	121-9058
3	55	28	4.16.10.03.64	121-9051	18	70	40	4.16.10.24.64	121-9059
4	55	28	4.16.10.06.64	121-9052	20	70	40	4.16.10.25.64	121-9060
5	55	28	4.16.10.08.64	121-9053	25	92	40	4.16.10.26.64	121-9061
8	55	32	4.16.10.13.64	121-9055	30	92	40	4.16.10.70.64	121-9062
10	58	36	4.16.10.15.64	121-9056	40	92	45	4.16.10.29.64	121-9063

208579

µF	Order Code	Price Each 1+	10+	50+	100+	250+
1	121-9049●	2.08	1.92	1.78	1.62	1.40
2	121-9050●	2.15	2.00	1.83	1.68	1.45
3	121-9051●	2.26	2.09	1.93	1.75	1.53
4	121-9052●	2.38	2.19	2.04	1.85	1.61
5	121-9053●	2.79	2.57	2.36	2.16	1.88
8	121-9055●	3.34	3.06	2.85	2.60	2.24
10	121-9056●	4.10	3.79	3.50	3.19	2.77
12	121-9057●	4.51	4.15	3.85	3.49	3.05
15	121-9058●	4.97	4.58	4.26	3.87	3.37
18	121-9059●	6.02	5.53	5.13	4.66	4.07
20	121-9060●	6.55	6.43	5.76	5.32	4.68
25	121-9061●	7.64	7.02	6.51	5.92	5.18
30	121-9062●	8.56	7.28	6.42	5.56	4.99
40	121-9063●	10.96	10.10	9.36	8.52	7.42

Leaded Plastic Case



- Stud mounting motor start/run capacitors
- Self-healing metallised polypropylene
- Internal anti-pressure build-up safety mechanism
- Flame retardant to **UL94V-0**
- **VDE, CEI** and **SEV** approved

Stud thread=M8 x 10,
Lead length=250

Max continuous voltage 450V ac Tolerance ±5%
Operating temperature -25°C to +85°C Dissipation factor @20°C 0.002

Dimensions µF	H	Dia.	Mftrs List No.	Order code	Dimensions µF	H	Dia.	Mftrs List No.	Order code
1	55	28	4.16.15.69.14	121-9034	12	70	36	4.16.10.17.14	121-9041
2	55	28	4.16.15.01.14	121-9035	15	70	36	4.16.10.22.14	121-9043
3	55	28	4.16.10.03.14	121-9036	18	70	40	4.16.10.24.14	121-9044
4	55	28	4.16.10.06.14	121-9037	20	70	40	4.16.10.25.14	121-9045
5	55	28	4.16.10.08.14	121-9038	25	92	40	4.16.10.26.14	121-9046
8	55	32	4.16.10.13.14	121-9039	30	92	40	4.16.10.70.14	121-9047
10	58	36	4.16.10.15.14	121-9040	40	92	45	4.16.10.29.14	121-9048

208580

µF	Order Code	Price Each 1+	10+	50+	100+	250+
1	121-9034●	2.57	2.35	2.19	1.99	1.74
2	121-9035●	2.65	2.44	2.26	2.07	1.79
3	121-9036●	2.78	2.49	2.24	2.09	1.77
4	121-9037●	2.88	2.60	2.30	2.16	1.84
5	121-9038●	3.26	3.02	2.79	2.55	2.21
8	121-9039●	3.87	3.48	3.10	2.88	2.47
10	121-9040●	4.65	4.16	3.74	3.47	2.96
12	121-9041●	5.21	4.79	4.45	4.04	3.53
15	121-9043●	5.69	5.23	4.85	4.43	3.85
18	121-9044●	6.72	6.18	5.71	5.21	4.55
20	121-9045●	7.01	6.47	5.99	5.45	4.75
25	121-9046●	8.33	7.67	7.11	6.47	5.63
30	121-9047●	9.26	8.53	7.90	7.19	6.26
40	121-9048●	11.61	10.68	9.89	9.02	7.85

Metal Case



- Stud mounting motor start/run capacitors
- Self-healing metallised polypropylene
- Internal anti-pressure build-up safety mechanism
- Flame retardant to **UL94V-0**
- **VDE, CEI** and **SEV** approved
- **UL** recognised

Stud thread=M8 x 12, Tabs=double 6.35

Max. continuous voltage 450V ac Dissipation factor @ 20°C 0.002 (50Hz)
Tolerance ±5% Operating temperature -25°C to +85°C

Dimensions µF	H	Dia.	Mftrs List No.	Order code	Dimensions µF	H	Dia.	Mftrs List No.	Order code
12	98	40	4.16.26.11.64	121-9067	25	122	45	4.16.26.20.64	121-9070
15	98	40	4.16.26.15.64	121-9068	40	122	55	4.16.26.24.64	121-9071
20	98	45	4.16.26.19.64	121-9069					

RL Re-reeling available

Motor Run - continued

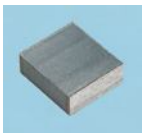
Metal Case - continued

208581

µF	Order Code	Price Each 1+	10+	50+	100+	250+
12	121-9067●	6.95	6.41	5.93	5.40	4.71
15	121-9068●	7.58	6.96	6.48	5.88	5.13
20	121-9069●	9.12	8.40	7.78	7.08	6.17
25	121-9070●	11.14	10.24	9.50	8.64	7.51
40	121-9071●	16.49	15.17	14.08	12.79	11.16

Plastic Film

CF Series Film Chip – Surface Mount



Supplied on 8mm tape

- Metallised film chip capacitors
- Stacked construction with metallised high temperature PEN (polyethylene naphtalate)
- Suitable for IR or vapour phase reflow soldering processes
- 1206, 1210 and 1812 case sizes

Operating temperature -25°C to +125°C (± 10% 1206 100V)
Tolerance ± 5% Climatic category 55/125/56

Mftrs. List No.CFO12COxxyJ-BA where xx is the capacitance value in pF and y = mulitiplier in pF

nF	Order Code	Price Each 10+	50+	100+	500+	1K+
1206, 25 Volt d.c.						
10	SMD 110-0600●	0.270	0.230	0.220	0.156	0.122
15	SMD 110-0601●	0.250	0.200	0.198	0.139	0.109

Mftrs. List No.CFO22COxxyJ-BA where xx is the capacitance value in pF and y = mulitiplier in pF

nF	Order Code	Price Each 10+	50+	100+	500+	1K+
1210, 25 Volt d.c.						
100	SMD 110-0602●	0.340	0.300	0.290	0.210	0.178

Mftrs. List No.CFO22DOxxyJ-BA where xx is the capacitance value in pF and y = mulitiplier in pF

nF	Order Code	Price Each 10+	50+	100+	500+	1K+
1210, 50 Volt d.c.						
47	SMD 110-0603●	0.310	0.260	0.250	0.175	0.157

Mftrs. List No.CFO32COxxyJ-BA where xx is the capacitance value in pF and y = mulitiplier in pF

nF	Order Code	Price Each 10+	50+	100+	500+	1K+
1812, 50 Volt d.c.						
33	SMD 110-0604●	0.420	0.350	0.340	0.230	0.220
100	SMD 110-0605●	0.330	0.300	0.260	0.210	0.169

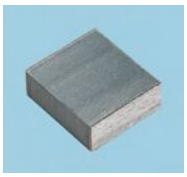
Mftrs. List No.CFO32EOxxyJ-BA where xx is the capacitance value in pF and y = mulitiplier in pF

227208

nF	Order Code	Price Each 10+	50+	100+	500+	1K+
1812, 100 Volt d.c.						
100	SMD 110-0606●	0.370	0.320	0.290	0.240	0.188

CB Series

Film Chip Capacitors



- Use of high temperature dielectric films makes these capacitors suitable for IR or vapor phase reflow processes.
- Built without specific encapsulation
- The intrinsic elasticity of the dielectric film allows an excellent compatibility of the capacitor with all types of material for printed circuit boards
- The self-healing property of film technology results to a safety open failure mode and better overall reliability
- Excellent thermal shock resistance.

Operating temperature -55°C to +125°C Tolerance ±5%

Capacitance (nF)	Voltage (V d.c.)	Case Size	Mftrs. List No.	Order Code
PEN Dielectric				
4.7	50	1206	CB017D0472JBA	165-7960
22	50	1206	CB017D0223JBA	165-7961
10	100	1206	CB017E0103JBA	165-7968
100	50	1210	CB027D0104JBA	165-7962
220	63	1812	CB037D0224JBA	165-7964
18	250	1812	CB037G0183JBA	165-7972
470	63	2220	CB047D0474JBC	165-7965
68	250	2220	CB047G0683JBC	165-7973
100	250	2220	CB047G0104JBC	165-7974
15	400	2220	CB047I0153JBC	165-7979
33	400	2220	CB047I0333JBC	165-7980
10	630	2220	CB047K0103JBC	165-7983
27	630	2824	CB057K0273JBC	165-7984
470	250	5040	CB177G0474JBC	165-7977
270	400	5040	CB177I0274JBC	165-7981
100	630	5040	CB177K0104JBC	165-7985
1000	250	6054	CB187G0105JBC	165-7978
470	400	6054	CB187I0474JBC	165-7982
220	630	6054	CB187K0224JBC	165-7986
PET-HT Dielectric				
1500	100	4030	CB162E0155JBC	165-7969
3300	63	5040	CB172D0335JBC	165-7967
2200	100	5040	CB172E0225JBC	165-7970
4700	100	6064	CB182E0475JBC	165-7971
PPS Dielectric				
22	16	1206	CB018B0223JBA	165-7950
39	16	1206	CB018B0393JBA	165-7952
4.7	50	1206	CB018D0472JBA	165-7956
10	50	1206	CB018D0103JBA	165-7957
68	16	1210	CB028B0683JBA	165-7953
100	16	1210	CB028B0104JBA	165-7954
150	16	1812	CB038B0154JBA	165-7955
56	50	1812	CB038D0563JBA	165-7958
100	50	1812	CB038D0104JBA	165-7959

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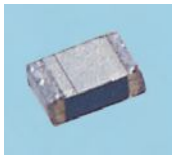
nF	Volts d.c.	Case	Order Code	Price Each 5+	50+	100+	500+	1K+
PEN Dielectric								
4.7	50	1206	SMD 165-7960● RL	0.500	0.390	0.310	0.230	0.178
22	50	1206	SMD 165-7961● RL	0.500	0.390	0.310	0.230	0.178
10	100	1206	SMD 165-7968● RL	0.500	0.390	0.310	0.230	0.178
100	50	1210	SMD 165-7962● RL	0.850	0.670	0.540	0.380	0.310
220	63	1812	SMD 165-7964● RL	0.960	0.780	0.610	0.420	0.350
18	250	1812	SMD 165-7972● RL	0.730	0.580	0.470	0.320	0.260
470	63	2220	SMD 165-7965● RL	1.410	1.120	0.880	0.620	0.510
68	250	2220	SMD 165-7973● RL	1.200	0.960	0.770	0.540	0.440
100	250	2220	SMD 165-7974● RL	1.250	0.990	0.800	0.560	0.460
15	400	2220	SMD 165-7979● RL	1.130	0.900	0.710	0.500	0.410
33	400	2220	SMD 165-7980● RL	1.130	0.900	0.710	0.500	0.410
10	630	2220	SMD 165-7983● RL	0.880	0.700	0.560	0.390	0.320
1000	63	2824	SMD 165-7966● RL	2.420	1.930	1.530	1.090	0.880
220	250	2824	SMD 165-7976● RL	1.750	1.390	1.110	0.780	0.630
27	630	2824	SMD 165-7984● RL	2.000	1.600	1.260	0.890	0.720
470	250	5040	SMD 165-7977● RL	3.560	2.970	2.330	1.780	1.490
270	400	5040	SMD 165-7981● RL	2.960	2.470	1.920	1.630	1.230
100	630	5040	SMD 165-7985● RL	3.210	2.690	2.100	1.610	1.340
1000	250	6054	SMD 165-7978● RL	5.820	4.840	3.790	2.900	2.420
470	400	6054	SMD 165-7982● RL	4.790	3.990	3.120	2.660	2.000
220	630	6054	SMD 165-7986● RL	5.550	4.630	3.620	2.780	2.320
PEt-HT Dielectric								
1500	100	4030	SMD 165-7969● RL	2.180	1.750	1.380	0.970	0.800
3300	63	5040	SMD 165-7967● RL	2.670	2.140	1.690	1.190	0.970
2200	100	5040	SMD 165-7970● RL	2.880	2.310	1.820	1.280	1.040
4700	100	6064	SMD 165-7971● RL	3.770	3.140	2.470	1.890	1.580
PPS Dielectric								
22	16	1206	SMD 165-7950● RL	0.500	0.390	0.310	0.230	0.178
39	16	1206	SMD 165-7952● RL	0.500	0.390	0.310	0.230	0.178
4.7	50	1206	SMD 165-7956● RL	4.440	3.560	2.810	1.980	1.610
10	50	1206	SMD 165-7957● RL	4.600	3.680	2.900	2.050	1.670
68	16	1210	SMD 165-7953● RL	0.810	0.640	0.510	0.350	0.300
100	16	1210	SMD 165-7954● RL	0.870	0.690	0.550	0.380	0.310
150	16	1812	SMD 165-7955● RL	1.230	0.980	0.790	0.550	0.460
56	50	1812	SMD 165-7958● RL	0.960	0.780	0.610	0.420	0.350
100	50	1812	SMD 165-7959● RL	1.090	0.870	0.690	0.490	0.390

FREE Re-reeling service

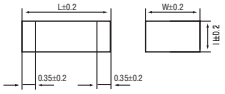


Only buy what you need and improve assembly efficiency. Look for the RL logo or find out more:
www.farnell.co.uk / 08447 11 11 11

ECHU Series - Plastic Film Surface Mount



- Metallised polyphenylene sulphide film capacitors
- Stack construction
- Wide temperature range
- Capacitance tolerance options ±5% or ±2%



Operating temperature -55°C to +125°C Withstand voltage Rated voltage x 175% for 1-5s
Soldering **Reflow only** Dissipation factor 0.6% max. @ 1kHz 20°C
Insulation resistance 3000MΩ @ 50V dc

RL Re-reeling available

nF	µF	Dimensions H	W	L	Mftrs. List No.	Order Code
16V d.c. ±5% 0805 Case Size						
3.3	0.0033	0.9	1.25	2	ECHU1C332JX5	969-5010
10	0.01	1.1	1.25	2	ECHU1C103JX5	969-5028
16V d.c. ±5% 1206 Case Size						
18	0.018	0.9	1.6	3.2	ECHU1C183JX5	969-5036
22	0.022	0.9	1.6	3.2	ECHU1C223JX5	969-5044
27	0.027	1.1	1.6	3.2	ECHU1C273JX5	969-5052
33	0.033	1.1	1.6	3.2	ECHU1C333JX5	969-5060
39	0.039	1.5	1.6	3.2	ECHU1C393JX5	969-5079
47	0.047	1.5	1.6	3.2	ECHU1C473JX5	969-5087
16V d.c. ±5% 1210 Case Size						
100	0.1	1.5	2.5	3.2	ECHU1C104JX5	969-5117
16V d.c. ±2% 0805 Case Size						
3.3	0.0033	0.9	1.25	2	ECHU1C332GX5	969-4838
3.9	0.0039	0.9	1.25	2	ECHU1C392GX5	969-4846
4.7	0.0047	0.9	1.25	2	ECHU1C472GX5	969-4854
5.6	0.0056	0.9	1.25	2	ECHU1C562GX5	969-4862
6.8	0.0068	0.9	1.25	2	ECHU1C682GX5	969-4870
8.2	0.0082	1.1	1.25	2	ECHU1C822GX5	969-4889
10	0.01	1.1	1.25	2	ECHU1C103GX5	969-4897
16V d.c. ±2% 1206 Case Size						
12	0.012	0.9	1.6	3.2	ECHU1C123GX5	119-8323
15	0.015	0.9	1.6	3.2	ECHU1C153GX5	969-4900
22	0.022	0.9	1.6	3.2	ECHU1C223GX5	969-4919
27	0.027	1.1	1.6	3.2	ECHU1C273GX5	969-4927
33	0.033	1.1	1.6	3.2	ECHU1C333GX5	969-4935
39	0.039	1.5	1.6	3.2	ECHU1C393GX5	969-4943
47	0.047	1.5	1.6	3.2	ECHU1C473GX5	969-4951
16V d.c. ±2% 1210 Case Size						
56	0.056	1.5	2.5	3.2	ECHU1C563GX5	969-4960
68	0.068	1.5	2.5	3.2	ECHU1C683GX5	969-4986
82	0.082	2.1	2.5	3.2	ECHU1C823GX5	969-4994
100	0.1	2.1	2.5	3.2	ECHU1C104GX5	969-5001
50V d.c. ±5% 0805 Case Size						
0.1	0.0001	0.9	1.25	2	ECHU1H101JX5	969-5249
0.22	0.00022	0.9	1.25	2	ECHU1H221JX5	119-8333
0.33	0.00033	0.9	1.25	2	ECHU1H331JX5	119-8334
0.47	0.00047	0.9	1.25	2	ECHU1H471JX5	969-5257
1	0.001	0.9	1.25	2	ECHU1H102JX5	969-5265
1.2	0.0012	0.9	1.25	2	ECHU1H122JX5	969-5273
1.8	0.0018	0.9	1.25	2	ECHU1H182JX5	119-8340
2.2	0.0022	0.9	1.25	2	ECHU1H222JX5	969-5290
2.7	0.0027	0.9	1.25	2	ECHU1H272JX5	119-8341
50V d.c. ±5% 1206 Case Size						
10	0.01	1.1	1.6	3.2	ECHU1H103JX5	969-5389
50V d.c. ±5% 1210 Case Size						
15	0.015	1.1	2.5	3.2	ECHU1H153JX5	119-8346
22	0.022	1.5	2.5	3.2	ECHU1H223JX5	969-5443
27	0.027	1.5	2.5	3.2	ECHU1H273JX5	969-5451
39	0.039	2.1	2.5	3.2	ECHU1H393JX5	969-5478
50V d.c. ±5% 1913 Case Size						
47	0.047	1.4	3.3	4.8	ECHU1H473JC9	969-5508
68	0.068	2	3.3	4.8	ECHU1H683JC9	969-5516
100	0.1	2.8	3.3	4.8	ECHU1H104JC9	969-5532
50V d.c. ±5% 2416 Case Size						
150	0.15	2.4	4.1	6	ECHU1H154JC9	969-5583
220	0.22	3.2	4.1	6	ECHU1H224JC9	969-5591
50V d.c. ±2% 0805 Case Size						
0.1	0.0001	0.9	1.25	2	ECHU1H101GX5	969-5125
0.15	0.00015	0.9	1.25	2	ECHU1H151GX5	969-5133
0.18	0.00018	0.9	1.25	2	ECHU1H181GX5	119-8329
0.22	0.00022	0.9	1.25	2	ECHU1H221GX5	969-5141
0.27	0.00027	0.9	1.25	2	ECHU1H271GX5	119-8330
0.33	0.00033	0.9	1.25	2	ECHU1H331GX5	969-5150
0.47	0.00047	0.9	1.25	2	ECHU1H471GX5	969-5168
0.56	0.00056	0.9	1.25	2	ECHU1H561GX5	969-5176
0.68	0.00068	0.9	1.25	2	ECHU1H681GX5	969-5184
0.82	0.00082	0.9	1.25	2	ECHU1H821GX5	119-8332
1	0.001	0.9	1.25	2	ECHU1H102GX5	969-5192
1.5	0.0015	0.9	1.25	2	ECHU1H152GX5	969-5206
1.8	0.0018	0.9	1.25	2	ECHU1H182GX5	969-5214
2.2	0.0022	0.9	1.25	2	ECHU1H222GX5	969-5222
2.7	0.0027	0.9	1.25	2	ECHU1H272GX5	969-5230
50V d.c. ±2% 1206 Case Size						
3.3	0.0033	0.9	1.6	3.2	ECHU1H332GX5	969-5303
3.9	0.0039	0.9	1.6	3.2	ECHU1H392GX5	969-5311
4.7	0.0047	0.9	1.6	3.2	ECHU1H472GX5	969-5320
5.6	0.0056	0.9	1.6	3.2	ECHU1H562GX5	969-5338
6.8	0.0068	0.9	1.6	3.2	ECHU1H682GX5	969-5346
8.2	0.0082	1.1	1.6	3.2	ECHU1H822GX5	969-5354
10	0.01	1.1	1.6	3.2	ECHU1H103GX5	969-5362
50V d.c. ±2% 1210 Case Size						
15	0.015	1.1	2.5	3.2	ECHU1H153GX5	969-5397
22	0.022	1.5	2.5	3.2	ECHU1H223GX5	969-5400
27	0.027	1.5	2.5	3.2	ECHU1H273GX5	969-5419
33	0.033	2.1	2.5	3.2	ECHU1H333GX5	969-5427
50V d.c. ±2% 1913 Case Size						
47	0.047	1.4	3.3	4.8	ECHU1H473GC9	969-5486
100	0.1	2.8	3.3	4.8	ECHU1H104GC9	969-5494
50V d.c. ±2% 2416 Case Size						
180	0.18	2.8	4.1	6	ECHU1H184GC9	969-5567
220	0.22	3.2	4.1	6	ECHU1H224GC9	969-5575

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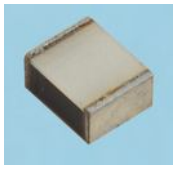
nF	Order Code	Price Each 1+	50+	100+	500+	1K+
16 Volt d.c.±5%						
3.3	SMD 969-5010 RL	0.270	0.197	0.145	0.125	0.109
10	SMD 969-5028 RL	0.300	0.220	0.162	0.139	0.122
18	SMD 969-5036 RL	0.330	0.240	0.177	0.152	0.133
22	SMD 969-5044 RL	0.330	0.240	0.177	0.152	0.133

nF	Order Code	Price Each 1+	50+	100+	500+	1K+
16 Volt d.c.±5%						
27	SMD 969-5052 RL	0.280	0.270	0.240	0.180	0.159
33	SMD 969-5060	0.360	0.260	0.194	0.167	0.148
39	SMD 969-5079 RL	0.350	0.330	0.310	0.240	0.196
47	SMD 969-5087 RL	0.390	0.290	0.210	0.180	0.148
100	SMD 969-5117 RL	0.530	0.390	0.290	0.250	0.220
16 Volt d.c.±2%						
3.3	SMD 969-4838 RL	0.280	0.210	0.162	0.150	0.126
3.9	SMD 969-4846 RL	0.280	0.210	0.162	0.150	0.126
4.7	SMD 969-4854 RL	0.280	0.210	0.156	0.132	0.119
5.6	SMD 969-4862 RL	0.280	0.210	0.162	0.136	0.120
6.8	SMD 969-4870 RL	0.280	0.210	0.162	0.150	0.126
8.2	SMD 969-4889 RL	0.260	0.220	0.200	0.188	0.158
10	SMD 969-4897 RL	0.310	0.230	0.169	0.145	0.124
12	SMD 119-8323 RL	0.270	0.250	0.220	0.196	0.171
15	SMD 969-4900 RL	0.340	0.250	0.186	0.160	0.141
22	SMD 969-4919 RL	0.340	0.250	0.195	0.169	0.150
27	SMD 969-4927 RL	0.370	0.280	0.210	0.188	0.169
33	SMD 969-4935 RL	0.370	0.280	0.220	0.195	0.176
39	SMD 969-4943 RL	0.410	0.300	0.220	0.195	0.176
47	SMD 969-4951 RL	0.410	0.300	0.220	0.189	0.163
56	SMD 969-4960 RL	0.410	0.370	0.330	0.300	0.270
68	SMD 969-4986 RL	0.470	0.340	0.270	0.240	0.220
82	SMD 969-4994 RL	0.560	0.410	0.360	0.270	0.240
100	SMD 969-5001 RL	0.560	0.410	0.310	0.250	0.240
50 Volt d.c.±5%						
0.1	SMD 969-5249 RL	0.260	0.188	0.138	0.119	0.104
0.22	SMD 119-8333 RL	0.176	0.161	0.149	0.117	0.103
0.33	SMD 119-8334 RL	0.176	0.161	0.149	0.117	0.103
0.47	SMD 969-5257 RL	0.196	0.180	0.163	0.129	0.112
1	SMD 969-5265 RL	0.260	0.188	0.138	0.119	0.104
1.2	SMD 969-5273 RL	0.196	0.180	0.163	0.129	0.112
1.8	SMD 119-8340 RL	0.182	0.166	0.153	0.120	0.106
2.2	SMD 969-5290 RL	0.176	0.161	0.149	0.117	0.103
2.7	SMD 119-8341 RL	0.196	0.180	0.163	0.129	0.112
10	SMD 969-5389 RL	0.360	0.260	0.194	0.167	0.155
15	SMD 119-8346	0.380	0.280	0.220	0.178	0.144
22	SMD 969-5443 RL	0.390	0.290	0.230	0.182	0.156
27	SMD 969-5451 RL	0.350	0.320	0.300	0.240	0.210
39	SMD 969-5478 RL	0.450	0.330	0.250	0.210	0.182
47	SMD 969-5508 RL	0.440	0.320	0.270	0.210	0.184
68	SMD 969-5516 RL	0.490	0.370	0.310	0.230	0.200
100	SMD 969-5532 RL	0.600	0.440	0.360	0.280	0.260
150	SMD 969-5583 RL	0.850	0.620	0.510	0.400	0.330
220	SMD 969-5591 RL	1.100	0.810	0.650	0.510	0.470
50 Volt d.c.±2%						
0.1	SMD 969-5125 RL	0.270	0.200	0.162	0.126	0.117
0.15	SMD 969-5133 RL	0.270	0.200	0.162	0.126	0.117
0.18	SMD 119-8329 RL	0.270	0.200	0.176	0.128	0.118
0.22	SMD 969-5141 RL	0.270	0.200	0.162	0.143	0.120
0.27	SMD 119-8330 RL	0.260	0.240	0.210	0.157	0.145
0.33	SMD 969-5150 RL	0.270	0.200	0.162	0.126	0.117
0.47	SMD 969-5168 RL	0.270	0.200	0.156	0.136	0.117
0.56	SMD 969-5176 RL	0.270	0.200	0.176	0.128	0.118
0.68	SMD 969-5184 RL	0.270	0.200	0.169	0.126	0.117
0.82	SMD 119-8332 RL	0.270	0.200	0.169	0.126	0.116
1	SMD 969-5192 RL	0.270	0.200	0.162	0.143	0.120
1.5	SMD 969-5206 RL	0.270	0.200	0.156	0.136	0.117
1.8	SMD 969-5214 RL	0.220	0.200	0.188	0.161	0.144
2.2	SMD 969-5222 RL	0.270	0.200	0.156	0.136	0.117
2.7	SMD 969-5230 RL	0.270	0.200	0.150	0.128	0.114
3.3	SMD 969-5303 RL	0.340	0.250	0.186	0.160	0.135
3.9	SMD 969-5311 RL	0.300	0.270	0.240	0.210	0.188
4.7	SMD 969-5320 RL	0.340	0.250	0.188	0.169	0.150
5.6	SMD 969-5338 RL	0.340	0.250	0.195	0.176	0.156
6.8	SMD 969-5346 RL	0.340	0.250	0.195	0.176	0.156
8.2	SMD 969-5354 RL	0.370	0.280	0.200	0.176	0.156
10	SMD 969-5362 RL	0.370	0.280	0.200	0.176	0.156
15	SMD 969-5397 RL	0.370	0.280	0.240	0.196	0.191
22	SMD 969-5400 RL	0.410	0.300	0.250	0.220	0.200
27	SMD 969-5419 RL	0.380	0.340	0.300	0.270	0.240
33	SMD 969-5427 RL	0.470	0.340	0.260	0.230	0.200
47	SMD 969-5486 RL	0.460	0.340	0.270	0.240	0.220
100	SMD 969-5494 RL	0.640	0.470	0.390	0.340	0.300
180	SMD 969-5567 RL	1.050	0.970	0.890	0.700	0.610
220	SMD 969-5575 RL	1.150	0.850	0.740	0.720	0.700

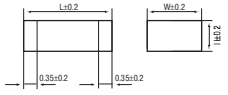
ECWU Series - Plastic Film Surface Mount

Panasonic ideas for life

SMD



- Polyethylene film surface mount capacitors
- Stacked film construction
- Small physical size
- Suitable for reflow soldering
- General purpose, coupling and by-pass applications



Operating temperature	-40°C to +85°C
Capacitance tolerance	±10%
Rated voltage	100 Volt d.c
Soldering	Reflow
Insulation resistance	3000MΩ
Withstand voltage	Rated voltage x 150% for 1-5s
Dissipation factor	1% max. @ 1kHz 20°C

RL Re-reeling available

Farnell

Plastic Film - continued

ECWU Series - Plastic Film Surface Mount - continued

µF	Dimensions L	W	H	Mftrs. List No.	Order Code
100V d.c. 3122 Case Size					
0.47	4	5.5	7.7	ECWU1474KCV	119-8355
100V d.c. 3925 Case Size					
1	5.1	6.3	9.8	ECWU1105KCV	119-8356
250V d.c. 2420 Case Size					
0.1	3.2	5	6	ECWU2104KC9	119-8358
250V d.c. 6140 Case Size					
1	4.2	10	15.2	ECWU2105KCZ	119-8359

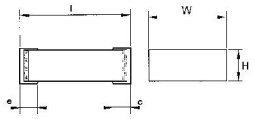
234313

		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
0.47	SMD 119-8355● RL	1.28	1.02	0.85	0.68	0.60
1	SMD 119-8356● RL	1.80	1.68	1.29	0.90	0.88
0.1	SMD 119-8358● RL	1.00	0.73	0.54	0.46	0.41
1	SMD 119-8359● RL	3.48	2.57	1.89	1.57	1.32

ECPU Series - Plastic Film Surface Mount - 16 Volt d.c.

Panasonic ideas for life





SMD

Supplied on 8mm embossed tape.
Reel= 3k pcs, C≤0.33µF
2k pcs, C≤0.33µF

- Submicron film surface mount capacitors
- Stacked film construction
- High capacitance per unit volume
- Low ESR
- Non-polarised
- Tantalum alternative for noise suppression and coupling

Operating temperature -40°C to +85°C
Capacitance tolerance ±20%
Rated voltage 16 Volt d.c
Soldering Reflow
Insulation resistance @ 10Vdc C≤0.33µF, 1000MΩ; C≤0.33µF, 300MΩ x µF
Withstand voltage Rated voltage x 175% for 1-5s
Dissipation factor 1.5% max. @ 1kHz 20°C

µF	Dimensions L	W	H	e	Case Size	Mftrs. List No.	Order Code
0.1	2	1.25	1	0.45	T(0805)	ECPU1C104MA5	969-4250
0.15	3.2	1.6	0.8	0.65	A(1206)	ECPU1C154MA5	969-4269
0.22	3.2	1.6	0.8	0.65	A(1206)	ECPU1C224MA5	969-4277
0.33	3.2	1.6	1	0.65	A(1206)	ECPU1C334MA5	969-4285
0.47	3.2	1.6	1.4	0.65	A(1206)	ECPU1C474MA5	969-4293
0.68	3.2	1.6	1.4	0.65	A(1206)	ECPU1C684MA5	969-4307
1	3.2	2.5	1.4	0.65	B(1210)	ECPU1C105MA5	969-4315

218779

Order Multiple=5

		Price Each				
µF	Order Code	5+	50+	100+	500+	1K+
0.1	SMD 969-4250● RL	0.290	0.220	0.160	0.137	0.123
0.15	SMD 969-4269● RL	0.350	0.260	0.191	0.164	0.148
0.22	SMD 969-4277● RL	0.410	0.300	0.220	0.192	0.168
0.33	SMD 969-4285● RL	0.410	0.300	0.220	0.192	0.170
0.47	SMD 969-4293● RL	0.470	0.350	0.250	0.220	0.193
0.68	SMD 969-4307● RL	0.470	0.350	0.250	0.220	0.194
1	SMD 969-4315● RL	0.520	0.390	0.280	0.240	0.198

Audio Grade

FE-XAL-AL Series – Audio Capacitor

AMPOHM WOUND PRODUCTS LTD



New

Audio capacitors specially designed for high performance audio systems. Polyester film capacitors hand wound using high purity aluminium foil and hand soldered leads before being assembled and hermetically sealed in an aluminium housing with phenolic resin and rubber end discs. 1mm diameter tinned copper lead out wires are solder sealed to the eyelets in the end discs.

630 Volt d. c.

µF	nF	Tolerance	Dimensions L	Dia.	Mftrs. List No.	Order Code
0.01	10	±20%	34	15	FE-XAL-AL-0.01/20/630	163-6652
0.02	20	±20%	34	15	FE-XAL-AL-0.02/20/630	163-6653
0.05	50	±20%	34	15	FE-XAL-AL-0.05/20/630	163-6654
0.1	100	±10%	54	25	FE-XAL-AL-0.1/10/630	163-6655
0.22	220	±10%	54	25	FE-XAL-AL-0.22/10/630	163-6656
0.33	330	±10%	54	25	FE-XAL-AL-0.33/10/630	163-6657
0.47	470	±10%	54	25	FE-XAL-AL-0.47/10/630	163-6658
1	1000	±10%	54	35	FE-XAL-AL-1.0/10/630	163-6659
2.2	2200	±10%	95	45	FE-XAL-AL-2.2/10/630	163-6660
3.3	3300	±10%	95	45	FE-XAL-AL-3.3/10/630	163-6661
4.7	4700	±5%	95	45	FE-XAL-AL-4.7/5/630	163-6663
5	5000	±5%	95	45	FE-XAL-AL-5.0/5/630	163-6664
6.8	6800	±5%	95	65	FE-XAL-AL-6.8/5/630	163-6665
8	8000	±5%	95	65	FE-XAL-AL-8.0/5/630	163-6666
10	10000	±5%	95	65	FE-XAL-AL-10.0/5/630	163-6667

523263

		Price Each				
µF	Order Code	1+	5+	25+	50+	100+
0.01µF	163-6652●	8.95	7.97	7.16	6.62	6.38
0.02µF	163-6653●	9.26	8.25	7.41	6.85	6.59
0.05µF	163-6654●	9.57	8.52	7.66	7.09	6.82
0.1µF	163-6655●	9.97	8.87	7.97	7.37	7.09
0.22µF	163-6656●	10.90	9.70	8.72	8.06	7.75
0.33µF	163-6657●	11.93	10.62	9.54	8.83	8.50
0.47µF	163-6658●	12.87	11.45	10.29	9.51	9.16
1µF	163-6659●	13.80	12.28	11.03	10.21	9.82
2.2µF	163-6660●	20.89	18.59	16.71	15.45	14.86
3.3µF	163-6661●	25.70	22.86	20.56	19.01	18.30
4.7µF	163-6663●	29.32	26.09	23.45	21.69	20.88
5µF	163-6664●	30.27	26.94	24.22	22.41	21.56
6.8µF	163-6665●	35.55	31.64	28.44	26.31	25.32
8µF	163-6666●	39.15	34.84	31.32	28.97	27.87
10µF	163-6667●	43.78	38.97	35.02	32.40	31.17

PF-XAL-W-AL Series – Audio Capacitor

AMPOHM WOUND PRODUCTS LTD



New

Audio capacitors specially designed for high performance audio systems. These paper in wax (PIW) capacitors are hand wound using high purity aluminium foil and have their leads hand soldered. Wax impregnated before being assembled and hermetically sealed in an aluminium housing with phenolic resin and rubber end discs. 1mm tinned copper lead out wires are solder sealed to the eyelets in the end discs.

630 Volt d. c.

µF	nF	Tolerance	Dimensions L	Dia.	Mftrs. List No.	Order Code
0.01	10	±20%	34	15	PF-XAL-W-AL-0.01/20/630	163-6668
0.02	20	±20%	34	15	PF-XAL-W-AL-0.02/20/630	163-6669
0.05	50	±20%	34	15	PF-XAL-W-AL-0.05/20/630	163-6670
0.1	100	±10%	54	25	PF-XAL-W-AL-0.1/10/630	163-6671
0.22	220	±10%	54	25	PF-XAL-W-AL-0.22/10/630	163-6672
0.33	330	±10%	54	25	PF-XAL-W-AL-0.33/10/630	163-6673
0.47	470	±10%	54	25	PF-XAL-W-AL-0.47/10/630	163-6675
1	1000	±10%	54	35	PF-XAL-W-AL-1.0/10/630	163-6676
2.2	2200	±10%	95	45	PF-XAL-W-AL-2.2/10/630	163-6677

523268

		Price Each				
µF	Order Code	1+	5+	25+	50+	100+
0.01µF	163-6668●	8.00	7.12	6.40	5.92	5.69
0.02µF	163-6669●	8.28	7.37	6.62	6.13	5.90
0.05µF	163-6670●	8.57	7.62	6.85	6.33	6.10
0.1µF	163-6671●	8.90	7.92	7.12	6.58	6.33
0.22µF	163-6672●	9.73	8.66	7.78	7.20	6.92
0.33µF	163-6673●	10.66	9.49	8.53	7.89	7.59
0.47µF	163-6675●	11.49	10.23	9.19	8.50	8.18
1µF	163-6676●	12.32	10.96	9.85	9.12	8.77
2.2µF	163-6677●	18.66	16.60	14.93	13.81	13.28

PF-XTI-AL Series – Audio Capacitor

AMPOHM WOUND PRODUCTS LTD



New

Audio capacitors specially designed for high performance audio systems. Paper in oil (PIO) capacitors are hand wound using high purity tin foil and have hand soldered leads. Oil impregnated before being assembled, oil filled and hermetically sealed in an aluminium housing with phenolic resin and rubber end discs. 1mm diameter tinned copper lead out wires are solder sealed to the eyelets in the end discs.

630 Volt d. c.

µF	nF	Tolerance	Dimensions L	Dia.	Mftrs. List No.	Order Code
0.001	1	±20%	34	15	PF-XTI-AL-0.001/20/630	163-6678
0.002	2	±20%	34	15	PF-XTI-AL-0.002/20/630	163-6679
0.0033	3.3	±20%	34	15	PF-XTI-AL-0.0033/20/630	163-6680
0.0047	4.7	±20%	34	15	PF-XTI-AL-0.0047/20/630	163-6681
0.0068	6.8	±20%	34	15	PF-XTI-AL-0.0068/20/630	163-6682
0.01	10	±20%	34	15	PF-XTI-AL-0.01/20/630	163-6683
0.02	20	±20%	34	15	PF-XTI-AL-0.02/20/630	163-6684
0.05	50	±20%	34	15	PF-XTI-AL-0.05/20/630	163-6685
0.1	100	±10%	54	25	PF-XTI-AL-0.1/10/630	163-6687
0.22	220	±10%	54	25	PF-XTI-AL-0.22/10/630	163-6688
0.33	330	±10%	54	25	PF-XTI-AL-0.33/10/630	163-6689
0.47	470	±10%	54	25	PF-XTI-AL-0.47/10/630	163-6690
1	1000	±10%	54	35	PF-XTI-AL-1.0/10/630	163-6691
2	2000	±10%	95	45	PF-XTI-AL-2.0/10/630	163-6692

523272

		Price Each				
µF	Order Code	1+	5+	25+	50+	100+
0.001µF	163-6678●	8.85	7.88	7.08	6.55	6.30
0.002µF	163-6679●	8.85	7.88	7.08	6.55	6.30
0.0033µF	163-6680●	8.85	7.88	7.08	6.55	6.30
0.0047µF	163-6681●	8.85	7.88	7.08	6.55	6.30
0.0068µF	163-6682●	8.95	7.97	7.16	6.62	6.38
0.01µF	163-6683●	9.19	8.18	7.35	6.80	6.54
0.02µF	163-6684●	9.52	8.48	7.62	7.05	6.78
0.05µF	163-6685●	9.83	8.76	7.87	7.28	7.00
0.1µF	163-6687●	10.23	9.10	8.18	7.57	7.28
0.22µF	163-6688●	11.18	9.95	8.94	8.27	7.96
0.33µF	163-6689●	13.85	12.32	11.08	10.25	9.85
0.47µF	163-6690●	14.94	13.29	11.94	11.04	10.63
1µF	163-6691●	15.99	14.23	12.79	11.83	11.39
2µF	163-6692●	24.25	21.58	19.40	17.94	17.26

RL Re-reeling available

Farnell

PF-XAL-AL Series – Audio Capacitor



New

Audio capacitors specially designed for high performance audio systems. Paper in oil (PIO) capacitors are hand wound using high purity aluminium foil and have hand soldered leads. Oil impregnated before being assembled, oil filled and hermetically sealed in an aluminium housing with phenolic resin and rubber end discs. 1mm diameter tinned copper lead out wires are solder sealed to the eyelets in the end discs.

300 Volt d. c.

µF	nF	Tolerance	Dimensions L	Dia.	Mftrs. List No.	Order Code
1	1000	±10%	54	35	PF-XAL-AL-1.0/10/300	163-6693
2.2	2200	±10%	95	45	PF-XAL-AL-2.2/10/300	163-6694
3.3	3300	±10%	95	45	PF-XAL-AL-3.3/10/300	163-6695
4.7	4700	±5%	95	45	PF-XAL-AL-4.7/5/300	163-6696
5	5000	±5%	95	45	PF-XAL-AL-5.0/5/300	163-6697
6.8	6800	±5%	95	65	PF-XAL-AL-6.8/5/300	163-6699
8	8000	±5%	95	65	PF-XAL-AL-8.0/5/300	163-6700
10	10000	±5%	95	65	PF-XAL-AL-10.0/5/300	163-6701

		Price Each				
µF	Order Code	1+	5+	25+	50+	100+
1µF	163-6693●	11.08	9.85	8.86	8.20	7.89
2.2µF	163-6694●	16.77	14.93	13.41	12.41	11.93
3.3µF	163-6695●	20.65	18.38	16.52	15.28	14.70
4.7µF	163-6696●	23.55	20.96	18.84	17.43	16.77
5µF	163-6697●	24.32	21.65	19.46	18.00	17.32
6.8µF	163-6699●	28.57	25.42	22.85	21.14	20.34
8µF	163-6700●	31.44	27.98	25.15	23.27	22.39
10µF	163-6701●	35.17	31.30	28.13	26.02	25.04

630 Volt d. c.

µF	nF	Tolerance	Dimensions L	Dia.	Mftrs. List No.	Order Code
0.01	10	±20%	34	15	PF-XAL-AL-0.01/20/630	163-6702
0.02	20	±20%	34	15	PF-XAL-AL-0.02/20/630	163-6703
0.05	50	±20%	34	15	PF-XAL-AL-0.05/20/630	163-6705
0.1	100	±10%	54	25	PF-XAL-AL-0.1/10/630	163-6706
0.22	220	±10%	54	25	PF-XAL-AL-0.22/10/630	163-6707
0.33	330	±10%	54	25	PF-XAL-AL-0.33/10/630	163-6708
0.47	470	±10%	54	25	PF-XAL-AL-0.47/10/630	163-6709
1	1000	±10%	54	35	PF-XAL-AL-1.0/10/630	163-6710
2.2	2200	±10%	95	45	PF-XAL-AL-2.2/10/630	163-6711
3.3	3300	±10%	95	45	PF-XAL-AL-3.3/10/630	163-6712
4.7	4700	±5%	95	45	PF-XAL-AL-4.7/5/630	163-6713
5	5000	±5%	95	45	PF-XAL-AL-5.0/5/630	163-6714
6.8	6800	±5%	95	65	PF-XAL-AL-6.8/5/630	163-6715
8	8000	±5%	95	65	PF-XAL-AL-8.0/5/630	163-6717
10	10000	±5%	95	65	PF-XAL-AL-10.0/5/630	163-6718

523273

		Price Each				
µF	Order Code	1+	5+	25+	50+	100+
0.01µF	163-6702●	8.00	7.12	6.40	5.92	5.69
0.02µF	163-6703●	8.28	7.37	6.62	6.13	5.90
0.05µF	163-6705●	8.57	7.62	6.85	6.33	6.10
0.1µF	163-6706●	8.90	7.92	7.12	6.58	6.33
0.22µF	163-6707●	9.73	8.66	7.78	7.20	6.92
0.33µF	163-6708●	10.66	9.49	8.53	7.89	7.59
0.47µF	163-6709●	11.49	10.23	9.19	8.50	8.18
1µF	163-6710●	12.32	10.96	9.85	9.12	8.77
2.2µF	163-6711●	18.66	16.60	14.93	13.81	13.28
3.3µF	163-6712●	22.96	20.43	18.36	16.98	16.34
4.7µF	163-6713●	26.19	23.31	20.95	19.38	18.64
5µF	163-6714●	27.05	24.06	21.63	20.01	19.25
6.8µF	163-6715●	31.75	28.26	25.40	23.50	22.60
8µF	163-6717●	34.96	31.11	27.97	25.87	24.89
10µF	163-6718●	39.10	34.80	31.28	28.93	27.84

Solid Aluminium

2222 128 Series



- High performance
- Extremely long operating life
- Extended operating temperature

Lead pitch = 5.2
Lead dia = 0.6

Operating temperature -55°C to +125°C (6.3 to 25V)
-55°C to +85°C (40V)
DC leakage current 0.025CV or 2µA whichever is >
Tolerance ±20%
Operating life @ 40°C >300,000 hrs

Volt d.c	µF	ESR (Ω) @ 100Hz 20°C	Impedance (Ω) @ 100kHz 20°C	Dimensions H	W	D	Mftrs. List No.	Order Code
6.3	10	20	3	9.5	7	3.5	2222 128 53109	116-6612
6.3	22	9	1	9.5	7	4	2222 128 53229	116-6613
6.3	47	4.8	0.5	9.5	8	5	2222 128 53479	116-6614
6.3	68	3	0.5	9.5	8	6	2222 128 53689	116-6615
10	4.7	43	3	9.5	7	3.5	2222 128 54478	116-6616
10	22	9	1.7	9.5	7	5	2222 128 54229	116-6618
10	33	6.1	0.5	9.5	8	5	2222 128 54339	116-6619
10	47	4.3	0.5	9.5	8	6	2222 128 54479	116-6620
16	2.2	91	5	9.5	7	3.5	2222 128 55228	116-6622
16	4.7	43	2	9.5	7	4	2222 128 55478	116-6623
16	6.8	30	1.5	9.5	7	4	2222 128 55688	116-6624
16	10	20	1	9.5	7	5	2222 128 55109	116-6625
16	15	14	0.7	9.5	8	5	2222 128 55159	116-6626
16	22	9	0.7	9.5	8	6	2222 128 55229	116-6627
25	1	200	15	9.5	7	3.5	2222 128 56108	116-6628
25	4.7	43	5	9.5	8	5	2222 128 56478	116-6630
25	10	20	2	9.5	8	6	2222 128 56109	116-6632
40	0.1	1990	45	9.5	7	3	2222 128 37107	116-6595
40	0.47	430	15	9.5	7	5	2222 128 37477	116-6596
40	1	200	10	9.5	8	6	2222 128 57108	116-6634

208503

			Price Each			
Order Multiple=5 Volt d.c.	µF	Order Code	5+	100+	1K+	3K+
6.3	10	116-6612●	0.66	0.43	0.37	0.29
6.3	22	116-6613●	0.84	0.52	0.42	0.38
6.3	47	116-6614●	0.89	0.67	0.54	0.45
6.3	68	116-6615●	0.92	0.60	0.49	0.40
10	4.7	116-6616●	0.61	0.42	0.33	0.27
10	22	116-6618●	0.96	0.66	0.51	0.43
10	33	116-6619●	0.91	0.59	0.49	0.42
10	47	116-6620●	0.94	0.62	0.50	0.41
16	2.2	116-6622●	0.79	0.50	0.41	0.38
16	4.7	116-6623●	0.72	0.50	0.38	0.37
16	6.8	116-6624●	0.55	0.42	0.34	0.29
16	10	116-6625●	0.94	0.63	0.49	0.42
16	15	116-6626●	0.76	0.50	0.38	0.35
16	22	116-6627●	0.88	0.58	0.43	0.42
25	1	116-6628●	0.68	0.46	0.40	0.39
25	4.7	116-6630●	0.81	0.55	0.44	0.42
25	10	116-6632●	0.78	0.65	0.56	0.50
40	0.1	116-6595●	0.65	0.45	0.35	0.31
40	0.47	116-6596●	0.69	0.47	0.39	0.32
40	1	116-6634●	0.84	0.55	0.46	0.36

OS-CON Solid Electrolyte

The OS-CON is a solid aluminium capacitor with organic semiconductive electrolyte. Its principle advantages are its high frequency characteristics, very low ESR, high ripple current capabilities and long life.

208478

SVP Series - Surface Mount



- Low ESR
- High temperature - 105°C
- Ripple current ratings guaranteed at 105°C
- No derating required on max. allowable ripple current
- Applications include miniaturised high frequency noise limiters and switching power supplies

Operating temperature -55°C to +105°C Tolerance ±20%

µF	Ripple (mA) @ 100kHz, 105°C	ESR (mΩ) @ 100kHz to 300kHz	Body Dia.	L	W	H	Tape Width	Reel Qty.	Mftrs. List No.	Order Code
4 Volt d.c.										
150	1810	40	6.3	5.9	6.6	6.6			4SVP150MX	918-8738
330	2560	35	8	6.9	8.3	8.3			4SVP330M	918-8746
560	4520	13	8	12.6	8.3	10.3			4SVP560M	918-8754
680	3700	25	10	7.9	10.3	10.3			4SVP680M	918-8762
1200	5400	12	10	12.6	10.3	10.3			4SVP1200M	918-8770
6.3 Volt d.c.										
22	740	200	4	5.4	4.3	4.3			6SVP22M	918-8789
47	1100	70	5	5.9	5.3	5.3			6SVP47M	918-8797
100	1810	40	6.3	5.9	6.6	6.6			6SVP100M	918-8800
220	2560	35	8	6.9	8.3	8.3			6SVP220MX	918-8819
220	3700	25	10	7.9	10.3	10.3			6SVP220M	918-8827
330	3700	25	10	7.9	10.3	10.3			6SVP330M	918-8835
470	3700	25	10	7.9	10.3	10.3			6SVP470MX	918-8843
470	4210	15	8	12.6	8.3	10.3			6SVP470M	918-8851
820	5440	12	10	12.6	10.3	10.3			6SVP820M	918-8860
10 Volt d.c.										
10	700	220	4	5.4	4.3	4.3			10SVP10M	918-8878
15	740	200	4	5.4	4.3	4.3			10SVP15M	918-8886
33	100	70	5	5.9	5.3	5.3			10SVP33M	918-8894
47	1620	50	6.3	5.9	6.6	6.6			10SVP47M	918-8908
56	1700	45	6.3	5.9	6.6	6.6			10SVP56M	918-8916
120	2560	35	8	6.9	8.3	8.3			10SVP120M	918-8924
150	2560	35	8	6.9	8.3	8.3			10SVP150MX	918-8932
150	3020	30	10.3	7.9	10.3	10.3			10SVP150M	918-8940
270	3700	25	10.3	7.9	10.3	10.3			10SVP270M	918-8959
330	3700	25	10.3	7.9	10.3	10.3			10SVP330MX	918-8967
330	3950	17	8	12.6	8.3	10.3			10SVP330M	918-8975
560	5230	13	10	12.6	10.3	10.3			10SVP560M	918-8983
16 Volt d.c.										
3.3	660	260	4	5.4	4.3	4.3			16SVP3.3M	918-8991
15	1060	120	5	5.9	5.3	5.3			16SVP15M	918-9009
22	1060	90	5	5.9	5.3	5.3			16SVP22M	918-9017
39	1620	50	6.3	5.9	6.6	6.6			16SVP39M	918-9025
56	1890	45	8	6.9	8.3	8.3			16SVP56M	918-9033
82	2120	40	8	6.9	8.3	8.3			16SVP82M	918-9041
100	2670	35	10	7.9	10.3	10.3			16SVP100M	918-9050
180	3020	30	10	7.9	10.3	10.3			16SVP180MX	918-9068
180	3640	20	8	12.6	8.3	10.3			16SVP180M	918-9076
330	4720	16	10	12.6	10.3	10.3			16SVP330M	918-9084
20 Volt d.c.										
10	1020	120	5	5.9	5.3	5.3			20SVP10M	918-9092
22	1450	60	6.3	5.9	6.6	6.6			20SVP22M	918-9106
27	1450	60	6.3	5.9	6.6	6.6			20SVP27M	918-9114
33	1890	45	8	6.9	8.3	8.3			20SVP33M	918-9122
47	1890	45	8	6.9	8.3	8.3			20SVP47M	918-9130
68	2400	40	10	7.9	10.3	10.3			20SVP68M	918-9157
100	3320	24	8	12.6	8.3	10.3			20SVP100M	918-9165
150	4320	20	10	12.6	10.3	10.3			20SVP150M	918-9173

RL Re-reeling available

Solid Aluminium - continued

SVP Series - Surface Mount - continued

µF	Ripple (mA) @ 100kHz, 105°C	ESR (mΩ) @ 100kHz to 300kHz	Body Dia.	L	W	H	Tape Width	Reel Qty.	Mftrs. List No.	Order Code
25 Volt d.c.										
6.8	1200	80	6.3	5.9	6.6	6.6			25SVP6.8M	918-9181
10	1500	60	8	6.9	8.3	8.3			25SVP10M	918-9190
22	2000	50	10	7.9	10.3	10.3			25SVP22M	918-9203
33	2980	30	8	12.6	8.3	10.3			25SVP33M	918-9211
56	3800	28	10	12.6	10.3	10.3			25SVP56M	918-9220

249089

µF	Order Code	Price Each 1+	50+	100+	1K+
4 Volt d.c					
150	SMD 918-8738●	1.60	1.41	1.24	1.13
330	SMD 918-8746●	1.50	1.32	1.15	1.05
560	SMD 918-8754●	2.33	2.04	1.80	1.64
680	SMD 918-8762●	2.21	1.94	1.72	1.55
1200	SMD 918-8770●	1.84	1.61	1.42	1.29
6.3 Volt d.c					
22	SMD 918-8789●	0.74	0.64	0.57	0.52
47	SMD 918-8797●	1.18	1.04	0.91	0.82
100	SMD 918-8800●	1.59	1.40	1.23	1.13
220	SMD 918-8819●	2.04	1.79	1.57	1.43
220	SMD 918-8827●	2.14	1.87	1.66	1.50
330	SMD 918-8835●	2.21	1.94	1.72	1.55
470	SMD 918-8843●	1.69	1.47	1.32	1.18
470	SMD 918-8851●	2.33	2.04	1.80	1.64
820	SMD 918-8860●	2.51	2.18	1.94	1.75
10 Volt d.c					
10	SMD 918-8878●	0.98	0.84	0.75	0.68
15	SMD 918-8886●	0.93	0.80	0.71	0.65
33	SMD 918-8894●	0.93	0.82	0.71	0.64
47	SMD 918-8908●	1.43	1.26	1.11	1.01
56	SMD 918-8916●	1.49	1.32	1.16	1.06
120	SMD 918-8924●	1.44	1.27	1.10	1.01
150	SMD 918-8932●	2.04	1.79	1.57	1.43
150	SMD 918-8940●	1.68	1.46	1.30	1.18
270	SMD 918-8959●	2.21	1.94	1.72	1.55
330	SMD 918-8967●	2.24	1.97	1.74	1.58
330	SMD 918-8975●	2.33	2.04	1.80	1.64
560	SMD 918-8983●	2.51	2.18	1.94	1.75
16 Volt d.c					
3.3	SMD 918-8991●	0.70	0.62	0.54	0.49
15	SMD 918-9009●	1.07	0.94	0.82	0.75
22	SMD 918-9017●	1.18	1.04	0.91	0.82
39	SMD 918-9025●	1.49	1.32	1.16	1.06
56	SMD 918-9033●	1.70	1.48	1.32	1.20
82	SMD 918-9041●	1.96	1.72	1.50	1.38
100	SMD 918-9050●	2.14	1.87	1.66	1.50
180	SMD 918-9068●	2.14	1.87	1.66	1.50
180	SMD 918-9076●	2.33	2.04	1.80	1.64
330	SMD 918-9084●	2.51	2.18	1.94	1.75
20 Volt d.c					
10	SMD 918-9092●	1.02	0.89	0.78	0.71
22	SMD 918-9106●	1.43	1.26	1.11	1.01
27	SMD 918-9114●	1.42	1.25	1.11	1.01
33	SMD 918-9122●	1.79	1.55	1.39	1.27
47	SMD 918-9130●	1.96	1.72	1.50	1.38
68	SMD 918-9157●	2.21	1.94	1.72	1.55
100	SMD 918-9165●	2.33	2.04	1.80	1.64
150	SMD 918-9173●	2.39	2.08	1.84	1.67
25 Volt d.c					
6.8	SMD 918-9181●	1.17	1.04	0.92	0.83
10	SMD 918-9190●	2.04	1.78	1.58	1.43
22	SMD 918-9203●	2.51	2.18	1.94	1.75
33	SMD 918-9211●	2.67	2.34	2.07	1.88
56	SMD 918-9220●	2.85	2.51	2.20	2.02

SC - SA Series

SANYO



- General purpose radial leaded

Operating Temperature -55°C to +105°C
Tolerance ±20%

µF	Dia	L	Lead Pitch	Lead. Dia.	Ripple (mA) @ 10kHz +85°C	ESR (mΩ) @ 100kHz	Mftrs. List No.	Order Code
6.3 Volt d.c								
150	8	10.5	3.5	0.5	1720	43	6SA150M	918-9688
330	10	10.5	5	0.6	3500	25	6SA330M	918-8657
10 Volt d.c								
10	5	6.8	2	0.45	385	200	10SC10M	918-9483
22	6.3	6.8	2.5	0.45	616	150	10SC22M	918-9491
47	6.3	9.8	2.5	0.5	994	125	10SC47M	918-9505
68	6.3	9.8	2.5	0.5	1140	90	10SA68M	918-9513
220	10	10.5	5	0.6	2090	45	10SA220M	918-9521

µF	Order Code	Price Each 1+	50+	100+	1K+
6.3 Volt d.c					
150	918-9688●	1.72	1.59	1.50	1.29
330	918-8657●	1.79	1.55	1.39	1.27
10 Volt d.c					
10	918-9483●	0.42	0.40	0.38	0.34
22	918-9491●	0.75	0.70	0.66	0.55
47	918-9505●	0.97	0.91	0.85	0.71
68	918-9513●	1.10	1.04	0.98	0.83
220	918-9521●	2.32	2.19	2.09	1.75

µF	Dia	L	Lead Pitch	Lead. Dia.	Ripple (mA) @ 10kHz +85°C	ESR (mΩ) @ 100kHz	Mftrs. List No.	Order Code
16 Volt d.c								
3.3	4	6.8	2	0.45	242	350	16SC3R3M	918-9530
6.8	5	6.8	2	0.45	378	200	16SC6R8M	918-9548
22	6.3	9.8	2.5	0.5	889	125	16SC22M	918-9564
33	6.3	9.8	2.5	0.5	938	125	16SC33M	918-9572
47	6.3	9.8	2.5	0.6	1830	60	16SA47M	918-8673
100	8	10.5	3.5	0.5	1480	45	16SA100M	918-9580
470	12.5	22	5	0.8	3752	20	16SA470M	918-9599

µF	Order Code	Price Each 1+	50+	100+	1K+
16 Volt d.c					
3.3	918-9530●	0.27	0.26	0.25	0.22
6.8	918-9548●	0.42	0.39	0.37	0.33
22	918-9564●	0.88	0.83	0.78	0.67
33	918-9572●	0.97	0.91	0.85	0.71
47	918-8673●	1.07	0.94	0.82	0.75
100	918-9580●	1.86	1.77	1.67	1.40
470	918-9599●	4.12	3.75	3.39	2.76

µF	Dia	L	Lead Pitch	Lead. Dia.	Ripple (mA) @ 10kHz +85°C	ESR (mΩ) @ 100kHz	Mftrs. List No.	Order Code
20 Volt d.c								
22	6.3	6.8	2.5	0.45	730	70	20SA22M	918-9602
33	6.3	9.8	2.5	0.6	1710	70	20SA33M	918-8681
68	8	10.5	3.5	0.5	1390	45	20SA68M	121-7620
100	10	10.5	5	0.5	1770	30	20SA100M	918-9610

µF	Order Code	Price Each 1+	50+	100+	1K+
20 Volt d.c					
22	918-9602●	0.97	0.91	0.85	0.71
33	918-8681●	1.07	0.94	0.82	0.75
68	121-7620●	1.81	1.67	1.54	1.32
100	918-9610●	2.70	2.55	2.43	2.03

µF	Dia	L	Lead Pitch	Lead. Dia.	Ripple (mA) @ 10kHz +85°C	ESR (mΩ) @ 100kHz	Mftrs. List No.	Order Code
25 Volt d.c								
4.7	6.3	6.8	2.5	0.45	371	150	25SC4R7M	918-9629
10	6.3	6.8	2.5	0.45	1150	90	25SC10M	918-8690
15	6.3	9.8	2.5	0.5	784	125	25SC15M	918-9645
22	8	10.5	3.5	0.5	889	125	25SC22M	918-9653
33	10	10.5	5	0.5	1575	40	25SC33M	918-9661
47	10	10.5	5	0.5	1610	40	25SC47M	918-9670

µF	Order Code	Price Each 1+	50+	100+	1K+
25 Volt d.c					
4.7	918-9629●	0.58	0.55	0.50	0.43
10	918-8690●	0.85	0.76	0.66	0.60
15	918-9645●	0.95	0.88	0.80	0.68
22	918-9653●	1.38	1.26	1.14	0.94
33	918-9661●	2.45	2.23	2.04	1.67
47	918-9670●	2.95	2.67	2.41	1.99

µF	Dia	L	Lead Pitch	Lead. Dia.	Ripple (mA) @ 10kHz +85°C	ESR (mΩ) @ 100kHz	Mftrs. List No.	Order Code
30 Volt d.c								
1	4	6.8	2	0.45	430	350	30SC1M	918-8703
10	8	10.5	3.5	0.6	1380	110	30SC10M	918-8711
22	10	10.5	5	0.6	1830	80	30SC22M	918-8720

208495

µF	Order Code	Price Each 1+	50+	100+	1K+
30 Volt d.c					
1	918-8703●	0.45	0.40	0.36	0.34
10	918-8711●	2.14	1.87	1.66	1.50
22	918-8720●	2.71	2.39	2.10	1.92

SH Series

SANYO



- Low ESR
- Ripple current ratings guaranteed at 105°C
- No derating required on max. allowable ripple current
- Long life - 5000 hrs

Operating temperature -55°C to +105°C
Tolerance ±20%
Operating life @ 105°C 5000 hrs

µF	Ripple (mA) @ 100kHz, 45°C	ESR (mΩ) @ 100kHz to 300kHz	H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
6.3 Volt d.c.								
47	1430	60	6.8	6.3	0.45	2.5	6SH47M	918-9238
150	2780	30	10.5	8	0.6	3.5	6SH150M	918-9246
330	3500	25	10.5	10	0.6	5	6SH330M	918-9254
10 Volt d.c.								
10	780	150	6.8	5	0.45	2	10SH10M	918-9262
68	2000	50	9.8	6.3	0.6	2.5	10SH68M	918-9270
220	3370	27	10.5	10	0.6	5	10SH220M	918-9289
16 Volt d.c.								
2.2	450	280	6.8	4	0.45	2	16SH2.2M	918-9297
4.7	720	180	6.8	5	0.45	2	16SH4.7M	918-9300
6.8	745	150	6.8	5	0.45	2	16SH6.8M	918-9319
33	1370	70	6.8	6.3	0.45	2.5	16SH33M	918-9327
47	1830	60	9.8	6.3	0.6	2.5	16SH47M	918-9335
100	2740	30	10.5	8	0.6	3.5	16SH100M	918-9343
150	3260	28	10.5	10	0.6	5	16SH150M	918-9351
20 Volt d.c.								
15	1200	90	6.8	6.3	0.45	2.5	20SH15M	918-9360
22	1300	70	6.8	6.3	0.45	2.5	20SH22M	918-9378
33	1710	70	9.8	6.3	0.6	2.5	20SH33M	918-9386
47	2450	40	10.5	8	0.6	3.5	20SH47M	918-9394
68	2600	36	10.5	8	0.6	3.5	20SH68M	918-9408
100	3210	30	10.5	10	0.6	5	20SH100M	918-9416

RL Re-reeling available

Farnell

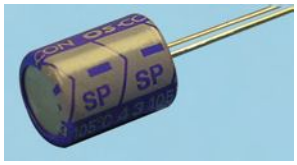
µF	Ripple (mA) @ 100kHz, 45°C	ESR (mΩ) @ 100kHz to 300kHz	H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
25 Volt d.c.								
1	430	350	6.8	4	0.45	2	25SH1M	918-9424
1.5	435	300	6.8	4	0.45	2	25SH1.5M	918-9432
4.7	1130	100	6.8	6.3	0.45	2.5	25SH4.7M	918-9440
6.8	1140	100	6.8	6.3	0.45	2.5	25SH6.8M	918-9459
10	1150	90	6.8	6.3	0.45	2.5	25SH10M	918-9467
15	1650	70	9.8	6.3	0.6	2.5	25SH15M	918-9475

249131

µF	Order Code	Price Each 1+	50+	100+	1K+
6.3 Volt d.c					
47	918-9238●	1.00	0.88	0.78	0.70
150	918-9246●	1.78	1.53	1.37	1.24
330	918-9254●	1.96	1.72	1.50	1.38
10 Volt d.c					
10	918-9262●	0.44	0.39	0.35	0.33
68	918-9270●	1.13	0.99	0.86	0.78
220	918-9289●	1.96	1.72	1.50	1.38
16 Volt d.c					
2.2	918-9297●	0.34	0.30	0.27	0.25
4.7	918-9300●	0.44	0.39	0.35	0.33
6.8	918-9319●	0.45	0.39	0.35	0.33
33	918-9327●	1.13	0.99	0.86	0.78
47	918-9335●	0.82	0.71	0.62	0.57
100	918-9343●	1.84	1.62	1.42	1.30
150	918-9351●	2.16	1.91	1.66	1.52
20 Volt d.c					
15	918-9360●	0.87	0.77	0.67	0.61
22	918-9378●	0.94	0.82	0.73	0.66
33	918-9386●	1.18	1.04	0.91	0.82
47	918-9394●	1.78	1.53	1.37	1.24
68	918-9408●	1.84	1.62	1.42	1.30
100	918-9416●	1.96	1.72	1.50	1.38
25 Volt d.c					
1	918-9424●	0.36	0.32	0.29	0.27
1.5	918-9432●	0.36	0.32	0.29	0.27
4.7	918-9440●	0.68	0.59	0.52	0.47
6.8	918-9459●	0.82	0.73	0.64	0.58
10	918-9467●	0.94	0.82	0.73	0.66
15	918-9475●	1.13	1.00	0.89	0.83

SP Series

SANYO



- Low ESR
- Ripple current ratings guaranteed at 105°C
- No derating required on max. allowable ripple current
- For designing around MPUs for computer equipment and audio applications
- Adopted **OFC** (**O**xygen **F**ree **C**opper) wire for improved tone quality

Operating temperature -55°C to +105°C Tolerance ±20%

µF	Ripple (mA) @ 100kHz, 45°C	ESR (mΩ) @ 100kHz to 300kHz	H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
10 Volt d.c.								
100	2350	32	5	8	0.6	3.5	10SP100M	121-7611
470	4510	15	10.5	10	0.6	5	10SP470M	121-7612
16 Volt d.c.								
33	1580	50	5	6.3	0.6	2.5	16SP33M	121-7613
20 Volt d.c.								
22	1580	50	5	6.3	0.6	2.5	20SP22M	121-7614
47	2210	36	5	8	0.6	2.5	20SP47M	121-7615
25 Volt d.c.								
10	1560	55	6.8	6.3	0.6	2.5	25SP10M	121-7617
56	3260	25	10.5	10	0.6	5	25SP56M	121-7618

249111

µF	Order Code	Price Each 1+	50+	100+	1K+
10 Volt d.c					
100	121-7611●	1.60	1.41	1.28	1.15
470	121-7612●	2.18	1.92	1.73	1.57
16 Volt d.c					
33	121-7613●	0.92	0.80	0.73	0.67
20 Volt d.c					
22	121-7614●	1.24	1.09	0.99	0.91
47	121-7615●	1.69	1.47	1.33	1.21
25 Volt d.c					
10	121-7617●	1.36	1.19	1.08	0.98
56	121-7618●	2.31	2.03	1.82	1.66

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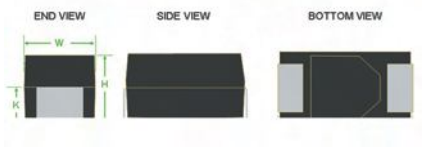
Aluminium Electrolytic - Surface Mount

A700 Series–Aluminium Polymer

KEMET CHARGED.



A700 series capacitor uses aluminium as the anode, aluminium oxide as the dielectric and a conductive, organic polymer for the counter-electrode with a moulded case and wrap around terminations. With high-frequency performance helping reduce component counts, this improves board space efficiency and allows for more cost effective solutions. Durable construction provides strong protection against cracks (flex) making it an ideal alternative to high-capacitance ceramics. This offers true surface mountable solutions to the existing aluminium-organic-capacitors.



- Lead (Pb) Free
- Extremely Low ESR
- High Capacitance Retention for Superior Performance at High Operating Frequencies
- Robust to the Surface Mount Process
- No Dry-Out Related Failure Mechanism

Characteristics		Characteristics	
Dimensions (mm)	L = 7.3 H= 2.8 W= 4.3	Tolerance	±20%
Operating Temperature	-55°C to +125°C	Terminal tpye	Wraparound

406024

Capacitance	Order Code	Price Each 1+	25+	50+	100+
4 Volt d.c.					
220µF	SMD 922-6990● RL	2.87	2.58	2.23	1.88
6 Volt d.c.					
47µF	SMD 922-6974● RL	1.38	1.23	1.07	1.06
68µF	SMD 922-6982● RL	1.59	1.42	1.23	1.03
100µF	SMD 922-6958● RL	1.66	1.55	1.38	1.27
150µF	SMD 922-7008● RL	2.16	1.84	1.63	1.43
10 Volt d.c.					
33µF	SMD 922-6966● RL	1.38	1.23	1.06	0.99

High capacitance per unit volume dielectric available in a wide range of styles. Characteristics of ranges can be selected to suit a wide range of general purpose to high performance applications. Care should be taken during connection as all units are polarity sensitive unless stated otherwise.

208422

Note: Dimensions do not include insulating sleeve unless stated.

SP-AL Series – Speciality Polymer

Surface Mount

Panasonic ideas for life



Supplied on 12mm tape

- Speciality polymer (polypyrole) surface mo ic capacitors
- D and E tantalum style cases
- High ripple current due to reduced ESR
- High capacitance per unit volume
- Tantalum alternative for power supply smoothing circuits and noise suppression applications

SMD

Operating temperature	-40°C to +105°C
Capacitance tolerance	±20%
Ripple current measured at	100kHz, +20°C to +105°C969-4676969-4676
ESR measured at	100kHz, +20°C

µF	Ripple Current (A)	ESR (mΩ)	Tantalum Style Case Size	Reel Qty.	Mftrs List No.	Order Code
4 Volt d.c.						
180	3	12	E	2000	EEFUE0G181R	969-4676
6.3 Volt d.c.						
10	1	55	D	3500	EEFCD0J100R	969-4684
47	1.6	18	D	3500	EEFCD0J470R	969-4714
100	2	15	D	2000	EEFUD0J101R	969-4722
150	3	12	E	2000	EEFUE0J151R	969-4730
8 Volt d.c.						
33	1.6	18	D	3500	EEFCD0K330R	969-4749
68	1.8	15	D	2000	EEFUD0K680R	969-4757
100	3	12	E	2000	EEFUE0K101R	969-4765
12.5 Volt d.c.						
4.7	1	75	D	3500	EEFCD1B4R7R	969-4773
22	1.3	30	D	3500	EEFCD1B220R	969-4790
16 Volt d.c.						
2.2	1	100	D	3500	EEFCD1C2R2R	969-4803

RL Re-reeling available

Aluminium Electrolytic - Surface Mount - continued

SP-AL Series – Speciality Polymer - continued

Surface Mount - continued

227148

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
4 Volt d.c.						
180	SMD 969-4676●	3.92	2.50	2.07	1.60	1.52
6.3 Volt d.c.						
10	SMD 969-4684●	1.36	0.94	0.78	0.60	0.46
47	SMD 969-4714●	1.47	0.94	0.78	0.60	0.58
100	SMD 969-4722●	2.61	1.66	1.38	1.06	1.03
150	SMD 969-4730●	3.92	2.50	2.07	1.60	1.28
8 Volt d.c.						
33	SMD 969-4749●	1.47	0.94	0.78	0.62	0.60
68	SMD 969-4757●	2.61	1.66	1.50	1.25	1.20
100	SMD 969-4765●	2.82	2.42	2.38	1.97	1.90
12.5 volt d.c.						
4.7	SMD 969-4773●	1.45	0.94	0.78	0.60	0.46
22	SMD 969-4790●	1.47	0.94	0.78	0.62	0.60
16 Volt d.c.						
2.2	SMD 969-4803●	0.93	0.78	0.75	0.53	0.52

PC-CON Series

Rubycon



- Conductive polymer aluminium solid electrolytic capacitors
- Low impedance and low ESR at high frequency
- High ripple current capability
- Excellent endurance characteristics
- Reflow soldering method available

Operating temperature -55 to 105°C Operating Life 2000h
Tolerance ±20%

Capacitance µF	Ripple (mA)	ESR (mΩ)	Dimensions L	W	D	Mftrs. List No.	Order Code
2 Volt d.c.							
100	3000	9	7.3	4.3	1.9	2SXE100M	154-7024
330	3500	9	7.3	4.3	2.7	2SW330M	154-7028
4 Volt d.c.							
68	3000	13	7.3	4.3	1.9	4SXB68M	128-1875
100	3000	10	7.3	4.3	1.9	4SXE100M	154-7025
150	3000	10	7.3	4.3	1.9	4SXE150M	154-7026
220	3500	9	7.3	4.3	2.7	4SW220M	154-7029
6.3 Volt d.c.							
10	1900	50	7.3	4.3	1.4	6SL10M	154-7022
47	3000	13	7.3	4.3	1.9	6SXB47M	154-7023
100	3000	10	7.3	4.3	1.9	6SXE100M	154-7027
100	3500	10	7.3	4.3	2.7	6SW100M	128-1876

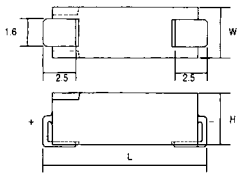
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µF	Order Code	Price Each 1+	25+	50+	100+
2 Volt d.c.					
100	NEW 154-7024●	3.01	2.74	2.44	2.22
330	NEW 154-7028●	5.57	5.07	4.54	4.11
4 Volt d.c.					
68	SMD 128-1875●	1.07	0.99	0.88	0.79
100	NEW 154-7025●	4.17	3.81	3.41	3.08
150	NEW 154-7026●	4.50	4.10	3.67	3.32
220	NEW 154-7029●	6.36	5.86	5.24	4.74
6.3 Volt d.c.					
10	NEW 154-7022●	2.50	2.29	2.05	1.84
47	NEW SMD 154-7023●	2.88	2.63	2.36	2.11
100	NEW SMD 154-7027●	4.71	4.30	3.84	3.48
100	SMD 128-1876●	2.27	2.15	1.98	1.89

2222 085 Series – Surface Mount

BC COMPONENTS





SMD

- General purpose surface mount aluminium electrolytic
- Low profile
- Suitable for reflow and wave soldering

Operating Temperature -40°C to +85°C Climatic category **(IEC68)** 40/085/56
Tolerance 10% to +50%

Note: Bevelled edge denotes anode.

6.3 Volt d.c. µF	Dimensions L	W	H	Mftrs. List No.	Order Code
22	12	3.7	3.9	2222 085 23229	116-5283
16 Volt d.c.					
4.7	8	3.7	3.9	2222 085 25478	116-5284
10	12	3.7	3.9	2222 085 25109	116-5285
40 Volt d.c.					
2.2	8	3.7	3.9	2222 085 27228	116-5286
63 Volt d.c.					
1	8	3.7	3.9	2222 085 28108	116-5287

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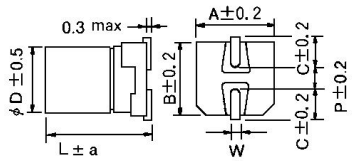
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6.3 Volt d.c. µF	Order Code	Price Each 5+	100+	1K+	3K+
22	SMD 116-5283●	0.69	0.46	0.35	0.34
16 Volt d.c.					
4.7	SMD 116-5284●	0.73	0.50	0.38	0.34
10	SMD 116-5285●	0.75	0.51	0.39	0.33
40 Volt d.c.					
2.2	SMD 116-5286●	0.65	0.44	0.34	0.29
63 Volt d.c.					
1	SMD 116-5287●	0.65	0.41	0.34	0.29

SL Series 85°C — Surface Mount

SPC multicomp





SMD

- Miniature surface mount aluminium electrolytic
- Designed for high density population
- Supplied on tape carrier for automatic placement

Operating Temperature -40°C to +85°C
Tolerance ±20% Operating life @ 85°C 2000hrs
DC leakage current ≤0.01CV or 3µA whichever is greater

Case Size	∅D	L	A	B	C	W	P	Reel Qty.
B	4	5.2±0.3	4.3	4.3	1.8	0.5	1	2000
D	5	5.2±0.3	5.3	5.3	2.1	0.5	1.4	1000
E	6.3	5.2±0.3	6.6	6.6	2.4	0.5	2.2	1000
G	6.3	7.7±0.3	6.6	6.6	2.4	0.5	2.2	900
H	8	10.5±0.5	8.3	8.3	2.9	0.7	3.2	500

µF	Ripple (mA) @ 120Hz, 85°C	Power Factor @ 120Hz, 20°C	Case Size	Mftrs. List No.	Order Code
6.3 Volt d.c.					
100	70	0.35	E	MCESL6V3107M6.3X5.2	926-5660
10 Volt d.c.					
220	150	0.35	G	MCESL10V227M6.3X7.7	926-5678
16 Volt d.c.					
10	25	0.35	B	MCESL16V106M4X5.2	926-5686
47	58	0.35	E	MCESL16V476M6.3X5.2	926-5694
25 Volt d.c.					
100	130	0.35	G	MCESL25V107M6.3X7.7	926-5708
35 Volt d.c.					
4.7	18	0.35	B	MCESL35V475M4X5.2	926-5716
22	46	0.35	E	MCESL35V226M6.3X5.2	926-5724
50 Volt d.c.					
1	8.4	0.35	B	MCESL50V105M4X5.2	926-5732
4.7	20	0.35	D	MCESL50V475M5X5.2	926-5740
10	33	0.35	E	MCESL50V106M6.3X5.2	926-5759
47	90	0.35	G	MCESL50V476M6.3X7.7	926-5767
100	200	0.35	H	MCESL50V107M8X10.5	926-5775

311916

Order Multiple=10

µF	Order Code	Price Each 10+	50+	100+	500+	1K+
6.3 Volt d.c						
100	SMD 926-5660●	0.152	0.141	0.129	0.118	0.106
10 Volt d.c						
220	SMD 926-5678●	0.320	0.300	0.280	0.260	0.210
16 Volt d.c						
10	SMD 926-5686●	0.106	0.091	0.077	0.065	0.060
47	SMD 926-5694●	0.152	0.141	0.129	0.118	0.106
25 Volt d.c						
100	SMD 926-5708●	0.320	0.300	0.280	0.260	0.210
35 Volt d.c						
4.7	SMD 926-5716●	0.106	0.091	0.077	0.065	0.060
22	SMD 926-5724●	0.119	0.110	0.101	0.093	0.083
50 Volt d.c						
1	SMD 926-5732●	0.106	0.091	0.077	0.065	0.060
4.7	SMD 926-5740●	0.105	0.090	0.077	0.065	0.059
10	SMD 926-5759●	0.176	0.164	0.153	0.141	0.131
47	SMD 926-5767●	0.320	0.300	0.280	0.260	0.210
100	SMD 926-5775●	0.440	0.420	0.390	0.370	0.340

RL Re-reeling available

Farnell

UWX Series 85°C - Surface Mount

nichicon



- Minature surface mount aluminium electrolytic
- Height above board 5.5mm
- Designed for high density board population
- Supplied on tape for automatic placement

Operating temperature	-40°C to +85°C
Tolerance	±20%
DC leakage current (max)	0.01CV or 3µA whichever greater
Useful life @ 85°C	2000 hrs
Ripple current mesured at	120Hz @ 85°C

µF	Ripple (mA)	Body Dia	Base Dimensions W	D	Tape Width	Reel Qty.	Mftrs. List No.	Order Code
10 Volt d.c.								
22	33	5	5.3	5.3	12	1000	UWX1A220MCL1GB	882-2980
33	41	5	5.3	5.3	12	1000	UWX1A330MCL1GB	882-2999
47	52	6.3	6.6	6.6	16	1000	UWX1A470MCL1GB	882-3006
16 Volt d.c.								
10	18	3	3.3	3.3	12	2000	UWX1C100MCL2GB	882-3014
10	23	4	4.3	4.3	12	2000	UWX1C100MCL1GB	882-3022
22	37	5	5.3	5.3	12	1000	UWX1C220MCL1GB	882-3030
47	58	6.3	6.6	6.6	16	1000	UWX1C470MCL1GB	882-3057
100	86	6.3	6.6	6.6	16	1000	UWX1C101MCL1GB	882-3065
25 Volt d.c.								
10	27	5	5.3	5.3	12	1000	UWX1E100MCL1GB	882-3081
22	42	6.3	6.6	6.6	16	1000	UWX1E220MCL1GB	882-3090
33	52	6.3	6.6	6.6	16	1000	UWX1E330MCL1GB	882-3103
35 Volt d.c.								
10	29	5	5.3	5.3	12	1000	UWX1V100MCL1GB	882-3120
22	42	6.3	6.6	6.6	16	1000	UWX1V220MCL1GB	882-3138
50 Volt d.c.								
1	8.4	4	4.3	4.3	12	2000	UWX1H010MCL1GB	882-3154
2.2	13	4	4.3	4.3	12	2000	UWX1H2R2MCL1GB	882-3162

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Order Multiple=5 µF	Order Code	Price Each 5+	50+	100+	500+	1K+	2K+
10 Volt d.c.							
22	SMD 882-2980	0.111	0.084	0.077	0.063	0.057	0.051
33	SMD 882-2999	0.122	0.085	0.077	0.070	0.057	0.051
47	SMD 882-3006	0.122	0.092	0.084	0.070	0.062	0.056
16 Volt d.c.							
10	SMD 882-3014	0.111	0.077	0.069	0.063	0.050	0.044
10	SMD 882-3022	0.108	0.077	0.071	0.061	0.053	0.047
22	SMD 882-3030	0.108	0.084	0.077	0.063	0.057	0.051
47	SMD 882-3057	0.116	0.092	0.084	0.069	0.062	0.056
100	SMD 882-3065	0.156	0.128	0.118	0.096	0.086	0.078
25 Volt d.c.							
10	SMD 882-3081	0.119	0.092	0.084	0.069	0.062	0.056
22	SMD 882-3090	0.134	0.108	0.099	0.082	0.072	0.066
33	SMD 882-3103	0.146	0.102	0.092	0.084	0.068	0.056
35 Volt d.c.							
10	SMD 882-3120	0.119	0.084	0.077	0.067	0.057	0.051
22	SMD 882-3138	0.127	0.092	0.084	0.073	0.062	0.056
50 Volt d.c.							
1	SMD 882-3154	0.111	0.078	0.071	0.064	0.053	0.047
2.2	SMD 882-3162	0.124	0.101	0.092	0.075	0.068	0.061

PCF Series

nichicon



New

- Surface mount conductive polymer aluminium solid electrolytic capacitors
- Load life of 2000 hours at +105
- Suitable for lead free reflow soldering condition at 260°C peak

Operating temperature	-55°C to +105°C	Useful life @ 105°C	2000h
Tolerance	±20%		

µF	Ripple (mA)	Leakage Current (µA)	ESR (mΩ)	Body Dia	Base Dimensions W	D	Mftrs. List No.	Order Code
2.5 Volt d.c.								
1500	4700	750	13	10	10.3	10.3	PCF0E152MCL1GS	158-0610
4 Volt d.c.								
1200	5500	960	10	10	10.3	10.3	PCF0G122MCL1GS	158-0611
10 Volt d.c.								
470	4600	940	16	10	10.3	10.3	PCF1A471MCL1GS	158-0612
16 Volt d.c.								
220	3900	704	20	10	10.3	10.3	PCF1C221MCL1GS	158-0613
330	5000	1056	14	10	10.3	10.3	PCF1C331MCL1GS	158-0614
20 Volt d.c.								
100	3200	400	22	8	8.3	8.3	PCF1D101MCL1GS	158-0615
120	2800	480	35	10	10.3	10.3	PCF1D121MCL1GS	158-0616
150	3900	600	20	10	10.3	10.3	PCF1D151MCL1GS	158-0617
25 Volt d.c.								
10	1600	125	60	8	8.3	8.3	PCF1E100MCL1GS	158-0618
22	2200	275	50	10	10.3	10.3	PCF1E220MCL1GS	158-0621
33	2800	412	30	8	8.3	8.3	PCF1E330MCL1GS	158-0622
47	2400	587	45	10	10.3	10.3	PCF1E470MCL1GS	158-0623

527270

Order Multiple=5 µF	Order Code	Price Each 5+	50+	100+	500+	1K+	2K+
2.5 Volt d.c.							
1500	SMD 158-0610	1.08	0.90	0.78	0.70	0.65	0.61
4 Volt d.c.							
1200	SMD 158-0611	1.24	1.03	0.89	0.81	0.75	0.70
10 Volt d.c.							
470	SMD 158-0612	0.90	0.75	0.64	0.58	0.54	0.51
16 Volt d.c.							
220	SMD 158-0613	0.91	0.76	0.64	0.58	0.55	0.51
330	SMD 158-0614	1.00	0.84	0.71	0.65	0.60	0.56
20 Volt d.c.							
100	SMD 158-0615	0.98	0.82	0.70	0.63	0.59	0.55
120	SMD 158-0616	1.08	0.90	0.78	0.70	0.65	0.61
150	SMD 158-0617	1.10	0.92	0.79	0.71	0.66	0.62
25 Volt d.c.							
10	SMD 158-0618	0.61	0.51	0.44	0.40	0.37	0.35
22	SMD 158-0621	0.79	0.65	0.56	0.51	0.48	0.45
33	SMD 158-0622	0.82	0.68	0.58	0.53	0.49	0.46
47	SMD 158-0623	0.93	0.78	0.66	0.60	0.56	0.52

TZV Series

Rubycon



SMD

- High performance surface mount electrolytic capacitor
- High temperature 105°C
- Suitable for lead free soldering
- Available for high density mounting
- Low Impedance

Operating Temperature	-55°C to +105°C		
Tolerance	±20%	Operating life @ 105°C	2000h
DC leakage current	=0.01CV or 3µA whichever is greater		

µF	Ripple (mA) 100kHz @ 105°C	Impedance (Ω) 100kHz @ 20°	Dimensions Dia.	L	Mftrs. List No.	Order Code
6.3 Volt d.c.						
220	250	0.36	6.3	6.1	6,3TZV220M6.3X6.1	128-1857
1000	600	0.16	8	10.5	6,3TZV1000M8X10.5	128-1856
10 Volt d.c.						
470	600	0.16	8	10.5	10TZV470M8X10.5	128-1858
16 Volt d.c.						
100	250	0.36	6.3	6.1	16TZV100M6.3X6.1	128-1861
470	600	0.16	8	10.5	16TZV470M8X10.5	128-1862
25 Volt d.c.						
220	600	0.16	8	10.5	25TZV220M8X10.5	128-1863
35 Volt d.c.						
47	250	0.36	6.3	6.1	35TZV47M6.3X6.1	128-1865
330	850	0.09	10	10.5	35TZV330M10X10.5	128-1864

451918

µF	Order Code	Price Each 1+	50+	100+	150+	250+	+
6.3 Volt d.c							
220	SMD 128-1857	0.63	0.54	0.42	0.38	0.33	– –
1000	SMD 128-1856	0.78	0.70	0.58	0.53	0.46	– –
10 Volt d.c							
470	SMD 128-1858	0.78	0.70	0.58	0.53	0.46	– –
16 Volt d.c							
100	SMD 128-1861	0.63	0.54	0.42	0.38	0.33	– –
470	SMD 128-1862	0.78	0.70	0.58	0.53	0.46	– –
25 Volt d.c							
220	SMD 128-1863	0.80	0.72	0.60	0.54	0.47	– –
35 Volt d.c							
47	SMD 128-1865	0.63	0.54	0.42	0.38	0.33	– –
330	SMD 128-1864	0.90	0.80	0.68	0.63	0.58	– –

SLV Series – Long Life

Rubycon



SMD

- Load life: 105°C 5000 hours
- Lead free reflow soldering

Operating temperature	-40°C to 105°C
Tolerance	±20%
Useful life @105°C	5000h
Ripple current measured at	120Hz @ 105°C
Leakage Current (µA)	0.01CV or 3µA, whichever is greater

µF	Ripple (mA)	Dimensions H	Dia.	Mftrs. List No.	Order Code
6.3 Volt d.c.					
100	69	6.1	6.3	6,3SLV100M6.3X6.1	141-5828

Order Multiple=5 µF	Order Code	Price Each 5+	50+	100+	250+	1K+
6.3 Volt d.c.						
100	SMD 141-5828	0.380	0.340	0.310	0.260	0.191

µF	Ripple (mA)	Dimensions H	Dia.	Mftrs. List No.	Order Code
16 Volt d.c.					
22	30	6.1	5	16SLV22M5X6.1	141-5829

RL Re-reeling available

Farnell

Aluminium Electrolytic - Surface Mount - continued

SLV Series – Long Life - continued

Order Multiple=5 µF	Order Code	5+	50+	Price Each 100+	250+	1K+
16 Volt d.c.						
22	SMD 141-5829●	0.380	0.340	0.310	0.260	0.191

µF	Ripple (mA)	Dimensions H	Dia.	Lead Pitch	Mftrs. List No.	Order Code
35 Volt d.c.						
10	27	6.1	5		35SLV10M5X6.1	141-5830

Order Multiple=5 µF	Order Code	5+	50+	Price Each 100+	250+	1K+
35 Volt d.c.						
10	SMD 141-5830●	0.380	0.340	0.310	0.260	0.191

µF	Ripple (mA)	Dimensions H	Dia.	Mftrs. List No.	Order Code
50 Volt d.c.					
4.7	19	6.1	5	50SLV4R7M5X6.1	141-5831
10	32	6.1	6.3	50SLV10M6.3X6.1	141-5832

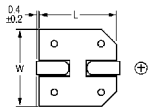
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Order Multiple=5 µF	Order Code	5+	50+	Price Each 100+	250+	1K+
50 Volt d.c.						
4.7	SMD 141-5831●	0.330	0.310	0.260	0.200	0.148
10	SMD 141-5832●	0.380	0.340	0.310	0.260	0.191

2222 153 Series – Surface Mount

105 °C – Long Life





- Surface mount aluminium electrolytic capacitors
- High temperature - 105°C
- Long life, high CV per volume

Supplied on tape and reel

µF	L	W	D	Ripple Current @ 105°C (mA)	ESR @ 100KHz (Ω)	Useful Life @ 105 °C (hrs)	Qty Per Reel	Mftrs. List No.	Order Code
6.3 Volt d.c									
100	6.8	6.8	5.5	61	2	2000	1000	222215373101	118-7011
10 Volt d.c									
220	8.6	8.6	10.5	180	0.5	3000	500	222215374221	118-7013
16 Volt d.c									
10	4.5	4.5	5.5	16	8	2000	2000	222215375109	118-7014
47	6.8	6.8	5.5	47	2.2	2000	1000	222215375479	118-7015
25 Volt d.c									
100	8.6	8.6	10.5	180	0.5	3000	500	222215376101	118-7017
35 Volt d.c									
4.7	4.5	4.5	5.5	14	8	2000	2000	222215370478	118-7018
22	6.8	6.8	5.5	50	2.2	2000	1000	222215370229	118-7019
50 Volt d.c									
1	4.5	4.5	5.5	7	12	2000	2000	222215371108	118-7020
4.7	5.5	5.5	5.5	17	6	2000	1000	222215371478	118-7021
10	6.8	6.8	5.5	26	3	2000	1000	222215371109	118-7022
47	8.6	8.6	10.5	180	0.5	3000	500	222215371479	118-7023
100	10.6	10.6	10.5	320	0.3	3000	500	222215371101	118-7024

CAP228/208542

Order Multiple=5 µF	Order Code	5+	50+	Price Each 100+	500+	1K+	2K+
6.3 Volt d.c							
100	SMD 118-7011●	0.380	0.350	0.320	0.154	0.144	0.115
10 Volt d.c							
220	SMD 118-7013●	0.830	0.810	0.700	0.350	0.310	0.270
16 Volt d.c							
10	SMD 118-7014●	0.270	0.260	0.220	0.106	0.094	0.081
47	SMD 118-7015●	0.380	0.350	0.320	0.154	0.144	0.115
25 Volt d.c							
100	SMD 118-7017●	0.830	0.810	0.700	0.350	0.310	0.280
35 Volt d.c							
4.7	SMD 118-7018●	0.290	0.270	0.240	0.107	0.096	0.081
22	SMD 118-7019●	0.380	0.350	0.320	0.154	0.144	0.115
50 Volt d.c							
1	SMD 118-7020●	0.270	0.260	0.220	0.106	0.094	0.081
4.7	SMD 118-7021●	0.320	0.310	0.280	0.118	0.107	0.093
10	SMD 118-7022●	0.380	0.350	0.320	0.154	0.144	0.115
47	SMD 118-7023●	0.830	0.810	0.700	0.350	0.310	0.270
100	SMD 118-7024●	1.060	1.010	0.900	0.450	0.400	0.340

£ € 40,000 PRICES REDUCED

UCB Series

Longer Life - 105°C



- Surface mount aluminium electrolytic capacitors
- Load life of 7000 hours at +105
- Applicable to automatic mounting machine

Operating temperature -25°C to +105°C DC leakage current (max) 0.03CV or 4µA whichever greater
Tolerance ±20% Useful life @ 105°C 7000h

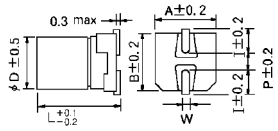
µF	Ripple (mA)	Base Dimensions Body Dia	W	D	Mftrs. List No.	Order Code
6.3 Volt d.c.						
330	160	8	8.3	8.3	UCB0J331MNL1GS	158-0566
1000	313	10	10.3	10.3	UCB0J102MNL1GS	158-0567
10 Volt d.c.						
220	141	8	8.3	8.3	UCB1A221MNL1GS	158-0568
16 Volt d.c.						
470	254	10	10.3	10.3	UCB1C471MNL1GS	158-0569
25 Volt d.c.						
100	116	8	8.3	8.3	UCB1E101MNL1GS	158-0570
35 Volt d.c.						
220	216	10	10.3	10.3	UCB1V221MNL1GS	158-0571
50 Volt d.c.						
33	77	8	8.3	8.3	UCB1H330MCL1GS	158-0572
47	92	8	8.3	8.3	UCB1H470MNL1GS	158-0573
100	151	10	10.3	10.3	UCB1H101MNL1GS	158-0574

527254

Order Multiple=5 µF	Order Code	5+	50+	Price Each 100+	500+	1K+	2K+
6.3 Volt d.c.							
330	SMD 158-0566●	0.310	0.260	0.240	0.200	0.184	0.153
1000	SMD 158-0567●	0.330	0.280	0.250	0.210	0.194	0.163
10 Volt d.c.							
220	SMD 158-0568●	0.310	0.260	0.240	0.200	0.184	0.153
16 Volt d.c.							
470	SMD 158-0569●	0.330	0.280	0.250	0.210	0.194	0.163
25 Volt d.c.							
100	SMD 158-0570●	0.310	0.260	0.240	0.200	0.184	0.153
35 Volt d.c.							
220	SMD 158-0571●	0.330	0.280	0.250	0.210	0.194	0.163
50 Volt d.c.							
33	SMD 158-0572●	0.310	0.260	0.240	0.200	0.184	0.153
47	SMD 158-0573●	0.310	0.260	0.240	0.200	0.184	0.153
100	SMD 158-0574●	0.330	0.280	0.250	0.210	0.194	0.163

VS/HB Series – Surface Mount





Supplied on 12mm or 16mm embossed tape

- Surface mount aluminium electrolytic capacitors
- Small case size
- 85°C and 105°C

VS Series – General Purpose – 85°C

Case Size	∅D	L	A	B	I	W	P	Tape Size
A	3	5.4	3.3	3.3	1.5	0.55	0.6	12mm
B	4	5.4	4.3	4.3	1.8	0.65	1	12mm
C	5	5.4	5.3	5.3	2.2	0.65	1.5	12mm
D	6.3	5.4	6.6	6.6	2.6	0.65	2.2	16mm

Operating temperature -40°C to +85°C DC leakage current ≤0.01CV or 3µA, whichever is greater
Tolerance ±20% Operating life 2000hrs @ 85°C

µF	Ripple Current mA @ 120Hz 85°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
6.3 Volt d.c.					
22	29	0.26	B	EEE0JA220SR	969-6881
47	46	0.26	C	EEE0JA470SR	969-6890
100	71	0.26	D	EEE0JA101SP	969-6903
10 Volt d.c.					
33	43	0.2	C	EEE1AA330SR	969-6911
16 Volt d.c.					
10	28	0.16	B	EEE1CA100SR	969-6920
22	39	0.16	C	EEE1CA220SR	969-6938
47	70	0.16	D	EEE1CA470SP	969-6946
25 Volt d.c.					
4.7	22	0.14	B	EEE1EA4R7SR	969-6954
10	28	0.14	C	EEE1EA100SR	969-6962
22	55	0.14	D	EEE1EA220SP	969-6970
33	65	0.14	D	EEE1EA330SP	969-6989
35 Volt d.c.					
3.3	10	0.12	A	EEE1VS3R3SR	969-6997
4.7	22	0.12	B	EEE1VA4R7SR	969-7004
10	30	0.12	C	EEE1VA100SR	969-7012
22	60	0.12	D	EEE1VA220SP	969-7020
50 Volt d.c.					
0.1	1	0.12	B	EEE1HA0R1SR	969-7039

RL Re-reeling available

µF	Ripple Current mA @ 120Hz 85°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
50 Volt d.c.					
0.22	2	0.12	B	EEE1HAR22SR	969-7047
0.47	5	0.12	B	EEE1HAR47SR	969-7055
1	10	0.12	B	EEE1HA010SR	969-7063
2.2	16	0.12	B	EEE1HA2R2SR	969-7071
3.3	16	0.12	B	EEE1HA3R3SR	969-7080
4.7	23	0.12	C	EEE1HA4R7SR	969-7098
10	35	0.12	D	EEE1HA100SP	969-7110

Order Multiple=10

µF	Order Code	Price Each 10+	100+	1K+	3K+
6.3 Volt d.c.					
22	SMD 969-6881●	0.122	0.097	0.077	0.070
47	SMD 969-6890●	0.146	0.101	0.091	0.084
100	SMD 969-6903●	0.170	0.143	0.130	0.105
10 Volt d.c.					
33	SMD 969-6911●	0.146	0.101	0.091	0.084
16 Volt d.c.					
10	SMD 969-6920●	0.122	0.086	0.076	0.070
22	SMD 969-6938●	0.146	0.114	0.093	0.084
47	SMD 969-6946●	0.170	0.143	0.111	0.098
25 Volt d.c.					
4.7	SMD 969-6954●	0.122	0.097	0.077	0.070
10	SMD 969-6962●	0.146	0.101	0.091	0.084
22	SMD 969-6970●	0.170	0.136	0.124	0.111
33	SMD 969-6989●	0.170	0.120	0.106	0.098
35 Volt d.c.					
3.3	SMD 969-6997●	0.146	0.101	0.091	0.084
4.7	SMD 969-7004●	0.122	0.086	0.076	0.070
10	SMD 969-7012●	0.146	0.114	0.093	0.084
22	SMD 969-7020●	0.170	0.143	0.111	0.098
50 Volt d.c.					
0.1	SMD 969-7039●	0.087	0.074	0.067	0.061
0.22	SMD 969-7047●	0.122	0.086	0.076	0.070
0.47	SMD 969-7055●	0.122	0.086	0.076	0.070
1	SMD 969-7063●	0.122	0.086	0.076	0.074
2.2	SMD 969-7071●	0.122	0.086	0.076	0.070
3.3	SMD 969-7080●	0.122	0.086	0.076	0.070
4.7	SMD 969-7098●	0.146	0.114	0.093	0.084
10	SMD 969-7110●	0.170	0.120	0.106	0.098

HB Series – High Temperature – 105°C

Case Size	∅D	L	A	B	I	W	P	Tape Size
B	4	5.8	4.3	4.3	1.8	0.65	1	12mm
C	5	5.8	5.3	5.3	2.2	0.65	1.5	12mm
D	6.3	5.8	6.6	6.6	2.6	0.65	1.8	16mm

Operating temperature -40°C to +105°C
DC leakage current ≤0.01CV or 3µA, whichever is greater
Tolerance ±20%
Operating life 2000hrs @ 105°C

µF	Ripple Current mA @ 120Hz 85°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
6.3 Volt d.c.					
22	26	0.3	B	EEEHB0J220R	969-6750
47	46	0.3	C	EEEHB0J470R	969-6768
100	71	0.3	D	EEEHB0J101P	969-6776
10 Volt d.c.					
33	43	0.22	C	EEEHB1A330R	969-6784
16 Volt d.c.					
10	28	0.16	B	EEEHB1C100R	969-6792
22	39	0.16	C	EEEHB1C220P	969-6806
47	70	0.16	D	EEEHB1C470P	969-6814
25 Volt d.c.					
4.7	22	0.14	B	EEEHB1E4R7R	969-6822
220	190	0.14	G	EEEHB1E221P	969-6830
35 Volt d.c.					
10	28	0.12	C	EEEHB1V100R	969-6849
50 Volt d.c.					
1	10	0.12	B	EEEHB1H1R0R	969-6857
2.2	16	0.12	B	EEEHB1H2R2R	969-6865
10	35	0.12	D	EEEHB1H100P	969-6873

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Order Multiple=10

µF	Order Code	Price Each 10+	100+	1K+	3K+
6.3 Volt d.c.					
22	SMD 969-6750●	0.195	0.182	0.162	0.136
47	SMD 969-6768●	0.150	0.140	0.138	0.135
100	SMD 969-6776●	0.210	0.155	0.151	0.147
10 Volt d.c.					
33	SMD 969-6784●	0.176	0.123	0.119	0.116
16 Volt d.c.					
10	SMD 969-6792●	0.146	0.102	0.091	0.084
22	SMD 969-6806●	0.360	0.350	0.310	0.250
47	SMD 969-6814●	0.180	0.160	0.139	0.121
25 Volt d.c.					
4.7	SMD 969-6822●	0.195	0.182	0.162	0.136
220	SMD 969-6830●	0.410	0.400	0.330	0.290
35 Volt d.c.					
10	SMD 969-6849●	0.176	0.142	0.138	0.135
50 Volt d.c.					
1	SMD 969-6857●	0.146	0.104	0.101	0.098
2.2	SMD 969-6865●	0.146	0.124	0.121	0.118
10	SMD 969-6873●	0.270	0.250	0.220	0.188

UCW Series

Longer Life & Low Impedance

nichicon



- Surface mount aluminium electrolytic capacitors
- Low impedance
- Load life of 7000 hours at +105
- Applicable to automatic mounting machine

New

Operating temperature -25°C to +105°C
Tolerance ±20%
DC leakage current (max) 0.01CV or 3µA whichever greater
Useful life @ 105°C 7000h

µF	Ripple (mA)	Impedance Ω	Body Dia	Base Dimensions W	D	Mftrs. List No.	Order Code
25 Volt d.c.							
470	850	0.16	10	10.3	10.3	UCW1E471MNL1GS	158-0575
35 Volt d.c.							
10	95	2.2	5	5.3	5.3	UCW1V100MCL1GS	158-0576
22	95	2.2	5	5.3	5.3	UCW1V220MCL1GS	158-0578
33	230	1	6.3	6.6	6.6	UCW1V330MCL1GS	158-0579
220	600	0.22	8	8.3	8.3	UCW1V221MNL1GS	158-0580
330	850	0.16	10	10.3	10.3	UCW1V331MNL1GS	158-0581
50 Volt d.c.							
47	350	0.53	8	8.3	8.3	UCW1H470MNL1GS	158-0582
100	350	0.53	8	8.3	8.3	UCW1H101MNL1GS	158-0583
220	670	0.35	10	10.3	10.3	UCW1H221MNL1GS	158-0584

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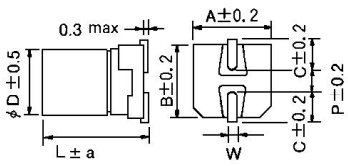
Order Multiple=5

µF	Order Code	Price Each 5+	50+	100+	500+	1K+	2K+
6.3 Volt d.c.							
470	SMD 158-0575●	0.330	0.280	0.250	0.210	0.194	0.163
10 Volt d.c.							
10	SMD 158-0576●	0.173	0.143	0.133	0.112	0.102	0.082
22	SMD 158-0578●	0.173	0.143	0.133	0.112	0.102	0.082
33	SMD 158-0579●	0.220	0.184	0.163	0.143	0.133	0.112
220	SMD 158-0580●	0.310	0.260	0.240	0.200	0.184	0.153
330	SMD 158-0581●	0.330	0.280	0.250	0.210	0.194	0.163
50 Volt d.c.							
47	SMD 158-0582●	0.310	0.260	0.240	0.200	0.184	0.153
100	SMD 158-0583●	0.310	0.260	0.240	0.200	0.184	0.153
220	SMD 158-0584●	0.330	0.280	0.250	0.210	0.194	0.163

EL Series 105°C — Surface Mount

multicomp





SMD

- Miniature surface mount aluminium electrolytic
- High temperature - 105°C
- Designed for high density population
- Supplied on tape carrier for automatic placement

Case Size	∅D	L	A	B	C	W	P	Reel Qty.
B	4	5.2±0.3	4.3	4.3	1.8	0.5	1	2000
D	5	5.2±0.3	5.3	5.3	2.1	0.5	1.4	1000
E	6.3	5.2±0.3	6.6	6.6	2.4	0.5	2.2	1000
H	8	10.5±0.5	8.3	8.3	2.9	1.4	3.2	500
J	10	10.5±0.5	10.3	10.3	3.2	1.1	4.6	500

Operating Temperature -40°C to +105°C
Tolerance ±20%
DC leakage current ≤0.01CV or 3µA whichever is greater
Operating life @ 105°C 2000hrs

µF	Ripple (mA) @ 120Hz, 105°C	Power Factor @ 120Hz, 20°C	Case Size	Mftrs. List No.	Order Code
6.3 Volt d.c.					
100	66	0.35	E	MCEEL6V3107M6.3X5.2	926-5538
10 Volt d.c.					
220	175	0.35	H	MCEEL10V227M8X10.5	926-5546
16 Volt d.c.					
10	16	0.35	B	MCEEL16V106M4X5.2	926-5554
47	54	0.35	E	MCEEL16V476M6.3X5.2	926-5562
25 Volt d.c.					
100	150	0.35	H	MCEEL25V107M8X10.5	926-5570
35 Volt d.c.					
4.7	14	0.35	B	MCEEL35V475M4X5.2	926-5589
22	40	0.35	E	MCEEL35V226M6.3X5.2	926-5597
50 Volt d.c.					
1	7	0.35	B	MCEEL50V105M4X5.2	926-5619
4.7	19	0.35	D	MCEEL50V475M5X5.2	926-5627
10	32	0.35	E	MCEEL50V106M6.3X5.2	926-5635
47	150	0.35	H	MCEEL50V476M8X10.5	926-5643
100	220	0.35	J	MCEEL50V107M10X10.5	926-5651

RL Re-reeling available

Farnell

Aluminium Electrolytic - Surface Mount - continued

EL Series 105°C — Surface Mount - continued

311925

µF	Order Code	10+	50+	100+	500+	1K+
Order Multiple=10		**Price Each**				
6.3 Volt d.c						
100	SMD 926-5538●	0.320	0.300	0.280	0.260	0.210
10 Volt d.c						
220	SMD 926-5546●	0.450	0.420	0.390	0.360	0.330
16 Volt d.c						
10	SMD 926-5554●	0.152	0.141	0.129	0.118	0.106
47	SMD 926-5562●	0.320	0.300	0.280	0.260	0.210
25 Volt d.c						
100	SMD 926-5570●	0.350	0.330	0.300	0.280	0.260
35 Volt d.c						
4.7	SMD 926-5589●	0.152	0.141	0.129	0.118	0.106
22	SMD 926-5597●	0.320	0.300	0.280	0.260	0.210
50 Volt d.c						
1	SMD 926-5619●	0.152	0.141	0.129	0.118	0.106
4.7	SMD 926-5627●	0.176	0.164	0.153	0.141	0.131
10	SMD 926-5635●	0.320	0.300	0.280	0.260	0.210
47	SMD 926-5643●	0.350	0.330	0.310	0.260	0.220
100	SMD 926-5651●	0.470	0.440	0.400	0.340	0.330

UUT Series 105°C – Surface Mount

nichicon



- High temperature surface mount aluminium electrolytic
- Height above board 6mm
- Designed for high density board population
- Supplied on tape for automatic placement

Operating Temperature	-55°C to +105°C
Tolerance	±20%
DC leakage current	0.01CV or 3µA whichever greater
Useful life @ 105°C	2000 hrs
Ripple current measured at	120Hz @ 105°C

µF	Ripple (mA)	Body Dia	Base Dimensions W	D	Tape Width	Reel Qty.	Mftrs. List No.	Order Code
10 Volt d.c.								
100	60	6.3	6.6	6.6	16	1000	UUT1A101MCL1GS	882-3189
16 Volt d.c.								
10	18	4	4.3	4.3	12	2000	UUT1C100MCL1GS	882-3197
47	50	6.3	6.6	6.6	16	1000	UUT1C470MCL1GS	882-3200
35 Volt d.c.								
22	42	6.3	6.6	6.6	16	1000	UUT1V220MCL1GS	882-3219
50 Volt d.c.								
2.2	11	4	4.3	4.3	12	2000	UUT1H2R2MCL1GS	882-3251
10	30	6.3	6.6	6.6	16	1000	UUT1H100MCL1GS	882-3278

387259

µF	Order Code	5+	50+	100+	500+	1K+	2K+
Order Multiple=5		**Price Each**					
10 Volt d.c							
100	SMD 882-3189●	0.250	0.200	0.191	0.163	0.151	0.140
16 Volt d.c							
10	SMD 882-3197●	0.220	0.188	0.174	0.150	0.139	0.130
47	SMD 882-3200●	0.250	0.200	0.191	0.163	0.151	0.140
35 Volt d.c							
22	SMD 882-3219●	0.250	0.200	0.191	0.163	0.151	0.140
50 Volt d.c							
2.2	SMD 882-3251●	0.220	0.188	0.174	0.150	0.139	0.130
10	SMD 882-3278●	0.250	0.200	0.191	0.163	0.151	0.140

PCJ Series

High Capacitance & Low ESR

nichicon



New

- Surface mount conductive polymer aluminium solid electrolytic capacitors
- Higher Capacitance, low ESR, high ripple current
- Load life of 2000 hours at +105
- Suitable for lead free reflow soldering condition at 260°C peak

Operating temperature	-55°C to +105°C	Useful life @ 105°C	2000h
Tolerance	±20%		

µF	Ripple (mA)	Leakage Current (µA)	ESR (mΩ)	Body Dia	Base Dimensions W	D	Mftrs. List No.	Order Code
2.5 Volt d.c.								
2700	5800	1350	9	10	10.3	10.3	PCJ0E272MCL1GS	158-0633
4 Volt d.c.								
2200	5700	1760	9	10	10.3	10.3	PCJ0G222MCL1GS	158-0634
6.3 Volt d.c.								
1200	4700	1512	12	10	10.3	10.3	PCJ0J122MCL1GS	158-0635
1500	4800	1890	12	10	10.3	10.3	PCJ0J152MCL1GS	158-0636
10 Volt d.c.								
470	3700	940	19	10	10.3	10.3	PCJ1A471MCL1GS	158-0637
16 Volt d.c.								
33	1900	105	35	5	5.3	5.3	PCJ1C330MCL1GS	158-0638
100	2900	320	24	8	8.3	8.3	PCJ1C101MCL1GS	158-0639
150	3150	480	22	8	8.3	8.3	PCJ1C151MCL1GS	158-0640
220	3400	704	22	10	10.3	10.3	PCJ1C221MCL1GS	158-0641
330	4100	1056	16	10	10.3	10.3	PCJ1C331MCL1GS	158-0642

527272

µF	Order Code	5+	50+	100+	500+	1K+	2K+
Order Multiple=5		**Price Each**					
2.5 Volt d.c.							
2700	SMD 158-0633●	1.43	1.10	0.97	0.86	0.73	0.69
4 Volt d.c.							
2200	SMD 158-0634●	1.43	1.10	0.97	0.86	0.73	0.69
6.3 Volt d.c.							
1200	SMD 158-0635●	1.19	0.92	0.82	0.71	0.62	0.58
1500	SMD 158-0636●	1.38	1.06	0.94	0.83	0.71	0.66
10 Volt d.c.							
470	SMD 158-0637●	1.33	1.02	0.91	0.80	0.68	0.64
16 Volt d.c.							
33	SMD 158-0638●	0.92	0.70	0.62	0.55	0.47	0.44
100	SMD 158-0639●	0.88	0.67	0.59	0.52	0.45	0.42
150	SMD 158-0640●	1.08	0.84	0.73	0.65	0.56	0.52
220	SMD 158-0641●	1.33	1.02	0.91	0.80	0.68	0.64
330	SMD 158-0642●	1.38	1.06	0.94	0.83	0.71	0.66

UUD Series 105°C Low Impedance – Surface Mount

nichicon



- High temperature surface mount aluminium electrolytic
- Low impedance
- Designed for high density board population
- Supplied on tape for automatic placement

Operating Temperature	-55°C to +105°C
Tolerance	±20%
DC leakage current (max)	0.01CV or 3µA whichever greater
Ripple current measured at	120Hz @ 105°C

µF	Ripple (mA)	Imped-ance (Ω)	Body Dimensions H	Dia	Base Dimensions W	D	Tape Width	Reel Qty.	Mftrs. List No.	Order Code
10 Volt d.c.										
1000	450	0.17	10	10	10.3	10.3	24	500	UUD1A102MNL1GS	882-3294
16 Volt d.c.										
100	230	0.44	5.8	6.3	6.6	6.6	16	1000	UUD1C101MCL1GS	882-3308
470	450	0.17	10	8	8.3	8.3	16	500	UUD1C471MNL1GS	882-3316
35 Volt d.c.										
22	150	0.76	5.8	5	5.3	5.3	12	1000	UUD1V220MCL1GS	882-3324
47	230	0.44	5.8	6.3	6.6	6.6	16	1000	UUD1V470MCL1GS	882-3332
50 Volt d.c.										
10	120	0.88	5.8	6.3	6.6	6.6	16	1000	UUD1H100MCL1GS	882-3367
22	120	0.88	5.8	6.3	6.6	6.6	16	1000	UUD1H220MCL1GS	882-3375
47	140	0.68	7.7	6.3	6.6	6.6	16	900	UUD1H470MCL1GS	882-3383
100	230	0.34	10	8	8.3	8.3	24	500	UUD1H101MNL1GS	882-3391
220	340	0.18	10	10	10.3	10.3	24	500	UUD1H221MNL1GS	882-3405

CAP281/387258

µF	Order Code	5+	50+	100+	500+	1K+	2K+
Order Multiple=5		**Price Each**					
10 Volt d.c.							
1000	SMD 882-3294●	0.590	0.440	0.390	0.350	0.320	0.290
16 Volt d.c.							
100	SMD 882-3308●	0.430	0.320	0.290	0.260	0.210	0.176
470	SMD 882-3316●	0.590	0.410	0.370	0.340	0.300	0.280
35 Volt d.c.							
22	SMD 882-3324●	0.430	0.300	0.270	0.250	0.196	0.187
47	SMD 882-3332●	0.430	0.320	0.290	0.260	0.210	0.176
50 Volt d.c.							
10	SMD 882-3367●	0.460	0.320	0.290	0.270	0.210	0.200
22	SMD 882-3375●	0.410	0.320	0.290	0.270	0.210	0.200
47	SMD 882-3383●	0.460	0.340	0.300	0.270	0.220	0.187
100	SMD 882-3391●	0.590	0.410	0.370	0.340	0.300	0.290
220	SMD 882-3405●	0.590	0.440	0.390	0.350	0.320	0.290

PCG Series

High Capacitance

nichicon



New

- Surface mount conductive polymer aluminium solid electrolytic capacitors
- Higher Capacitance, low ESR, high ripple current
- Load life of 2000 hours at +105
- Suitable for lead free reflow soldering condition at 260°C peak

Operating temperature	-55°C to +105°C	Useful life @ 105°C	2000h
Tolerance	±20%		

µF	Ripple (mA)	Leakage Current (µA)	ESR (mΩ)	Body Dia	Base Dimensions W	D	Mftrs. List No.	Order Code
2.5 Volt d.c.								
3300	5500	1650	10	10	10.3	10.3	PCG0E332MCL1GS	158-0624
4 Volt d.c.								
2700	5300	2160	11	10	10.3	10.3	PCG0G272MCL1GS	158-0625
6.3 Volt d.c.								
2200	5000	2772	12	10	10.3	10.3	PCG0J222MCL1GS	158-0626

RL Re-reeling available

Farnell

10 Volt d.c.

1000	4800	2000	13	10	10.3	10.3	PCG1A102MCL1GS	158-0627

16 Volt d.c.

47	1500	150	40	5	5.3	5.3	PCG1C470MCL1GS	158-0628
150	2800	480	28	8	8.3	8.3	PCG1C151MCL1GS	158-0629
270	3300	864	25	10	10.3	10.3	PCG1C271MCL1GS	158-0630
470	3700	1504	20	10	10.3	10.3	PCG1C471MCL1GS	158-0631

527271

Order Multiple=5

µF	Order Code	Price Each 5+	50+	100+	500+	1K+	2K+
2.5 Volt d.c.							
3300	SMD 158-0624●	1.47	1.13	1.00	0.88	0.76	0.71
4 Volt d.c.							
2700	SMD 158-0625●	1.47	1.13	1.00	0.88	0.76	0.71
6.3 Volt d.c.							
2200	SMD 158-0626●	1.47	1.13	1.00	0.88	0.76	0.71
10 Volt d.c.							
1000	SMD 158-0627●	1.47	1.13	1.00	0.88	0.76	0.71
16 Volt d.c.							
47	SMD 158-0628●	0.92	0.70	0.62	0.55	0.48	0.45
150	SMD 158-0629●	1.14	0.88	0.78	0.68	0.59	0.55
270	SMD 158-0630●	1.26	0.97	0.86	0.76	0.65	0.61
470	SMD 158-0631●	1.37	1.05	0.93	0.82	0.70	0.66

FOR MORE INFORMATION & CHOICE

Product Search

Solid Aluminium

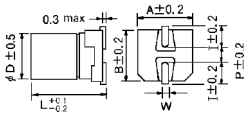
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FC Series 105°C - Surface Mount

Panasonic ideas for life





SMD

- High temperature surface mount aluminium electrolytic
- High ripple current capability
- Low impedance

Case Size	∅D	L	A	I	W	P	Tape Size
B	4	5.4	4.3	1.8	0.65	1	12mm
C	5	5.4	5.3	2.2	0.65	1.5	12mm
D	6.3	5.4	6.6	2.6	0.65	1.8	16mm
E	8	6.2	8.3	3.4	0.65	2.2	16mm
F	8	10.2	8.3	3.4	0.9	3.1	16mm
G	10	10.2	10.3	3.5	0.9	4.6	16mm

Operating Temperature -40°C to +105°C DC leakage current ≤0.01CV or 3A whichever is greater
Tolerance ±20% whichever is greater

6.3 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Impedance (Ω) 100KHz @ 20°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
47	80	1.8	0.26	C	EEEFC0J470R	969-4323
100	115	1	0.26	D	EEEFC0J101P	969-4331
220	150	0.6	0.26	E	EEEFC0J221P	969-4340
330	180	0.5	0.26	F	EEEFC0J331P	969-4358

Order Multiple=10
6.3 Volt d.c.

µF	Order Code	Price Each 10+	100+	1K+	3K+
47	SMD 969-4323●	0.200	0.143	0.127	0.117
100	SMD 969-4331●	0.240	0.169	0.149	0.138
220	SMD 969-4340●	0.390	0.280	0.250	0.230
330	SMD 969-4358●	0.510	0.360	0.320	0.290

10 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Impedance (Ω) 100KHz @ 20°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
100	100	0.4	0.19	E	EEEFC1A101P	969-3467
470	220	0.4	0.19	G	EEEFC1A471P	969-3483

Order Multiple=10
10 Volt d.c.

µF	Order Code	Price Each 10+	100+	1K+	3K+
100	SMD 969-3467●	0.39	0.28	0.25	0.23
470	SMD 969-3483●	0.59	0.42	0.37	0.34

16 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Impedance (Ω) 100KHz @ 20°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
10	50	3	0.16	B	EEEFC1C100R	969-3491
22	80	1.8	0.16	C	EEEFC1C220R	969-4366
47	115	1	0.16	D	EEEFC1C470P	969-4382
68	150	0.6	0.16	E	EEEFC1C680P	969-4390
100	150	0.6	0.16	E	EEEFC1C101P	969-4404
220	220	0.4	0.16	G	EEEFC1C221P	969-4412
330	220	0.4	0.16	G	EEEFC1C331P	969-4420

Order Multiple=10
16 Volt d.c.

µF	Order Code	Price Each 10+	100+	1K+	3K+
10	SMD 969-3491●	0.170	0.120	0.106	0.098
22	SMD 969-4366●	0.200	0.143	0.127	0.117
47	SMD 969-4382●	0.240	0.169	0.149	0.138
68	SMD 969-4390●	0.390	0.280	0.250	0.230
100	SMD 969-4404●	0.390	0.280	0.250	0.230
220	SMD 969-4412●	0.590	0.420	0.370	0.340
330	SMD 969-4420●	0.590	0.420	0.370	0.340

25 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Impedance (Ω) 100KHz @ 20°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
22	115	1	0.14	D	EEEFC1E220P	969-3505
33	115	1	0.14	D	EEEFC1E330P	969-3513
47	150	0.6	0.14	E	EEEFC1E470P	969-3521
68	180	0.5	0.14	F	EEEFC1E680P	969-3530

Order Multiple=10
25 Volt d.c.

µF	Order Code	Price Each 10+	100+	1K+	3K+
22	SMD 969-3505●	0.240	0.169	0.149	0.138
33	SMD 969-3513●	0.240	0.169	0.149	0.138
47	SMD 969-3521●	0.390	0.280	0.250	0.230
68	SMD 969-3530●	0.510	0.360	0.320	0.290

35 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Impedance (Ω) 100KHz @ 20°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
2.2	50	3	0.12	B	EEEFC1V2R2R	969-4439
3.3	50	3	0.12	B	EEEFC1V3R3R	969-4447
4.7	50	3	0.12	B	EEEFC1V4R7R	969-4455
6.8	80	1.8	0.12	C	EEEFC1V6R8R	969-4463
10	80	1.8	0.12	C	EEEFC1V100R	969-4471
22	115	1	0.12	D	EEEFC1V220P	969-4480
33	150	0.6	0.12	E	EEEFC1V330P	969-4498
47	150	0.6	0.12	E	EEEFC1V470P	969-4501
100	220	0.4	0.12	G	EEEFC1V101P	969-4510

208594

Order Multiple=10
35 Volt d.c.

µF	Order Code	Price Each 10+	100+	1K+	3K+
2.2	SMD 969-4439●	0.170	0.120	0.106	0.098
3.3	SMD 969-4447●	0.170	0.120	0.106	0.098
4.7	SMD 969-4455●	0.170	0.120	0.106	0.098
6.8	SMD 969-4463●	0.200	0.143	0.127	0.117
10	SMD 969-4471●	0.200	0.143	0.127	0.117
22	SMD 969-4480●	0.240	0.169	0.149	0.138
33	SMD 969-4498●	0.390	0.280	0.250	0.230
47	SMD 969-4501●	0.390	0.280	0.250	0.230
100	SMD 969-4510●	0.590	0.420	0.370	0.340

FCA Series

High Temperature Lead Free Reflow

Panasonic ideas for life

- Specifically designed to survive severe lead free reflow soldering conditions
- Development of existing FC series

Diameter	Peak temp.	Time at peak -5K	Time > 217°C
≥ 6.3 mm	260°C	5 sec	45 sec
8 - 10mm	245°C	10 sec	45 sec

SMD

6.3 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Impedance (Ω) 100KHz @ 20°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
22	60	3	0.26	B	EEEFC0J220AR	124-4337
47	95	1.8	0.26	C	EEEFC0J470AR	124-4338
100	140	1	0.26	D	EEEFC0J101AP	124-4339
220	230	0.4	0.26	E	EEEFC0J221AP	124-4340
330	450	0.3	0.26	F	EEEFC0J331AP	124-4341
1000	670	0.15	0.26	G	EEEFC0J102AP	124-4342
1500	670	0.15	0.26	G	EEEFC0J152AP	124-4343

Order Multiple=10
6.3 Volt d.c.

µF	Order Code	Price Each 10+	100+	500+	1K+	3K+
22	SMD 124-4337●	0.39	0.36	0.32	0.31	0.22
47	SMD 124-4338●	0.40	0.36	0.31	0.29	0.22
100	SMD 124-4339●	0.40	0.36	0.31	0.29	0.22
220	SMD 124-4340●	0.62	0.57	0.51	0.47	0.34
330	SMD 124-4341●	0.85	0.77	0.69	0.64	0.46
1000	SMD 124-4342●	1.01	0.92	0.83	0.77	0.56
1500	SMD 124-4343●	1.31	1.18	1.07	1.00	0.71

10 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Impedance (Ω) 100KHz @ 20°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
33	95	1.8	0.19	C	EEEFC1A330AR	124-4344
100	230	0.4	0.19	E	EEEFC1A101AP	124-4345
220	450	0.3	0.19	F	EEEFC1A221AP	124-4347
470	670	0.15	0.19	G	EEEFC1A471AP	124-4348
1000	670	0.15	0.19	G	EEEFC1A102AP	124-4349

RL Re-reeling available

Farnell

Aluminium Electrolytic - Surface Mount - continued

FCA Series - continued

High Temperature Lead Free Reflow - continued

Order Multiple=10
10 Volt d.c.

µF	Order Code	10+	100+	500+	1K+	3K+
		Price Each				
33	SMD 124-4344	0.300	0.280	0.250	0.230	0.169
100	SMD 124-4345	0.620	0.570	0.510	0.470	0.340
220	SMD 124-4347	0.620	0.570	0.510	0.470	0.340
470	SMD 124-4348	1.280	1.150	1.040	0.970	0.700
1000	SMD 124-4349	1.040	0.940	0.850	0.790	0.570

16 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Impedance (Ω) 100KHz @ 20°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
10	60	3	0.16	B	EEEFC1C100AR	124-4350
22	95	1.8	0.16	C	EEEFC1C220AR	124-4351
47	140	1	0.16	D	EEEFC1C470AP	124-4352
100	230	0.4	0.16	E	EEEFC1C101AP	124-4353
220	670	0.15	0.16	G	EEEFC1C221AP	124-4354
330	670	0.15	0.16	G	EEEFC1C331AP	124-4355
470	670	0.15	0.16	G	EEEFC1C471AP	124-4356

Order Multiple=10
16 Volt d.c.

µF	Order Code	10+	100+	500+	1K+	3K+
		Price Each				
10	SMD 124-4350	0.310	0.290	0.250	0.240	0.176
22	SMD 124-4351	0.510	0.470	0.400	0.380	0.280
47	SMD 124-4352	0.640	0.590	0.520	0.480	0.350
100	SMD 124-4353	0.640	0.590	0.520	0.480	0.350
220	SMD 124-4354	1.040	0.940	0.850	0.790	0.570
330	SMD 124-4355	1.010	0.920	0.830	0.770	0.560
470	SMD 124-4356	1.040	0.940	0.850	0.790	0.570

25 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Impedance (Ω) 100KHz @ 20°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
22	140	1	0.14	D	EEEFC1E220AP	124-4357
33	140	1	0.14	D	EEEFC1E330AP	124-4359
47	230	0.4	0.14	E	EEEFC1E470AP	124-4361
100	450	0.3	0.14	F	EEEFC1E101AP	124-4362
220	670	0.15	0.14	G	EEEFC1E221AP	124-4363
330	670	0.15	0.14	G	EEEFC1E331AP	124-4364
470	670	0.15	0.14	G	EEEFC1E471AP	124-4366

Order Multiple=10
25 Volt d.c.

µF	Order Code	10+	100+	500+	1K+	3K+
		Price Each				
22	SMD 124-4357	0.60	0.55	0.49	0.46	0.33
33	SMD 124-4359	0.62	0.57	0.51	0.47	0.34
47	SMD 124-4361	0.79	0.71	0.63	0.59	0.43
100	SMD 124-4362	0.62	0.57	0.51	0.47	0.34
220	SMD 124-4363	1.04	0.94	0.85	0.79	0.57
330	SMD 124-4364	1.01	0.92	0.83	0.77	0.55
470	SMD 124-4366	1.01	0.92	0.83	0.77	0.55

35 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Impedance (Ω) 100KHz @ 20°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
1	60	3	0.12	B	EEEFC1V1R0AR	124-4367
2.2	60	3	0.12	B	EEEFC1V2R2AR	124-4368
3.3	60	3	0.12	B	EEEFC1V3R3AR	124-4369
4.7	60	3	0.12	B	EEEFC1V4R7AR	124-4370
6.8	95	1.8	0.12	C	EEEFC1V6R8AR	124-4372
22	140	1	0.12	D	EEEFC1V220AP	124-4374
33	230	0.4	0.12	E	EEEFC1V330AP	124-4375
47	230	0.4	0.12	E	EEEFC1V470AP	124-4376
100	670	0.15	0.12	G	EEEFC1V101AP	124-4377
220	670	0.15	0.12	G	EEEFC1V221AP	124-4378
330	670	0.15	0.12	G	EEEFC1V331AP	124-4379

444564

Order Multiple=10
35 Volt d.c.

µF	Order Code	10+	100+	500+	1K+	3K+
		Price Each				
1	SMD 124-4367	0.310	0.290	0.250	0.240	0.176
2.2	SMD 124-4368	0.360	0.340	0.300	0.280	0.198
3.3	SMD 124-4369	0.360	0.340	0.300	0.280	0.198
4.7	SMD 124-4370	0.360	0.340	0.300	0.280	0.198
6.8	SMD 124-4372	0.400	0.360	0.310	0.290	0.220
22	SMD 124-4374	0.500	0.460	0.390	0.370	0.270
33	SMD 124-4375	0.790	0.710	0.630	0.590	0.430
47	SMD 124-4376	0.640	0.590	0.520	0.480	0.350
100	SMD 124-4377	1.040	0.940	0.850	0.790	0.570
220	SMD 124-4378	1.040	0.940	0.850	0.790	0.570
330	SMD 124-4379	1.040	0.940	0.850	0.790	0.570

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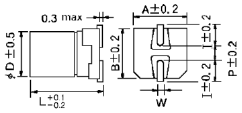
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FK Series 105°C - Surface Mount

Panasonic ideas for life

SMD





- High performance surface mount aluminium electrolytic
- Temperature range -55°C to +105°C
- High ripple current capability
- Miniature version of FC series

Case Size	∅D	L	A	I	W	P	Tape Size
B	4	5.8					
C	5	5.8					
D	6.3	5.8					
E	8	6.2					
F	8	10.2					
G	10	10.2					

Operating Temperature -55°C to +105°C
Tolerance ±20%
DC leakage current ≤0.01CV or 3A whichever is greater

10 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
220	300	0.19	E	EEEFK1A221P	969-5605
330	600	0.19	F	EEEFK1A331P	969-5613
470	600	0.19	F	EEEFK1A471P	969-5621
1000	850	0.19	G	EEEFK1A102P	969-5630

10 Volt d.c. µF	Order Code	1+	50+	100+	500+
			Price Each		
220	SMD 969-5605	0.45	0.31	0.28	0.26
330	SMD 969-5613	0.58	0.41	0.36	0.33
470	SMD 969-5621	0.58	0.41	0.36	0.33
1000	SMD 969-5630	0.68	0.48	0.42	0.39

16 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
10	90	0.16	B	EEEFK1C100R	969-5648
22	90	0.16	B	EEEFK1C220UR	969-5656
47	160	0.16	C	EEEFK1C470UR	969-5664
100	240	0.16	D	EEEFK1C101P	969-5672
220	300	0.16	E	EEEFK1C221P	969-5680
330	600	0.16	F	EEEFK1C331P	969-5699
470	600	0.16	F	EEEFK1C471P	969-5710

16 Volt d.c. µF	Order Code	1+	50+	100+	500+
			Price Each		
10	SMD 969-5648	0.194	0.137	0.121	0.112
22	SMD 969-5656	0.194	0.137	0.121	0.112
47	SMD 969-5664	0.230	0.163	0.145	0.134
100	SMD 969-5672	0.280	0.192	0.171	0.158
220	SMD 969-5680	0.450	0.310	0.280	0.260
330	SMD 969-5699	0.580	0.410	0.360	0.330
470	SMD 969-5710	0.580	0.410	0.360	0.330

25 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
10	90	0.14	B	EEEFK1E100R	969-5729
22	160	0.14	C	EEEFK1E220R	969-5737
33	160	0.14	C	EEEFK1E330UR	969-5745
47	240	0.14	D	EEEFK1E470P	969-5753
100	300	0.14	E	EEEFK1E101P	969-5770
220	600	0.14	F	EEEFK1E221P	969-5788
330	600	0.14	F	EEEFK1E331P	969-5796
470	850	0.14	G	EEEFK1E471P	969-5800

25 Volt d.c. µF	Order Code	1+	50+	100+	500+
			Price Each		
10	SMD 969-5729	0.194	0.137	0.121	0.112
22	SMD 969-5737	0.230	0.163	0.145	0.134
33	SMD 969-5745	0.230	0.163	0.145	0.134
47	SMD 969-5753	0.270	0.260	0.250	0.240
100	SMD 969-5770	0.450	0.310	0.280	0.260
220	SMD 969-5788	0.580	0.410	0.360	0.330
330	SMD 969-5796	0.580	0.410	0.360	0.330
470	SMD 969-5800	0.680	0.480	0.420	0.390

35 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
4.7	90	0.12	B	EEEFK1V4R7R	969-5818
10	90	0.12	B	EEEFK1V100UR	969-5826
22	160	0.12	C	EEEFK1V220R	969-5834
33	240	0.12	D	EEEFK1V330P	969-5842
47	240	0.12	D	EEEFK1V470P	969-5850
100	600	0.12	F	EEEFK1V101P	969-5869
220	600	0.12	F	EEEFK1V221P	969-5877
330	850	0.16	G	EEEFK1V331P	969-5885

RL Re-reeling available

Farnell

35 Volt d.c.

µF	Order Code	1+	50+	100+	500+
		Price Each			
4.7	SMD 969-5818	0.194	0.137	0.121	0.112
10	SMD 969-5826	0.194	0.137	0.121	0.112
22	SMD 969-5834	0.230	0.163	0.145	0.134
33	SMD 969-5842	0.280	0.192	0.171	0.158
47	SMD 969-5850	0.280	0.192	0.171	0.158
100	SMD 969-5869	0.580	0.410	0.360	0.330
220	SMD 969-5877	0.580	0.410	0.360	0.330
330	SMD 969-5885	0.680	0.480	0.420	0.390

50 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
4.7	60	0.1	B	EEEFK1H4R7R	969-5893
10	165	0.1	C	EEEFK1H100UR	969-5907
22	165	0.1	D	EEEFK1H220P	969-5915
33	195	0.1	E	EEEFK1H330P	969-5923
47	195	0.1	E	EEEFK1H470P	969-5931
100	350	0.1	F	EEEFK1H101P	969-5958
220	670	0.1	G	EEEFK1H221P	969-5966
330	900	0.1	H13	EEVFK1H331Q	969-5974
1000	1610	0.1	J16	EEVFK1H102M	969-5982

50 Volt d.c.

µF	Order Code	1+	50+	100+	500+
		Price Each			
4.7	SMD 969-5893	0.194	0.137	0.121	0.112
10	SMD 969-5907	0.230	0.163	0.145	0.134
22	SMD 969-5915	0.280	0.192	0.171	0.158
33	SMD 969-5923	0.450	0.320	0.280	0.260
47	SMD 969-5931	0.450	0.320	0.280	0.260
100	SMD 969-5958	0.580	0.410	0.360	0.330
220	SMD 969-5966	0.680	0.480	0.420	0.390
330	SMD 969-5974	1.220	0.890	0.790	0.730
1000	SMD 969-5982	1.730	1.450	1.290	1.130

63 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
4.7	40	0.08	C	EEEFK1J4R7R	969-5990
10	80	0.08	D	EEEFK1J100P	969-6008
22	120	0.08	E	EEEFK1J220P	969-6016
33	250	0.08	F	EEEFK1J330P	969-6024
47	250	0.08	F	EEEFK1J470P	969-6032
100	400	0.08	G	EEEFK1J101P	969-6040
220	800	0.08	H13	EEVFK1J221Q	969-6059
470	1410	0.08	J16	EEVFK1J471M	969-6067
680	1690	0.08	K16	EEVFK1J681M	969-6075

63 Volt d.c.

µF	Order Code	1+	50+	100+	500+
		Price Each			
4.7	SMD 969-5990	0.240	0.171	0.152	0.140
10	SMD 969-6008	0.290	0.200	0.180	0.166
22	SMD 969-6016	0.470	0.330	0.290	0.270
33	SMD 969-6024	0.610	0.430	0.380	0.350
47	SMD 969-6032	0.610	0.430	0.380	0.350
100	SMD 969-6040	0.720	0.500	0.450	0.410
220	SMD 969-6059	1.220	0.930	0.830	0.760
470	SMD 969-6067	2.110	1.520	1.350	1.080
680	SMD 969-6075	2.230	1.790	1.590	1.300

80 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
10	130	0.08	E	EEEFK1K100P	969-6083
22	130	0.08	F	EEEFK1K220P	969-6091
47	200	0.08	G	EEEFK1K470P	969-6105
100	500	0.08	H13	EEVFK1K101Q	969-6113
150	500	0.08	H13	EEVFK1K151Q	969-6121
470	917	0.08	K16	EEVFK1K471M	969-6130

80 Volt d.c.

µF	Order Code	1+	50+	100+	500+
		Price Each			
10	SMD 969-6083	0.47	0.33	0.29	0.27
22	SMD 969-6091	0.61	0.43	0.38	0.35
47	SMD 969-6105	0.72	0.50	0.45	0.41
100	SMD 969-6113	1.17	0.93	0.83	0.76
150	SMD 969-6121	1.22	0.93	0.83	0.76
470	SMD 969-6130	2.51	1.79	1.59	1.23

100 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
47	500	0.07	H13	EEVFK2A470Q	969-6148
68	500	0.07	H13	EEVFK2A680Q	969-6156
150	793	0.07	J16	EEVFK2A151M	969-6164

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100 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
		Price Each				
47	SMD 969-6148	1.22	0.93	0.83	0.76	0.69
68	SMD 969-6156	1.22	0.93	0.83	0.76	0.69
150	SMD 969-6164	1.84	1.52	1.35	1.14	1.02

£ € **40,000 PRICES REDUCED**

FKA Series

High Temperature Lead Free Reflow

Panasonic ideas for life

- Specifically designed to survive severe lead free reflow soldering conditions
- Development of existing FK series

Diameter	Peak temp.	Time at peak -5K	Time > 217°C
≥ 6.3 mm	260°C	5 sec	45 sec
8 - 10mm	245°C	10 sec	45 sec

SMD

10 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
22	90	0.19	B	EEEFK1A220AR	124-4396
33	160	0.19	C	EEEFK1A330AR	124-4397
220	300	0.19	E	EEEFK1A221AP	124-4398
330	600	0.19	F	EEEFK1A331AP	124-4399
470	600	0.19	F	EEEFK1A471AP	124-4400
1000	850	0.19	G	EEEFK1A102AP	124-4402

10 Volt d.c.

µF	Order Code	1+	100+	500+	1K+	3K+
		Price Each				
22	SMD 124-4396	0.39	0.36	0.31	0.29	0.22
33	SMD 124-4397	0.53	0.49	0.44	0.41	0.30
220	SMD 124-4398	0.92	0.83	0.75	0.69	0.49
330	SMD 124-4399	1.14	1.04	0.94	0.87	0.63
470	SMD 124-4400	1.07	0.98	0.87	0.81	0.59
1000	SMD 124-4402	1.13	1.03	0.92	0.86	0.62

16 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
10	90	0.16	B	EEEFK1C100AR	124-4403
47	240	0.16	D	EEEFK1C470AP	124-4405
100	240	0.16	D	EEEFK1C101AP	124-4406
220	300	0.16	E	EEEFK1C221AP	124-4407
330	600	0.16	F	EEEFK1C331AP	124-4408
470	600	0.16	F	EEEFK1C471AP	124-4409

16 Volt d.c.

µF	Order Code	1+	100+	500+	1K+	3K+
		Price Each				
10	SMD 124-4403	0.45	0.42	0.36	0.34	0.25
47	SMD 124-4405	0.92	0.84	0.76	0.70	0.51
100	SMD 124-4406	0.83	0.76	0.68	0.63	0.46
220	SMD 124-4407	1.07	0.98	0.87	0.81	0.59
330	SMD 124-4408	1.19	1.09	0.97	0.90	0.66
470	SMD 124-4409	1.24	1.12	1.01	0.92	0.67

25 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
10	90	0.14	B	EEEFK1E100AR	124-4410
22	160	0.14	C	EEEFK1E220AR	124-4411
33	240	0.14	D	EEEFK1E330AP	124-4412
47	240	0.14	D	EEEFK1E470AP	124-4414
100	280	0.14	D8	EEEFKE101XAP	124-4415
100	300	0.14	E	EEEFK1E101AP	124-4416
220	600	0.14	F	EEEFK1E221AP	124-4417
330	600	0.14	F	EEEFK1E331AP	124-4418
470	850	0.14	G	EEEFK1E471AP	124-4419

25 Volt d.c.

µF	Order Code	1+	100+	500+	1K+	3K+
		Price Each				
10	SMD 124-4410	0.71	0.65	0.59	0.54	0.39
22	SMD 124-4411	0.94	0.85	0.77	0.71	0.51
33	SMD 124-4412	0.81	0.74	0.66	0.61	0.44
47	SMD 124-4414	0.82	0.75	0.66	0.62	0.45
100	SMD 124-4415	1.00	0.91	0.81	0.75	0.55
100	SMD 124-4416	1.26	1.14	1.02	0.94	0.69
220	SMD 124-4417	1.46	1.33	1.19	1.11	0.81
330	SMD 124-4418	1.24	1.12	1.01	0.93	0.68
470	SMD 124-4419	1.62	1.48	1.33	1.22	0.89

35 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
10	90	0.12	B	EEEFKV100UAR	124-4420
10	160	0.12	C	EEEFK1V100AR	124-4421
22	160	0.12	C	EEEFK1V220AR	124-4422
33	240	0.12	D	EEEFK1V330AP	124-4423
47	240	0.12	D	EEEFK1V470AP	124-4424
100	600	0.12	F	EEEFK1V101AP	124-4426
220	600	0.12	F	EEEFK1V221AP	124-4427
330	850	0.12	G	EEEFK1V331AP	124-4428

35 Volt d.c.

µF	Order Code	1+	100+	500+	1K+	3K+
		Price Each				
10	SMD 124-4420	1.00	0.91	0.83	0.76	0.55
10	SMD 124-4421	0.80	0.72	0.66	0.60	0.44
22	SMD 124-4422	0.85	0.77	0.68	0.64	0.46
33	SMD 124-4423	1.06	0.97	0.88	0.81	0.59
47	SMD 124-4424	0.94	0.86	0.77	0.71	0.52
100	SMD 124-4426	1.10	1.01	0.90	0.83	0.60
220	SMD 124-4427	1.19	1.09	0.97	0.90	0.66
330	SMD 124-4428	1.33	1.22	1.09	1.01	0.72

6.3 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	Power Factor @ 120Hz	Case Size	Mftrs. List No.	Order Code
22	90	0.26	B	EEEFK0J220AR	124-4386
47	160	0.26	C	EEEFK0J470AR	124-4387
100	160	0.26	C	EEEFKJ101UAR	124-4388
100	240	0.26	D	EEEFK0J101AP	124-4389

RL Re-reeling available

Farnell

Aluminium Electrolytic - Surface Mount - continued

FKA Series - continued

High Temperature Lead Free Reflow - continued

6.3 Volt d.c.

µF	Ripple (mA)	Power Factor	Case		Order
220	240	0.26	D	EEEFK0J221AP	124-4390
330	300	0.26	E	EEEFK0J331AP	124-4391
470	600	0.26	F	EEEFK0J471AP	124-4392
1000	600	0.26	F	EEEFK0J102AP	124-4393
1500	850	0.26	G	EEEFK0J152AP	124-4394

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6.3 Volt d.c.		Price Each				
µF	Order Code	1+	100+	500+	1K+	3K+
22	SMD 124-4386●	0.42	0.39	0.34	0.32	0.24
47	SMD 124-4387●	0.53	0.49	0.43	0.41	0.30
100	SMD 124-4388●	0.57	0.51	0.46	0.43	0.30
100	SMD 124-4389●	0.57	0.51	0.46	0.43	0.30
220	SMD 124-4390●	0.73	0.67	0.60	0.56	0.40
330	SMD 124-4391●	1.13	1.04	0.92	0.86	0.62
470	SMD 124-4392●	1.00	0.91	0.81	0.75	0.55
1000	SMD 124-4393●	1.07	0.98	0.87	0.81	0.58
1500	SMD 124-4394●	1.16	1.07	0.94	0.88	0.64

FP Series 105°C - Surface Mount

Panasonic ideas for life



New

- High performance surface mount aluminium electrolytic
- Suitable for high temperature lead free reflow soldering
- Endurance: 2000 h at +105°C
- Low ESR (30 % to 50 % less than FK series)

SMD

Operating Temperature	-55°C to +105°C
Tolerance	±20%
DC leakage current	≤0.01CV or 3µA (whichever is greater) after two minutes

Case Size	∅D	L	Case Size	∅D	L	Case Size	∅D	L	Case Size	∅D	L
B	4	5.8	D	6.3	5.8	E	8	6.2	G	10	10.2
C	5	5.8	D8	6.3	7.7	F	8	10.2			

10 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
22	160	0.85	B	EEEFP1A220AR	153-9459
33	160	0.85	B	EEEFPA330UAR	153-9460
33	240	0.36	C	EEEFP1A330AR	153-9461
150	300	0.26	D	EEEFP1A151AP	153-9463
220	600	0.16	D8	EEEFPA221XAP	153-9464
220	500	0.18	E	EEEFP1A221AP	153-9465
330	850	0.08	F	EEEFP1A331AP	153-9466
470	850	0.08	F	EEEFP1A471AP	153-9467
680	850	0.08	F	EEEFP1A681AP	153-9506
1000	1190	0.06	G	EEEFP1A102AP	153-9507
1200	850	0.08	G	EEEFPA122UAP	153-9518

10 Volt d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
22	SMD 153-9459●	0.42	0.37	0.33	0.31	0.22
33	SMD 153-9460●	0.55	0.47	0.42	0.40	0.30
33	SMD 153-9461●	0.47	0.42	0.37	0.35	0.26
150	SMD 153-9463●	0.55	0.47	0.42	0.40	0.30
220	SMD 153-9464●	0.61	0.54	0.47	0.45	0.33
220	SMD 153-9465●	0.84	0.73	0.65	0.62	0.45
330	SMD 153-9466●	1.09	0.96	0.85	0.81	0.59
470	SMD 153-9467●	1.09	0.96	0.85	0.81	0.59
680	SMD 153-9506●	1.09	0.96	0.85	0.81	0.59
1000	SMD 153-9507●	1.24	1.08	0.96	0.92	0.66
1200	SMD 153-9518●	1.39	1.21	1.07	1.02	0.75

16 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
10	160	0.85	B	EEEFP1C100AR	153-9468
22	160	0.85	B	EEEFPC220UAR	153-9470
22	240	0.36	C	EEEFP1C220AR	153-9471
47	240	0.36	C	EEEFPC470UAR	153-9472
47	300	0.26	D	EEEFP1C470AP	153-9473
68	300	0.26	D	EEEFP1C680AP	153-9475
100	300	0.26	D	EEEFP1C101AP	153-9476
100	600	0.16	D8	EEEFPC101XAP	153-9477
150	600	0.16	D8	EEEFPC151XAP	153-9478
220	600	0.16	D8	EEEFPC221XAP	153-9479
220	500	0.18	E	EEEFP1C221AP	153-9480
470	850	0.08	F	EEEFP1C471AP	153-9508
680	1190	0.06	G	EEEFP1C681AP	153-9509
820	850	0.08	G	EEEFPC821UAP	153-9519

16 Volt d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
10	SMD 153-9468●	0.42	0.37	0.33	0.31	0.22
22	SMD 153-9470●	0.47	0.42	0.37	0.35	0.26
22	SMD 153-9471●	0.47	0.42	0.37	0.35	0.26
47	SMD 153-9472●	0.55	0.47	0.42	0.40	0.30
47	SMD 153-9473●	0.55	0.47	0.42	0.40	0.30
68	SMD 153-9475●	0.55	0.47	0.42	0.40	0.30
100	SMD 153-9476●	0.55	0.47	0.42	0.40	0.30
100	SMD 153-9477●	0.61	0.54	0.47	0.45	0.33

16 Volt d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
150	SMD 153-9478●	0.61	0.54	0.47	0.45	0.33
220	SMD 153-9479●	0.61	0.54	0.47	0.45	0.33
220	SMD 153-9480●	0.84	0.73	0.65	0.62	0.45
470	SMD 153-9508●	1.09	0.96	0.85	0.81	0.59
680	SMD 153-9509●	1.24	1.08	0.96	0.92	0.66
820	SMD 153-9519●	1.39	1.21	1.07	1.02	0.75

25 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
10	160	0.85	B	EEEFP1E100AR	153-9481
22	240	0.36	C	EEEFP1E220AR	153-9482
33	240	0.36	C	EEEFPE330UAR	153-9483
33	300	0.26	D	EEEFP1E330AP	153-9484
47	300	0.26	D	EEEFP1E470AP	153-9485
68	300	0.26	D	EEEFP1E680AP	153-9487
100	600	0.16	D8	EEEFPE101XAP	153-9488
100	500	0.18	E	EEEFP1E101AP	153-9489
150	850	0.08	F	EEEFP1E151AP	153-9490
220	850	0.08	F	EEEFP1E221AP	153-9491
330	850	0.08	F	EEEFP1E331AP	153-9510
470	1190	0.06	G	EEEFP1E471AP	153-9511
560	850	0.08	G	EEEFPE561UAP	153-9520

25 Volt d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
10	SMD 153-9481●	0.42	0.37	0.33	0.31	0.22
22	SMD 153-9482●	0.47	0.42	0.37	0.35	0.26
33	SMD 153-9483●	0.55	0.47	0.42	0.40	0.30
33	SMD 153-9484●	0.55	0.47	0.42	0.40	0.30
47	SMD 153-9485●	0.55	0.47	0.42	0.40	0.30
68	SMD 153-9487●	0.55	0.47	0.42	0.40	0.30
100	SMD 153-9488●	0.61	0.54	0.47	0.45	0.33
100	SMD 153-9489●	0.84	0.73	0.65	0.62	0.45
150	SMD 153-9490●	1.09	0.96	0.85	0.81	0.59
220	SMD 153-9491●	1.09	0.96	0.85	0.81	0.59
330	SMD 153-9510●	1.09	0.96	0.85	0.81	0.59
470	SMD 153-9511●	1.24	1.08	0.96	0.92	0.66
560	SMD 153-9520●	1.39	1.21	1.07	1.02	0.75

35 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
10	160	0.85	B	EEEFPV100UAR	153-9492
10			C	EEEFP1V100AR	153-9493
22	240	0.36	C	EEEFP1V220AR	153-9494
33	300	0.26	D	EEEFP1V330AP	153-9495
47	300	0.26	D	EEEFP1V470AP	153-9499
68	600	0.16	D8	EEEFPV680XAP	153-9500
100	600	0.16	D8	EEEFPV101XAP	153-9501
100	850	0.08	F	EEEFP1V101AP	153-9512
150	850	0.08	F	EEEFP1V151AP	153-9513
220	850	0.08	F	EEEFP1V221AP	153-9514
330	1190	0.06	G	EEEFP1V331AP	153-9515
390	850	0.08	G	EEEFPV391UAP	153-9521

35 Volt d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
10	SMD 153-9492●	0.47	0.42	0.37	0.35	0.26
10	SMD 153-9493●	0.45	0.40	0.35	0.33	0.24
22	SMD 153-9494●	0.47	0.42	0.37	0.35	0.26
33	SMD 153-9495●	0.55	0.47	0.42	0.40	0.30
47	SMD 153-9499●	0.55	0.47	0.42	0.40	0.30
68	SMD 153-9500●	0.61	0.54	0.47	0.45	0.33
100	SMD 153-9501●	0.61	0.54	0.47	0.45	0.33
100	SMD 153-9512●	1.09	0.96	0.85	0.81	0.59
150	SMD 153-9513●	1.09	0.96	0.85	0.81	0.59
220	SMD 153-9514●	1.09	0.96	0.85	0.81	0.59
330	SMD 153-9515●	1.24	1.08	0.96	0.92	0.66
390	SMD 153-9521●	1.39	1.21	1.07	1.02	0.75

6.3 Volt d.c.

µF	Ripple (mA) 100Hz @ 105°C	ESR (Ω) @ 100kHz	Case Size	Mftrs. List No.	Order Code
22	160	0.85	B	EEEFP0J220AR	153-9447
47	160	0.85	B	EEEFPJ470UAR	153-9448
47	240	0.36	C	EEEFP0J470AR	153-9451
100	240	0.36	C	EEEFPJ101UAR	153-9452
100	300	0.26	D	EEEFP0J101AP	153-9453
220	300	0.26	D	EEEFP0J221AP	153-9454
330	600	0.16	D	EEEFPJ331XAP	153-9455
330	500	0.18	E	EEEFP0J331AP	153-9456
470	850	0.08	F	EEEFP0J471AP	153-9457
1000	850	0.08	F	EEEFP0J102AP	153-9502
1500	1190	0.06	G	EEEFP0J152AP	153-9505
1800	850	0.08	G	EEEFPJ182UAP	153-9517

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6.3 Volt d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
22	SMD 153-9447●	0.42	0.37	0.33	0.31	0.22
47	SMD 153-9448●	0.47	0.42	0.37	0.35	0.26
47	SMD 153-9451●	0.47	0.42	0.37	0.35	0.26
100	SMD 153-9452●	0.47	0.42	0.37	0.35	0.26
100	SMD 153-9453●	0.55	0.47	0.42	0.40	0.30
220	SMD 153-9454●	0.55	0.47	0.42	0.40	0.30
330	SMD 153-9455●	0.61	0.54	0.47	0.45	0.33
330	SMD 153-9456●	0.84	0.73	0.65	0.62	0.45
470	SMD 153-9457●	1.09	0.96	0.85	0.81	0.59
1000	SMD 153-9502●	1.09	0.96	0.85	0.81	0.59
1500	SMD 153-9505●	1.24	1.08	0.96	0.92	0.66
1800	SMD 153-9517●	1.39	1.21	1.07	1.02	0.75

RL Re-reeling available

Aluminium Electrolytic - Axial

TVX Series - General Purpose

nichicon



Lead length = 35mm

● General purpose axial leaded electrolytic

Operating temperature	--40°C to +85°C (10 to 250V dc) -40°C to +85°C(350 to 450V dc)
Tolerance	±20%
Ripple Current measured at	120Hz @ 85°C
DC leakage current (max)	0.03CV or4µA whichever greater (10 to 100V) 0.1CV + 40µA (CV≤1000) 0.04CV + 100µA (CV>1000)

µF	Ripple (mA)	Dimensions L	Dia.	Lead Dia.	Mftrs. List No.	Order Code
10 Volt dc						
100	150	12	6.3	0.6	TVX1A101MAD	882-3421
470	350	16	8	0.6	TVX1A471MAD	882-3430
16 Volt dc						
100	160	16	6.3	0.6	TVX1C101MAD	882-3464
220	260	16	8	0.6	TVX1C221MAD	882-3472
470	430	20	8	0.6	TVX1C471MAD	882-3480
1000	770	26	10	0.6	TVX1C102MCD	882-3499
2200	1180	31.5	16	0.8	TVX1C222MCD	882-3502
25 Volt dc						
10	40	12	5	0.6	TVX1E100MAD	882-3537
47	100	12	6.3	0.6	TVX1E470MAD	882-3545
100	170	16	6.3	0.6	TVX1E101MAD	882-3553
220	280	16	8	0.6	TVX1E221MAD	882-3561
470	510	26	10	0.6	TVX1E471MCD	882-3570
1000	900	26	13	0.6	TVX1E102MCD	882-3588
2200	1480	31.5	16	0.8	TVX1E222MCD	882-3596
4700	2170	41	18	0.8	TVX1E472MCD	882-3600
10000	2940	52	22	0.8	TVX1E103MDD	882-3618
35 Volt dc						
100	210	16	8	0.6	TVX1V101MAD	882-3634
220	340	20	8	0.6	TVX1V221MAD	882-3642
470	610	26	10	0.6	TVX1V471MCD	882-3650
1000	1060	31.5	16	0.8	TVX1V102MCD	882-3669
2200	1580	31.5	16	0.8	TVX1V222MCD	882-3677
4700	2470	40	22	0.8	TVX1V472MDD	882-3685
50 Volt dc						
470	840	26	13	0.6	TVX1H471MCD	882-3707
1000	1330	31.5	16	0.8	TVX1H102MCD	882-3715
2200	1920	41	18	0.8	TVX1H222MCD	882-3723
63 Volt dc						
4.7	37	12	5	0.6	TVX1J4R7MAD	882-3731
10	55	12	5	0.6	TVX1J100MAD	882-3740
22	90	12	6.3	0.6	TVX1J220MAD	882-3758
33	120	16	6.3	0.6	TVX1J330MAD	882-3766
47	160	16	8	0.6	TVX1J470MAD	882-3774
100	260	20	8	0.6	TVX1J101MAD	882-3782
220	480	26	10	0.6	TVX1J221MCD	882-3790
470	840	31.5	13	0.6	TVX1J471MCD	882-3804
1000	1330	31.5	16	0.8	TVX1J102MCD	882-3812
2200	2160	40	22	0.8	TVX1J222MDD	882-3820
100 Volt dc						
2.2	28	12	5	0.6	TVX2A2R2MAD	882-3839
10	60	12	6.3	0.6	TVX2A100MAD	882-3847
47	190	20	8	0.6	TVX2A470MAD	882-3855
100	340	26	10	0.6	TVX2A101MCD	882-3863
220	560	26	13	0.6	TVX2A221MCD	882-3871
330	750	31.5	13	0.6	TVX2A331MCD	882-3880
1000	1540	40	22	0.8	TVX2A102MDD	882-3898
250 Volt dc						
47	260	31.5	16	0.8	TVX2E470MCD	882-3901
350 Volt dc						
22	140	31.5	13	0.6	TVX2V220MCD	882-3928
33	190	31.5	16	0.8	TVX2V330MCD	882-3936
47	260	41.5	16	0.8	TVX2V470MCD	882-3944
450 Volt dc						
22	150	31.5	16	0.8	TVX2W220MCD	882-3952
33	230	41	18	0.8	TVX2W330MCD	882-3960
47	310	41	22	0.8	TVX2W470MDD	882-3979

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µF	Order Code	Price Each 1+	25+	100+	500+	1K+
10 Volt dc						
100	882-3421●	0.200	0.158	0.139	0.115	0.104
470	882-3430●	0.280	0.220	0.190	0.156	0.141
16 Volt dc						
100	882-3464●	0.163	0.130	0.112	0.094	0.086
220	882-3472●	0.390	0.300	0.270	0.220	0.199
470	882-3480●	0.320	0.250	0.220	0.178	0.163
1000	882-3499●	0.530	0.420	0.370	0.310	0.280
2200	882-3502●	0.660	0.520	0.450	0.370	0.320
25 Volt dc						
10	882-3537●	0.163	0.128	0.112	0.093	0.085
47	882-3545●	0.188	0.147	0.130	0.107	0.098
100	882-3553●	0.250	0.188	0.164	0.136	0.123
220	882-3561●	0.280	0.210	0.190	0.156	0.141
470	882-3570●	0.430	0.350	0.310	0.260	0.240
1000	882-3588●	0.710	0.550	0.470	0.400	0.360

µF	Order Code	Price Each 1+	25+	100+	500+	1K+
25 Volt dc						
2200	882-3596●	1.390	1.090	0.950	0.800	0.720
4700	882-3600●	2.060	1.600	1.390	1.160	1.050
10000	882-3618●	3.810	2.980	2.600	2.160	1.960
35 Volt dc						
100	882-3634●	0.250	0.188	0.164	0.136	0.123
220	882-3642●	0.330	0.260	0.220	0.184	0.166
470	882-3650●	0.540	0.420	0.370	0.310	0.280
1000	882-3669●	0.830	0.650	0.560	0.450	0.410
2200	882-3677●	1.650	1.280	1.120	0.930	0.850
4700	882-3685●	2.630	2.070	1.810	1.480	1.350
50 Volt dc						
470	882-3707●	0.720	0.550	0.470	0.400	0.360
1000	882-3715●	1.310	1.020	0.900	0.750	0.680
2200	882-3723●	2.420	1.890	1.650	1.360	1.230
63 Volt dc						
4.7	882-3731●	0.163	0.128	0.112	0.093	0.085
10	882-3740●	0.200	0.158	0.139	0.115	0.104
22	882-3758●	0.200	0.162	0.141	0.117	0.107
33	882-3766●	0.196	0.150	0.132	0.108	0.099
47	882-3774●	0.250	0.188	0.164	0.136	0.123
100	882-3782●	0.330	0.250	0.220	0.181	0.160
220	882-3790●	0.540	0.420	0.370	0.310	0.280
470	882-3804●	0.930	0.730	0.640	0.510	0.460
1000	882-3812●	1.630	1.280	1.120	0.930	0.850
2200	882-3820●	3.040	2.380	2.080	1.700	1.550
100 Volt dc						
2.2	882-3839●	0.163	0.128	0.112	0.093	0.085
10	882-3847●	0.163	0.126	0.111	0.092	0.084
47	882-3855●	0.320	0.260	0.220	0.184	0.166
100	882-3863●	0.540	0.420	0.370	0.310	0.280
220	882-3871●	0.830	0.650	0.550	0.460	0.410
330	882-3880●	1.460	1.130	0.990	0.830	0.760
1000	882-3898●	2.840	2.210	1.940	1.600	1.400
250 Volt dc						
47	882-3901●	0.990	0.780	0.670	0.560	0.520
350 Volt dc						
22	882-3928●	0.980	0.780	0.680	0.550	0.490
33	882-3936●	1.340	1.050	0.920	0.770	0.690
47	882-3944●	1.550	1.210	1.060	0.880	0.810
450 Volt dc						
22	882-3952●	1.350	1.070	0.940	0.780	0.710
33	882-3960●	2.310	1.780	1.550	1.290	1.170
47	882-3979●	3.060	2.560	2.120	1.800	1.560

2222 030, 031 Series

BC COMPONENTS



● General purpose axial leaded electrolytic capacitors

Operating Temperature	-40°C to +85°C	Useful life @ 85°C	3000
Tolerance	10% to +50%	DC leakage current	0.006CV +4µA
Ripple Current Measured at	100Hz @ 85°C	Climatic category **(IEC68)**	55/085/56

6.3 Volt d.c. µF	Ripple (mA)	Dimensions L	Dia.	Lead Dia	Mftrs. List No.	Order Code
150	87	10.5	6.3	0.6	2222 030 33151	116-5404
470	220	18.5	8.3	0.8	2222 031 33471	116-5405

Order Multiple=5

6.3 Volt dc µF	Order Code	Price Each 5+	100+	1K+	3K+
150	116-5404●	0.300	0.163	0.159	0.125
470	116-5405●	0.490	0.330	0.260	0.190

10 Volt d.c. µF	Ripple (mA)	Dimensions L	Dia.	Lead Dia	Mftrs. List No.	Order Code
22	42	10.5	5	0.6	2222 030 34229	116-5406
47	53	10.5	5	0.6	2222 030 34479	116-5407
100	87	10.5	6.3	0.6	2222 030 34101	116-5408
220	150	11.5	8.5	0.6	2222 030 34221	116-5412
330	220	18.5	8.5	0.8	2222 031 34331	116-5413

Order Multiple=5

10 Volt dc µF	Order Code	Price Each 5+	100+	1K+	3K+
22	116-5406●	0.240	0.141	0.112	0.086
47	116-5407●	0.290	0.174	0.138	0.107
100	116-5408●	0.270	0.169	0.139	0.108
220	116-5412●	0.390	0.260	0.187	0.146
330	116-5413●	0.470	0.290	0.240	0.173

16 Volt d.c. µF	Ripple (mA)	Dimensions L	Dia.	Lead Dia	Mftrs. List No.	Order Code
15	42	10.5	5	0.6	2222 030 35159	116-5414
33	53	10.5	5	0.6	2222 030 35339	116-5415
68	87	10.5	6.3	0.6	2222 030 35689	116-5416
150	150	11.5	8.5	0.6	2222 030 35151	116-5417
220	220	18.5	8.5	0.8	2222 031 35221	116-5418

Order Multiple=5

16 Volt dc µF	Order Code	Price Each 5+	100+	1K+	3K+
15	116-5414●	0.250	0.146	0.116	0.090
33	116-5415●	0.240	0.142	0.113	0.091
68	116-5416●	0.280	0.172	0.138	0.108
150	116-5417●	0.390	0.260	0.187	0.146
220	116-5418●	0.490	0.330	0.260	0.190

RL Re-reeling available

Farnell

Aluminium Electrolytic - Axial - continued

2222 030, 031 Series - continued

25 Volt d.c. µF	Ripple (mA)	Dimensions L	Dia.	Lead Dia	Mftrs. List No.	Order Code
10	36	10.5	5	0.6	2222 030 36109	116-5419
22	43	10.5	5	0.6	2222 030 36229	116-5420
47	83	10.5	6.3	0.6	2222 030 36479	116-5421
100	120	11.5	8.5	0.6	2222 030 36101	116-5423
150	190	18.5	8.5	0.8	2222 031 36151	116-5424

Order Multiple=5
25 Volt dc

µF	Order Code	Price Each 5+	100+	1K+	3K+
10	116-5419●	0.270	0.160	0.128	0.099
22	116-5420●	0.270	0.160	0.128	0.099
47	116-5421●	0.270	0.170	0.141	0.109
100	116-5423●	0.390	0.260	0.187	0.146
150	116-5424●	0.480	0.320	0.250	0.178

40 Volt d.c. µF	Ripple (mA)	Dimensions L	Dia.	Lead Dia	Mftrs. List No.	Order Code
6.8	36	10.5	5	0.6	2222 030 37688	116-5425
15	43	10.5	5	0.6	2222 030 37159	116-5426
33	83	10.5	6.3	0.6	2222 030 37339	116-5427
47	120	11.5	8.5	0.6	2222 030 37479	116-5428
100	190	18.5	8.5	0.8	2222 031 37101	116-5429

Order Multiple=5
40 Volt dc

µF	Order Code	Price Each 5+	100+	1K+	3K+
6.8	116-5425●	0.250	0.149	0.116	0.091
15	116-5426●	0.250	0.149	0.116	0.091
33	116-5427●	0.290	0.177	0.142	0.109
47	116-5428●	0.400	0.260	0.200	0.154
100	116-5429●	0.410	0.270	0.200	0.167

63 Volt d.c. µF	Ripple (mA)	Dimensions L	Dia.	Lead Dia	Mftrs. List No.	Order Code
1	12	10.5	5	0.6	2222 030 38108	116-5430
2.2	21	10.5	5	0.6	2222 030 38228	116-5431
3.3	25	10.5	5	0.6	2222 030 38338	116-5432
4.7	31	10.5	5	0.6	2222 030 38478	116-5433
6.8	35	10.5	5	0.6	2222 030 38688	116-5435
10	51	10.5	6.3	0.6	2222 030 38109	116-5436
15	61	10.5	6.3	0.6	2222 030 38159	116-5437
22	90	11.5	8.5	0.6	2222 030 38229	116-5438
47	120	18.5	8.5	0.8	2222 031 38479	116-5440

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Order Multiple=5
63 Volt dc

µF	Order Code	Price Each 5+	100+	1K+	3K+
1	116-5430●	0.270	0.159	0.130	0.107
2.2	116-5431●	0.270	0.160	0.131	0.108
3.3	116-5432●	0.260	0.154	0.126	0.104
4.7	116-5433●	0.240	0.144	0.108	0.095
6.8	116-5435●	0.250	0.155	0.123	0.102
10	116-5436●	0.290	0.181	0.145	0.118
15	116-5437●	0.270	0.171	0.138	0.113
22	116-5438●	0.350	0.220	0.176	0.146
47	116-5440●	0.460	0.300	0.240	0.190

2222 041 to 043 Series - High Voltage



- High voltage
- Extended life

Lead Dia = 0.8

Operating Temperature °C-40 to +85°C
Tolerance 10 to +50%
Climatic category **(IEC 68)** 40/085/56
Ripple current measured at 100Hz @ 85°C
Useful life @ 85°C ≥5000 hrs

160 Volt d.c. µF	Ripple (mA)	Impedance (Ω)	Dimensions L	Dia.	Mftrs. List No.	Order Code
22	150	11	25	10	2222 041 21229	116-5631
47	190	3.2	30	15	2222 042 11479	116-5632
100	350	1.5	30	18	2222 042 11101	116-5633
220	610	0.7	40	21	2222 043 11221	116-5634

160 Volt dc

µF	Order Code	Price Each 1+	100+	1K+	3K+
22	116-5631●	0.54	0.39	0.31	0.24
47	116-5632●	1.31	0.94	0.72	0.54
100	116-5633●	1.71	1.26	0.96	0.72
220	116-5634●	3.30	2.38	1.84	1.37

250 Volt d.c. µF	Ripple (mA)	Impedance (Ω)	Dimensions L	Dia.	Mftrs. List No.	Order Code
2.2	35	72	18	6.5	2222 041 33228	116-5635
10	90	16	25	10	2222 041 33109	116-5636
22	130	6.8	30	12.5	2222 042 13229	116-5637
47	220	3.2	30	18	2222 042 13479	116-5638
100	390	1.5	38	21	2222 043 13101	116-5639

250 Volt dc

µF	Order Code	Price Each 1+	100+	1K+	3K+
2.2	116-5635●	0.460	0.320	0.270	0.178
10	116-5636●	0.900	0.630	0.490	0.380
22	116-5637●	1.160	0.840	0.650	0.480
47	116-5638●	1.720	1.240	0.960	0.720
100	116-5639●	2.560	1.860	1.430	1.060

350 Volt d.c. µF	Ripple (mA)	Impedance (Ω)	Dimensions L	Dia.	Mftrs. List No.	Order Code
4.7	60	34	18	10	2222 041 35478	116-5640
10	90	15	30	12.5	2222 042 25109	116-5642
22	140	6.8	30	15	2222 042 15229	116-5643
47	270	3.2	40	18	2222 043 15479	116-5644

350 Volt dc

µF	Order Code	Price Each 1+	100+	1K+	3K+
4.7	116-5640●	0.62	0.43	0.34	0.28
10	116-5642●	1.08	0.79	0.61	0.45
22	116-5643●	1.48	1.06	0.83	0.62
47	116-5644●	2.72	1.97	1.50	1.12

385 Volt d.c. µF	Ripple (mA)	Impedance (Ω)	Dimensions L	Dia.	Mftrs. List No.	Order Code
1	20	160	18	6.5	2222 041 38108	116-5645
2.2	40	72	18	8	2222 041 38228	116-5646
4.7	70	34	25	10	2222 041 38478	116-5647

385 Volt dc

µF	Order Code	Price Each 1+	100+	1K+	3K+
1	116-5645●	0.350	0.250	0.200	0.142
2.2	116-5646●	0.480	0.340	0.270	0.198
4.7	116-5647●	0.840	0.610	0.460	0.360

400 Volt d.c. µF	Ripple (mA)	Impedance (Ω)	Dimensions L	Dia.	Mftrs. List No.	Order Code
10	130	7.5	30	12.5	2222 042 26109	116-5648
22	210	3.5	30	18	2222 042 16229	116-5649
47	330	1.7	40	18	2222 043 16479	116-5650

400 Volt dc

µF	Order Code	Price Each 1+	100+	1K+	3K+
10	116-5648●	1.04	0.75	0.58	0.43
22	116-5649●	1.60	1.15	0.89	0.66
47	116-5650●	2.43	1.74	1.36	1.01

450 Volt d.c. µF	Ripple (mA)	Impedance (Ω)	Dimensions L	Dia.	Mftrs. List No.	Order Code
10	90	10	30	12.5	2222 042 17109	116-5651
22	140	4.1	30	15	2222 042 17229	116-5652
47	250	2.1	40	18	2222 043 17479	116-5654

208471

450 Volt dc

µF	Order Code	Price Each 1+	100+	1K+	3K+
10	116-5651●	1.72	1.46	1.14	0.88
22	116-5652●	2.09	1.78	1.41	1.04
47	116-5654●	2.65	2.24	1.99	1.75

ECA 1 Series — General Purpose



- General purpose 85°C
- Axial leaded electrolytic

Lead Length=30mm

Operating temp. -40°C to +85°C;; 10 to 100V dc
-25°C to +85°C; 250 to 450V d.c.
Tolerance ±20%
DC leakage current 0.02CV or 3µ A; 10 to 100V d.c.
0.03CV or 15µ A (CV<1000)
0.02CV or +30µ A (CV>1000)

10 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code	10 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code
470	16	8	0.6	941-8288	4700	28	16	0.8	941-8318
1000	17	10	0.6	941-8296					
2200	22	13	0.6	941-8300					

Order Multiple=5
10 Volt dc

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
470	941-8288●	0.183	0.161	0.139	0.125	0.114
1000	941-8296●	0.250	0.230	0.210	0.184	0.168
2200	941-8300●	0.350	0.300	0.280	0.240	0.230
4700	941-8318●	0.590	0.540	0.480	0.430	0.390

16 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code	16 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code
22	13	5	0.6	941-8326	1000	21	10	0.6	941-8369
100	14	6.3	0.6	941-8334	2200	24	13	0.6	941-8377
220	13	8	0.6	941-8342	4700	33	16	0.8	941-8385
470	16	8	0.6	941-8350					

Order Multiple=5
16 Volt dc

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
22	941-8326●	0.121	0.108	0.100	0.085	0.079
100	941-8334●	0.122	0.108	0.101	0.086	0.080
220	941-8342●	0.174	0.159	0.140	0.124	0.114
470	941-8350●	0.153	0.138	0.128	0.108	0.098
1000	941-8369●	0.250	0.230	0.220	0.187	0.178
2200	941-8377●	0.460	0.410	0.380	0.350	0.310
4700	941-8385●	0.780	0.720	0.680	0.580	0.520

25 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code	25 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code
10	13	5	0.6	941-8393	470	21	10	0.6	941-8440
22	13	5	0.6	941-8407	1000	22	13	0.6	941-8458
47	13	6	0.6	941-8415	2200	28	16	0.6	941-8466
100	13	8	0.6	941-8423	4700	36	18	0.8	941-8482
220	16	8	0.6	941-8431					

RL Re-reeling available

Order Multiple=5
25 Volt dc

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
10	941-8393●	0.116	0.102	0.095	0.080	0.075
22	941-8407●	0.121	0.106	0.094	0.084	0.078
47	941-8415●	0.126	0.116	0.105	0.092	0.083
100	941-8423●	0.163	0.147	0.132	0.117	0.106
220	941-8431●	0.183	0.164	0.151	0.129	0.120
470	941-8440●	0.220	0.184	0.177	0.146	0.139
1000	941-8458●	0.450	0.400	0.380	0.330	0.310
2200	941-8466●	0.780	0.710	0.670	0.580	0.520
4700	941-8482●	1.400	1.290	1.180	1.040	0.940

35 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code	35 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code
22	13	6	0.6	941-8490	1000	27	13	0.6	941-8539
100	16	8	0.6	941-8504	2200	36	16	0.8	941-8547
220	17	10	0.6	941-8512	4700	43	22	0.8	941-8555
470	22	13	0.6	941-8520					

Order Multiple=5
35 Volt dc

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
22	941-8490●	0.125	0.115	0.104	0.091	0.083
100	941-8504●	0.172	0.156	0.140	0.124	0.114
220	941-8512●	0.210	0.187	0.174	0.147	0.136
470	941-8520●	0.330	0.290	0.250	0.230	0.210
1000	941-8539●	0.470	0.440	0.390	0.360	0.320
2200	941-8547●	0.820	0.750	0.700	0.600	0.550
4700	941-8555●	1.630	1.460	1.320	1.160	1.070

63 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code	63 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code
22	14	6.3	0.6	941-8563	1000	33	16	0.8	941-8610
47	16	8	0.6	941-8571	2200	42	20	0.8	941-8628
100	17	10	0.6	941-8580	4700	52	25	0.8	941-8636
220	22	13	0.6	941-8598					
470	27	13	0.6	941-8601					

Order Multiple=5
63 Volt dc

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
22	941-8563●	0.159	0.141	0.129	0.113	0.104
47	941-8571●	0.182	0.161	0.151	0.129	0.128
100	941-8580●	0.230	0.220	0.199	0.172	0.166
220	941-8598●	0.400	0.370	0.330	0.290	0.250
470	941-8601●	0.630	0.560	0.530	0.460	0.410
1000	941-8610●	1.200	1.080	0.970	0.860	0.780
2200	941-8628●	2.190	1.920	1.770	1.530	1.390
4700	941-8636●	3.680	3.360	3.050	2.650	2.430

100 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code	100 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code
2.2	13	5	0.6	941-8644	47	21	10	0.6	941-8679
4.7	13	6	0.6	941-8652	100	22	13	0.6	941-8687
22	6	8	0.6	941-8660					

Order Multiple=5
100 Volt dc

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
2.2	941-8644●	0.121	0.106	0.094	0.084	0.078
4.7	941-8652●	0.126	0.116	0.105	0.092	0.083
22	941-8660●	0.193	0.174	0.161	0.133	0.128
47	941-8679●	0.300	0.250	0.230	0.210	0.185
100	941-8687●	0.460	0.410	0.380	0.350	0.310

250 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code	250 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code
4.7	20	8	0.6	941-8695	100	40	16	0.8	941-8725
10	21	10	0.6	941-8709					
22	26	13	0.6	941-8717					

Order Multiple=1
250 Volt dc

µF	Order Code	1+	50+	100+	500+	1K+
		Price Each				
4.7	941-8695●	0.61	0.56	0.52	0.46	0.41
10	941-8709●	0.78	0.70	0.61	0.54	0.52
22	941-8717●	1.37	1.21	1.07	0.99	0.92
100	941-8725●	2.51	2.17	1.96	1.78	1.69

450 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code	450 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code
1	16	8	0.6	941-8733	10	26	13	0.6	941-8768
2.2	21	10	0.6	941-8741	22	32	16	0.8	941-8776
4.7	26	10	0.6	941-8750	100	50	25	0.8	941-8784

208517

Order Multiple=1
450 Volt dc

µF	Order Code	1+	50+	100+	500+	1K+
		Price Each				
1	941-8733●	0.47	0.43	0.40	0.37	0.33
2.2	941-8741●	0.38	0.32	0.30	0.27	0.26
4.7	941-8750●	0.72	0.62	0.55	0.51	0.49
10	941-8768●	0.93	0.79	0.72	0.63	0.61
22	941-8776●	1.68	1.46	1.29	1.17	1.09
100	941-8784●	7.02	6.16	5.36	4.27	3.39

ECA 2 Series — 105°C

multicomp



- General purpose 105°C
- Axial leaded electrolytic

Lead length=30mm

Operating Temperature -40 to +105°C
Tolerance ±20%
Dc leakage current 0.02CV or 4µA whichever is greater

10 Volt dc µF	Dimensions L	Dia.	Lead Dia	Order Code	10 Volt dc µF	Dimensions L	Dia.	Lead Dia	Order Code
220	13	8	0.6	941-8792	2200	22	13	0.6	941-8814
1000	17	10	0.6	941-8806					

Order Multiple=5
10 Volt dc

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
220	941-8792●	0.106	0.093	0.086	0.076	0.068
1000	941-8806●	0.290	0.230	0.220	0.190	0.177
2200	941-8814●	0.450	0.400	0.380	0.330	0.310

16 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code	16 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code
100	14	6.3	0.6	941-8822	2200	24	13	0.6	941-8865
220	13	8	0.6	941-8830	4700	33	16	0.8	941-8873
470	16	8	0.6	941-8849					
1000	21	10	0.6	941-8857					

Order Multiple=5
16 Volt dc

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
100	941-8822●	0.132	0.120	0.108	0.094	0.083
220	941-8830●	0.174	0.156	0.140	0.124	0.114
470	941-8849●	0.199	0.181	0.166	0.139	0.131
1000	941-8857●	0.290	0.240	0.230	0.198	0.184
2200	941-8865●	0.480	0.440	0.400	0.370	0.320
4700	941-8873●	0.790	0.740	0.690	0.590	0.540

25 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code	25 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code
10	13	5	0.6	941-8881	470	21	10	0.6	941-8938
22	13	5	0.6	941-8890	1000	22	13	0.6	941-8946
47	13	6	0.6	941-8903	2200	28	16	0.8	941-8954
100	13	8	0.6	941-8911	4700	36	18	0.8	941-8962
220	16	8	0.6	941-8920					

Order Multiple=5
25 Volt dc

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
10	941-8881●	0.122	0.108	0.101	0.086	0.080
22	941-8890●	0.122	0.108	0.101	0.086	0.080
47	941-8903●	0.130	0.120	0.107	0.094	0.083
100	941-8911●	0.172	0.156	0.145	0.124	0.114
220	941-8920●	0.192	0.174	0.161	0.136	0.128
470	941-8938●	0.300	0.250	0.240	0.210	0.191
1000	941-8946●	0.460	0.430	0.390	0.350	0.320
2200	941-8954●	0.820	0.760	0.700	0.600	0.550
4700	941-8962●	1.480	1.320	1.230	1.070	0.980

35 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code	35 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code
10	13	5	0.6	941-8970	470	22	13	0.6	941-9012
47	14	6.3	0.6	941-8989	1000	27	13	0.6	941-9020
100	16	8	0.6	941-8997	2200	36	16	0.8	941-9039
220	17	10	0.6	941-9004	4700	42	22	0.8	941-9047

Order Multiple=5
35 Volt dc

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
10	941-8970●	0.132	0.121	0.109	0.097	0.089
47	941-8989●	0.147	0.132	0.122	0.105	0.097
100	941-8997●	0.186	0.170	0.152	0.132	0.122
220	941-9004●	0.230	0.199	0.185	0.162	0.145
470	941-9012●	0.330	0.300	0.250	0.230	0.210
1000	941-9020●	0.520	0.470	0.440	0.380	0.360
2200	941-9039●	2.010	1.850	1.740	1.500	1.370
4700	941-9047●	2.100	1.920	1.810	1.610	1.410

63 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code	63 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code
10	13	6	0.6	941-9055	220	22	13	0.6	941-9098
22	14	6.3	0.6	941-9063	470	27	13	0.6	941-9101
47	16	8	0.6	941-9071	1000	33	16	0.8	941-9110
100	17	10	0.6	941-9080	2200	42	20	0.8	941-9128

Order Multiple=5
63 Volt dc

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
10	941-9055●	0.122	0.109	0.101	0.086	0.082
22	941-9063●	0.168	0.153	0.136	0.122	0.108
47	941-9071●	0.187	0.169	0.156	0.133	0.124
100	941-9080●	0.250	0.230	0.210	0.186	0.166
220	941-9098●	0.410	0.380	0.360	0.300	0.290
470	941-9101●	0.690	0.600	0.550	0.480	0.450
1000	941-9110●	1.270	1.150	1.050	0.910	0.840
2200	941-9128●	2.600	2.350	2.160	1.850	1.730

RL Re-reeling available

Farnell

Aluminium Electrolytic - Axial - continued

ECA 2 Series — 105°C - continued

100 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code	100 Volt d.c. µF	Dimensions L	Dia.	Lead Dia	Order Code
1	13	5	0.6	941-9136	22	16	8	0.6	941-9179
2.2	13	5	0.6	941-9144	47	21	10	0.6	941-9187
4.7	13	6	0.6	941-9152	100	22	13	0.6	941-9195
10	14	6.3	0.6	941-9160					

208520

Order Multiple=5

100 Volt dc µF	Order Code	Price Each 5+	50+	100+	500+	1K+
1	**941-9136●**	0.122	0.108	0.101	0.086	0.080
2.2	**941-9144●**	0.122	0.108	0.101	0.086	0.080
4.7	**941-9152●**	0.129	0.118	0.107	0.094	0.085
10	**941-9160●**	0.168	0.153	0.136	0.121	0.108
22	**941-9179●**	0.162	0.144	0.132	0.113	0.106
47	**941-9187●**	0.310	0.290	0.240	0.220	0.192
100	**941-9195●**	0.480	0.440	0.400	0.390	0.320

2222 021 Series – Miniature Long Life



Lead dia = 0.8

- Long life aluminium electrolytic
- High gain foil for smaller dimensions
- High CV per unit volume

Operating Temperature	-55°C to +85°C to	DC Leakage current	0.006CV + 4µA
Tolerance	±20%	Ripple Current measured at	100Hz @ 85°C
Climatic category **(IEC68)**	55/085/56	Useful life @ 85°C	2500 hrs (L10 to 25) 5000 hrs (L30 t0 40)

16 Volt d.c. µF	Ripple (mA)	ESR (Ω)	Dimensions L	Dia.	Mftrs. List No.	Order Code
1000	530	0.26	30.5	10.5	2222 021 15102	116-5376
2200	880	0.15	30.5	13	2222 021 15222	116-5377
3300	1120	0.111	30.5	15.5	2222 021 15332	116-5378
4700	1380	0.087	30.5	18.5	2222 021 15472	116-5381
10000	2100	0.058	41.5	21.5	2222 021 15103	116-5382

16 Volt dc µF	Order Code	Price Each 1+	100+	1K+	3K+
1000	**116-5376●**	1.34	0.99	0.79	0.62
2200	**116-5377●**	1.50	1.08	0.91	0.74
3300	**116-5378●**	1.80	1.31	1.05	0.88
4700	**116-5381●**	1.12	1.07	1.01	0.97
10000	**116-5382●**	4.01	3.00	2.35	1.84

25 Volt d.c. µF	Ripple (mA)	ESR (Ω)	Dimensions L	Dia.	Mftrs. List No.	Order Code
47	80	4.8	10	4.5	2222 021 36479	116-5466
100	150	2.3	10	6	2222 021 36101	116-5467
220	250	1	18	6.5	2222 021 36221	116-5468
470	450	0.48	18	10	2222 021 36471	116-5469
680	480	0.323	30.5	10.5	2222 021 16681	116-5383
1000	480	0.22	30.5	13	2222 021 16102	116-5384
1500	780	0.179	30.5	13	2222 021 16152	116-5385
2200	1020	0.132	30.5	15.5	2222 021 16222	116-5386
3300	1240	0.099	30.5	18.5	2222 021 16332	116-5387
4700	1650	0.079	41.5	18.5	222202190062	118-7040
6800	2000	0.064	41.5	21.5	2222 021 16682	116-5388

25 Volt dc µF	Order Code	Price Each 1+	100+	1K+	3K+
47	**116-5466●**	0.410	0.280	0.230	0.174
100	**116-5467●**	0.470	0.310	0.250	0.220
220	**116-5468●**	0.550	0.410	0.340	0.250
470	**116-5469●**	0.810	0.570	0.470	0.380
680	**116-5383●**	0.780	0.580	0.470	0.390
1000	**116-5384●**	1.540	1.110	0.880	0.700
1500	**116-5385●**	1.230	0.910	0.760	0.580
2200	**116-5386●**	1.500	1.280	1.050	0.850
3300	**116-5387●**	2.310	1.650	1.380	1.110
4700	**118-7040●**	2.570	1.850	1.500	1.220
6800	**116-5388●**	2.490	1.900	1.460	1.140

40 Volt d.c. µF	Ripple (mA)	ESR (Ω)	Dimensions L	Dia.	Mftrs. List No.	Order Code
22	60	8	10	4.5	2222 021 37229	116-5470
47	110	3.8	10	6	2222 021 37479	116-5472
100	190	1.8	18	6.5	2222 021 37101	116-5473
220	440	0.8	18	10	2222 021 37221	116-5474
470	440	0.404	30.5	10.5	2222 021 17471	116-5389
680	580	0.279	30.5	13	2222 021 17681	116-5390
1000	730	0.19	30.5	13	2222 021 17102	116-5391
1500	815	0.159	30.5	15.5	2222 021 17152	116-5393
2200	1170	0.118	30.5	18.5	2222 021 17222	116-5394
3300	1500	0.09	41.5	18.5	2222 021 17332	116-5395
4700	1815	0.072	41.5	21.5	222202190063	118-7042

40 Volt dc µF	Order Code	Price Each 1+	100+	1K+	3K+
22	**116-5470●**	0.35	0.30	0.23	0.18
47	**116-5472●**	0.49	0.35	0.27	0.23
100	**116-5473●**	0.57	0.42	0.34	0.27
220	**116-5474●**	0.81	0.57	0.47	0.38
470	**116-5389●**	1.31	0.97	0.76	0.61
680	**116-5390●**	1.54	1.12	0.86	0.70

40 Volt dc µF	Order Code	Price Each 1+	100+	1K+	3K+
1000	**116-5391●**	1.22	1.01	0.92	0.74
1500	**116-5393●**	1.12	0.83	0.67	0.54
2200	**116-5394●**	1.81	1.53	1.47	1.19
3300	**116-5395●**	3.38	2.55	1.93	1.54
4700	**118-7042●**	2.84	2.06	1.68	1.36

63 Volt d.c. µF	Ripple (mA)	ESR (Ω)	Dimensions L	Dia.	Mftrs. List No.	Order Code
4.7	31	31	10	4.5	2222 021 38478	116-5475
10	31	13	10	4.5	2222 021 38109	116-5476
22	90	5.8	10	6	2222 021 38229	116-5477
47	150	2.7	18	6.5	2222 021 38479	116-5478
100	250	1.3	18	8	2222 021 38101	116-5479
220	350	0.614	30.5	10.5	2222 021 18221	116-5396
470	570	0.287	30.5	13	2222 021 18471	116-5397
680	770	0.199	30.5	15.5	2222 021 18681	116-5398
1000	1035	0.135	30.5	18.5	2222 021 18102	116-5399
2200	1740	0.099	41.5	21.5	2222 021 18222	116-5400

63 Volt dc µF	Order Code	Price Each 1+	100+	1K+	3K+
4.7	**116-5475●**	0.350	0.230	0.197	0.161
10	**116-5476●**	0.350	0.230	0.197	0.161
22	**116-5477●**	0.350	0.270	0.220	0.180
47	**116-5478●**	0.490	0.420	0.340	0.270
100	**116-5479●**	0.540	0.460	0.380	0.310
220	**116-5396●**	1.070	0.920	0.760	0.590
470	**116-5397●**	1.230	1.040	0.910	0.720
680	**116-5398●**	1.760	1.270	1.040	0.840
1000	**116-5399●**	1.880	1.580	1.400	1.080
2200	**116-5400●**	3.660	3.120	2.430	1.960

100 Volt d.c. µF	Ripple (mA)	ESR (Ω)	Dimensions L	Dia.	Mftrs. List No.	Order Code
100	262	1.15	30.5	10.5	2222 021 19101	116-5401
220	560	0.61	30	12.5	2222 021 19221	116-5480
470	695	0.31	30.5	18.5	2222 021 19471	116-5402
1000	1161	0.16	41.5	21.5	2222 021 19102	116-5403

219639

100 Volt dc µF	Order Code	Price Each 1+	100+	1K+	3K+
100	**116-5401●**	1.07	0.91	0.77	0.59
220	**116-5480●**	1.03	0.85	0.73	0.57
470	**116-5402●**	1.67	1.28	0.98	0.77
1000	**116-5403●**	4.56	3.46	2.60	2.09

2222 120 Series 5mm - Long Life 125°C



Lead dia.=0.8 Supplied loose.

- High temperature axial aluminium electrolytic capacitors
- Extra long useful life
- High ripple current capability
- Compact case size
- Useable up to 150°C
- Suitable for automotive applications

Operating Temperature	-40°C to +125°C	DC Leakage current	0.006CV + 20µA
Tolerance	±20%	Useful life @ 125°C	8000 hrs
Climatic category **(IEC 60068)**	40/125/56	Ripple Current measured at	10kHz @ 125°C

µF	Ripple (mA)	ESR max. (mΩ) @ 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
16 Volt dc						
1000	2550	128	30	12.5	2222 120 15102	116-5546
2200	2940	79	30	15	2222 120 15222	116-5547
4700	4350	45	40	18	2222 120 15472	116-5548
25 Volt dc						
470	2100	187	30	10	2222 120 16471	116-5551
1000	2600	107	30	12.5	2222 120 16102	116-5552
2200	3310	71	30	18	2222 120 16222	116-5553
4700	4470	44	40	21	2222 120 16472	116-5554
40 Volt dc						
220	1990	320	30	10	2222 120 17221	116-5555
470	2550	169	30	12.5	2222 120 17471	116-5556
1000	3150	99	30	18	2222 120 17102	116-5557
2200	4170	56	40	21	2222 120 17222	116-5559
63 Volt dc						
100	1560	495	30	10	2222 120 18101	116-5560
220	2150	249	30	12.5	2222 120 18221	116-5561
470	2860	135	30	18	2222 120 18471	116-5563
1000	3780	74	40	21	2222 120 18102	116-5564
100 Volt dc						
47	760	1269	30	10	2222 120 19479	116-5565
100	1140	648	30	12.5	2222 120 19101	116-5566
220	1960	302	30	18	2222 120 19221	116-5567

219638

µF	Order Code	Price Each 1+	10+	50+	100+	500+
16 Volt dc						
1000	**116-5546●**	1.49	1.34	1.16	0.91	0.80
2200	**116-5547●**	2.38	2.12	1.84	1.46	1.28
4700	**116-5548●**	4.15	3.69	3.19	2.54	2.19
25 Volt dc						
470	**116-5551●**	1.63	1.45	1.28	1.00	0.87
1000	**116-5552●**	2.12	1.89	1.66	1.31	1.12
2200	**116-5553●**	3.33	2.97	2.56	2.04	1.75
4700	**116-5554●**	6.24	5.56	4.83	3.82	3.30

RL Re-reeling available

Farnell

µF	Order Code	Price Each 1+	10+	50+	100+	500+
40 Volt dc						
220	116-5555●	1.67	1.48	1.31	1.02	0.89
470	116-5556●	2.01	1.79	1.54	1.24	1.05
1000	116-5557●	3.10	2.74	2.39	1.87	1.64
2200	116-5559●	5.67	5.04	4.40	3.47	3.01
63 Volt dc						
100	116-5560●	1.63	1.44	1.28	0.99	0.87
220	116-5561●	2.18	1.95	1.70	1.35	1.15
470	116-5563●	3.22	2.88	2.49	1.99	1.70
1000	116-5564●	5.89	5.23	4.55	3.58	3.11
100 Volt dc						
47	116-5565●	1.34	1.18	1.04	0.82	0.71
100	116-5566●	1.16	1.10	1.05	1.00	0.96
220	116-5567●	2.58	2.31	1.99	1.59	1.37

PEG Series

EVOX RIFA A KEMET Company

New



Operating Temperature -40°C to +150°C

PEG 226 is a new generation of high performance axial electrolytic capacitors, designed for automotive applications with extremely high demands.

µF	Voltage	Dimensions H	Dia	Tolerance	Mftrs. LIst No.	Order Code
PEG225 Series						
2200	25V	26.5	16	±20%	PEG225HF4220ME1	167-8925
3000	25V	34.5	16	±20%	PEG225HG4300ME1	167-8926
4800	25V	34.5	20	+30%, -10%	PEG225HJ4480QE1	167-8927
1200	40V	26.5	16	±20%	PEG225KF4120ME1	167-8928
1800	40V	34.5	16	±20%	PEG225KG4180ME1	167-8931
3000	40V	34.5	20	+30%, -10%	PEG225KJ4300QE1	167-8932
470	63V	26.5	16	+30%, -10%	PEG225MF3470QE1	167-8933
680	63V	34.5	16	+30%, -10%	PEG225MG3680QE1	167-8934
1400	63V	34.5	20	+30%, -10%	PEG225MJ4140QE1	167-8935
PEG220 Series						
1500	25V	26.5	16	±20%	PEG220HF4150ME1	167-8936
800	40V	26.5	16	+30%, -10%	PEG220KF3800QE1	167-8937
2700	40V	42.5	20	+30%, -10%	PEG220KL4270QE1	167-8938
PEG226 Series						
1500	25V	26.5	16	±20%	PEG226HF4150ME1	167-8939
800	40V	26.5	16	+30%, -10%	PEG226KF3800QE1	167-8940

527578

Order Multiple=5 µF	Order Code	Price Each 1+	10+	25+	50+	100+
PEG225 Series						
2200	167-8925●	2.95	2.80	2.70	2.50	2.25
3000	167-8926●	2.95	2.80	2.70	2.50	2.25
4800	167-8927●	2.95	2.80	2.70	2.50	2.25
1200	167-8928●	2.95	2.80	2.70	2.50	2.25
1800	167-8931●	2.95	2.80	2.70	2.50	2.25
3000	167-8932●	2.95	2.80	2.70	2.50	2.25
470	167-8933●	2.95	2.80	2.70	2.50	2.25
680	167-8934●	2.95	2.80	2.70	2.50	2.25
1400	167-8935●	2.95	2.80	2.70	2.50	2.25
PEG220 Series						
1500	167-8936●	2.65	2.50	2.40	2.20	2.05
800	167-8937●	2.65	2.50	2.40	2.20	2.05
2700	167-8938●	2.95	2.80	2.70	2.50	2.25
PEG226 Series						
1500	167-8939●	2.95	2.80	2.70	2.50	2.25
800	167-8940●	2.95	2.80	2.70	2.50	2.25

Aluminium Electrolytic - Radial

MCUMR Series 5mm– 85°C

multicomp



- Ultra miniature radial electrolytic capacitors
- 5mm profile for extra high density applications

Operating temperature -40°C to +85°C
Tolerance @ 120Hz 20°C ±20%
DC leakage current 0.01CV or 6.3µA whichever is greater

µF	Ripple (mA) @ 120Hz 85°C	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
6.3 Volt d.c.							
100	70	5	5	0.45	2	MCUMR6V3107M5X5	945-2176
330	170	5	8	0.5	3.5	MCUMR6V3337M8X5	945-2184
16 Volt d.c.							
10	23	5	4	0.45	1.5	MCUMR16V106M4X5	945-2192
22	37	5	4	0.45	1.5	MCUMR16V226M4X5	945-2206
47	58	5	6.3	0.45	2.5	MCUMR16V476M6.3X5	945-2214
100	92	5	6.3	0.45	2.5	MCUMR16V107M6.3X5	945-2222
25 Volt d.c.							
4.7	16	5	4	0.45	1.5	MCUMR25V475M4X5	945-2230
10	27	5	4	0.45	1.5	MCUMR25V106M4X5	945-2249
22	42	5	5	0.45	2	MCUMR25V226M5X5	945-2257
33	52	5	6.3	0.45	2.5	MCUMR25V336M6.3X5	945-2265
35 Volt d.c.							
4.7	18	5	4	0.45	1.5	MCUMR35V475M4X5	945-2273
10	29	5	5	0.45	2	MCUMR35V106M5X5	945-2281
22	46	5	6.3	0.45	2.5	MCUMR35V226M6.3X5	945-2290
50 Volt d.c.							
1	28	5	4	0.45	1.5	MCUMR50V105M4X5	945-2303
2.2	13	5	4	0.45	1.5	MCUMR50V225M4X5	945-2311
4.7	20	5	5	0.45	2	MCUMR50V475M5X5	945-2320
10	33	5	6.3	0.45	2.5	MCUMR50V106M6.3X5	945-2338
22	52	5	8	0.5	3.5	MCUMR50V226M8X5	945-2346

208568

Order Multiple=5 µF	Order Code	Price Each 5+	25+	100+	500+	1K+
6.3 Volt d.c.						
100	945-2176●	0.106	0.098	0.086	0.077	0.072
330	945-2184●	0.270	0.250	0.200	0.183	0.175
16 Volt d.c.						
10	945-2192●	0.079	0.071	0.064	0.054	0.052
22	945-2206●	0.052	0.047	0.040	0.036	0.033
47	945-2214●	0.106	0.105	0.092	0.084	0.073
100	945-2222●	0.280	0.260	0.200	0.187	0.184
25 Volt d.c.						
4.7	945-2230●	0.097	0.090	0.074	0.071	0.067
10	945-2249●	0.090	0.084	0.071	0.062	0.061
22	945-2257●	0.106	0.098	0.086	0.077	0.072
33	945-2265●	0.122	0.117	0.094	0.083	0.082
35 Volt d.c.						
4.7	945-2273●	0.079	0.071	0.062	0.052	0.050
10	945-2281●	0.070	0.066	0.056	0.049	0.048
22	945-2290●	0.106	0.098	0.086	0.077	0.073
50 Volt d.c.						
1	945-2303●	0.079	0.071	0.064	0.054	0.050
2.2	945-2311●	0.031	0.028	0.026	0.022	0.019
4.7	945-2320●	0.104	0.094	0.077	0.071	0.065
10	945-2338●	0.107	0.096	0.082	0.074	0.069
22	945-2346●	0.270	0.250	0.200	0.183	0.140

2222 134 Series 5mm - 85°C

BC COMPONENTS



- Extremely miniature radial electrolytic capacitors
- Very low profile, 5mm height
- High CV per unit volume

H =5, Lead dia. = 0.4 to 0.45
Supplied loose

Operating Temperature -40°C to +85°C
Tolerance ±20%
Climatic category **(IEC 60068)** 40/085/56
Ripple Current measured at 120Hz @ 85°C
DC Leakage current 0.01CV or 3µA whichever is greater
Useful life @ 85°C 1500 hrs

µF	Ripple (mA)	Dimensions H	Dia.	Lead Pitch	Mftrs. List No.	Order Code
6.3 Volt d.c.						
47	38	5	5	2	2222 134 53479	116-5533
100	60	5	6.3	2.5	2222 134 53101	116-5534
16 Volt d.c.						
10	17	5	4	1.5	2222 134 95105	116-5535
22	32	5	5	2	2222 134 55229	116-5536
47	50	5	6.3	2.5	2222 134 55479	116-5538
35 Volt d.c.						
4.7	15	5	4	1.5	2222 134 50478	116-5540
10	25	5	5	2	2222 134 50109	116-5541
22	40	5	6.3	2.5	2222 134 50229	116-5542
50 Volt dc						
1	6.2	5	3	1	2222 134 91105	116-5543
2.2	10	5	3.5	1	2222 134 91225	116-5544
4.7	19	5	5	2	2222 134 51478	116-5545

208602

Order Multiple=5 µF	Order Code	Price Each 5+	25+	100+	500+	1K+
6.3 Volt dc						
47	116-5533●	0.171	0.154	0.129	0.108	0.102
100	116-5534●	0.195	0.176	0.145	0.125	0.115
16 Volt dc						
10	116-5535●	0.172	0.154	0.140	0.120	0.111
22	116-5536●	0.171	0.153	0.138	0.130	0.109
47	116-5538●	0.200	0.187	0.163	0.140	0.123
35 Volts dc						
4.7	116-5540●	0.136	0.121	0.101	0.086	0.081
10	116-5541●	0.176	0.159	0.133	0.111	0.105
22	116-5542●	0.187	0.169	0.144	0.126	0.117
50 Volts dc						
1	116-5543●	0.172	0.154	0.130	0.110	0.097
2.2	116-5544●	0.163	0.146	0.122	0.104	0.092
4.7	116-5545●	0.169	0.152	0.136	0.118	0.105

MS5 Series – Micro-Miniature

Rubycon



- Micro miniature radial electrolytic capacitors
- Low profile for compact designs

Operating temperature -40°C to +85°C
Tolerance ±20%
DC leakage current 0.01CV or 3µA whichever is greater
ESR measured at 120Hz @ 25°C
Ripple current measured at 120Hz @ 85°C

RL Re-reeling available

Farnell

Aluminium Electrolytic - Radial - continued

MS5 Series – Micro-Miniature - continued

Volt d.c.	µF	Ripple (mA) @ 120Hz 85°C	ESR Ω	Dimensions H	Dia.	Lead Spacing	Lead Dia.	Order Code
6.3	100	62	3.45	5	6.3	2.5	0.45	114-4596
16	10	20	23.9	5	4	1.5	0.45	114-4605
16	47	65	5.08	5	6.3	2.5	0.45	114-4597
35	22	46	8.44	5	6.3	2.5	0.45	114-4598
50	2.2	9.1	72.3	5	3.5	1	0.4	114-4600
50	4.7	20	33.8	5	5	2	0.45	114-4602
50	6.8	26	23.4	5	6.3	2.5	0.45	114-4603
50	10	31	15.9	5	6.3	2.5	0.45	114-4604

208637

Order Multiple=5 Volt d.c.	µF	Order Code	Price Each 5+	50+	100+	500+
6.3	100	114-4596●	0.153	0.126	0.109	0.101
16	10	114-4605●	0.156	0.128	0.110	0.102
16	47	114-4597●	0.165	0.139	0.117	0.101
35	22	114-4598●	0.165	0.136	0.117	0.111
50	2.2	114-4600●	0.122	0.101	0.088	0.082
50	4.7	114-4602●	0.157	0.129	0.112	0.101
50	6.8	114-4603●	0.190	0.153	0.121	0.101
50	10	114-4604●	0.188	0.145	0.114	0.095

MCMR Series 7mm – 85°C

multicomp



- Ultra miniature radial electrolytic capacitors
- 7mm profile for high density applications

Operating temperature -40°C to +85°C
Tolerance @ 120Hz 20°C ±20%
DC leakage current 0.01CV or 3µA whichever is greater

µF	Ripple (mA) @ 120Hz 85°C	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
10 Volt d.c.							
47	59	7	4	0.45	1.5	MCMR10V476M4X7	945-2427
100	87	7	5	0.45	2	MCMR10V107M5X7	945-2435
220	145	7	6.3	0.45	2.5	MCMR10V227M6.3X7	945-2443
16 Volt d.c.							
22	180	7	4	0.45	1.5	MCMR16V226M4X7	945-2451
47	65	7	5	0.45	2	MCMR16V476M5X7	945-2460
100	98	7	6.3	0.4	2.5	MCMR16V107M6.3X7	945-2478
25 Volt d.c.							
10	28	7	4	0.45	1.5	MCMR25V106M4X7	945-2486
47	71	7	6.3	0.45	2.5	MCMR25V476M6.3X7	945-2494
35 Volt d.c.							
10	31	7	4	0.45	1.5	MCMR35V106M4X7	945-2508
47	73	7	6.3	0.45	2.5	MCMR35V476M6.3X7	945-2516
63 Volt d.c.							
1	13	7	4	0.45	1.5	MCMR63V105M4X7	945-2524
2.2	21.5	7	4	0.45	1.5	MCMR63V225M4X7	945-2532
4.7	32.4	7	5	0.45	2	MCMR63V475M5X7	945-2540

208570

Order Multiple=5 µF	Order Code	Price Each 5+	25+	100+	500+	1K+
10 Volt d.c.						
47	945-2427●	0.051	0.047	0.034	0.032	0.031
100	945-2435●	0.075	0.071	0.047	0.046	0.045
220	945-2443●	0.098	0.093	0.066	0.060	0.057
16 Volt d.c.						
22	945-2451●	0.065	0.060	0.041	0.039	0.037
47	945-2460●	0.075	0.071	0.047	0.046	0.045
100	945-2478●	0.098	0.093	0.066	0.060	0.057
25 Volt d.c.						
10	945-2486●	0.051	0.047	0.034	0.032	0.031
47	945-2494●	0.098	0.093	0.066	0.060	0.057
35 Volt d.c.						
10	945-2508●	0.065	0.059	0.053	0.046	0.040
47	945-2516●	0.100	0.092	0.063	0.060	0.055
63 Volt d.c.						
1	945-2524●	0.065	0.060	0.041	0.039	0.037
2.2	945-2532●	0.051	0.047	0.032	0.030	0.029
4.7	945-2540●	0.060	0.056	0.037	0.036	0.034

2222 097 Series 7mm - 85°C

BC COMPONENTS



H=7, Lead dia.=0.45
Supplied loose.

- Miniature radial electrolytic capacitors
- Low profile, 7mm height
- High CV per unit volume

Operating temperature -40°C to +85°C
Tolerance ±20%
Climatic category **(IEC 60068)** 40/085/56
Ripple current measured at 120Hz 85°C
DC leakage current
Useful life at 85°C 1500 hours
0.01CV or 3µA whichever is greater

µF	Ripple (mA)	Dimensions H	Dia.	Lead Pitch	Mftrs. List No.	Order Code
10 Volt d.c.						
100	80	7	6.3	2.5	2222 097 54101	116-5517
16 Volt d.c.						
10	25	7	4	1.5	2222 097 55109	116-5518
22	39	7	5	2	2222 097 55229	116-5519
47	59	7	6.3	2.5	2222 097 55479	116-5520
100	90	7	6.3	2.5	2222 097 55101	116-5521
25 Volt d.c.						
33	53	7	6.3	2.5	2222 097 56339	116-5522
47	65	7	6.3	2.5	2222 097 56479	116-5523
35 Volt d.c.						
4.7	20	7	4	1.5	2222 097 50478	116-5524
10	30	7	5	2	2222 097 50109	116-5526
22	47	7	6.3	2.5	2222 097 50229	116-5527
50 Volt d.c.						
3.3	18	7	4	1.5	2222 097 51338	116-5528
63 Volt d.c.						
1	11	7	4	1.5	2222 097 58108	116-5529
2.2	17	7	4	1.5	2222 097 58228	116-5530
4.7	26	7	6.3	2.5	2222 097 58478	116-5531
10	40	7	6.3	2.5	2222 097 58109	116-5532

208603

Order Multiple=5 µF	Order Code	Price Each 5+	25+	100+	500+	1K+
10 Volt d.c.						
100	116-5517●	0.190	0.178	0.162	0.133	0.124
16 Volt d.c.						
10	116-5518●	0.143	0.137	0.124	0.100	0.093
22	116-5519●	0.162	0.154	0.145	0.112	0.104
47	116-5520●	0.196	0.184	0.167	0.137	0.129
100	116-5521●	0.220	0.200	0.191	0.149	0.140
25 Volt d.c.						
33	116-5522●	0.196	0.184	0.167	0.137	0.129
47	116-5523●	0.220	0.200	0.191	0.149	0.140
35 Volt d.c.						
4.7	116-5524●	0.164	0.156	0.141	0.113	0.106
10	116-5526●	0.166	0.159	0.149	0.115	0.107
22	116-5527●	0.196	0.184	0.167	0.137	0.129
50 Volt d.c.						
3.3	116-5528●	0.143	0.137	0.124	0.100	0.093
60 Volt d.c.						
1	116-5529●	0.164	0.156	0.141	0.113	0.106
2.2	116-5530●	0.151	0.145	0.131	0.105	0.099
4.7	116-5531●	0.196	0.184	0.167	0.137	0.129
10	116-5532●	0.220	0.200	0.191	0.150	0.140

MCUMHR Series 5mm – 105°C

multicomp



- Ultra miniature radial electrolytic capacitors
- 5mm profile for extra high density applications

Operating temperature -40°C to +105°C
Tolerance @ 120Hz 20°C ±20%
DC leakage current 0.01CV or 6.3µA whichever is greater

µF	Ripple (mA) @ 120Hz 105°C	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
6.3 Volt d.c.							
100	60	5	6.3	0.45	2.5	MCUMHR6V3107M6.3X5	945-2354
16 Volt d.c.							
47	50	5	6.3	0.45	2.5	MCUMHR16V476M6.3X5	945-2362
35 Volt d.c.							
47	50	5	6.3	0.45	2.5	MCUMHR16V476M6.3X5	945-2362
10	25	5	5	0.45	2	MCUMHR35V106M5X5	945-2389
22	42	5	6.3	0.45	2.5	MCUMHR35V226M6.3X5	945-2397
50 Volt d.c.							
1	6.2	5	4	0.45	1.5	MCUMHR50V105M4X5	945-2400
2.2	11	5	4	0.45	1.5	MCUMHR50V225M4X5	945-2419

208571

Order Multiple=5 µF	Order Code	Price Each 5+	25+	100+	500+	1K+
6.3 Volt d.c.						
100	945-2354●	0.181	0.152	0.142	0.116	0.092
16 Volt d.c.						
47	945-2362●	0.181	0.152	0.142	0.116	0.092
35 Volt d.c.						
4.7	945-2370●	0.129	0.109	0.098	0.085	0.066
10	945-2389●	0.116	0.097	0.083	0.074	0.056
22	945-2397●	0.181	0.152	0.142	0.116	0.092
50 Volt d.c.						
1	945-2400●	0.129	0.109	0.098	0.085	0.066
2.2	945-2419●	0.064	0.054	0.049	0.043	0.034

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RL Re-reeling available

ML Series – Long Life, 105°C (Miniature Aluminum Electrolytic)

Rubycon



- New much lower profile alternative to standard components
- Load Life of 3000 hours
- 5mm to 10mm Height
- Complimenting lower profile, body diameter is kept to a minimum
- Ideally suited for multiple applications where height is a key consideration

Tolerance ±20%
Leakage current (max) 0.01 CV or 3µA whichever is greater
Operating temperature -40°C to +105°C
Ripple current measured at 105°C@ 100kHz

6.3 Volt d.c.

µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
47	47	7	4	1.5	6.3ML47M4X7	812-7131
220	125	5	8	2.5	6.3ML220M8X5	812-7123
470	190	7.5	8	3.5	6.3ML470M8X7.5	812-7140
1000	480	9	10	5	6.3ML1000M10X9	812-7115

6.3 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
47	812-7131●	0.130	0.117	0.095	0.093	0.082
220	812-7123●	0.210	0.173	0.150	0.139	0.123
470	812-7140●	0.310	0.280	0.240	0.200	0.194
1000	812-7115●	0.560	0.480	0.420	0.390	0.370

10 Volt d.c.

µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
22	22	5	4	1.5	10ML22M4X5	812-6178
47	48	5	5	2	10ML47M5X5	812-6194
100	75	5	6.3	2.5	10ML100M6.3X5	812-6160
220	160	7	8	3.5	10ML220M8X7	812-6186
470	210	9	8	5	10ML470M8X9	812-6208

10 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
22	812-6178●	0.141	0.117	0.106	0.094	0.092
47	812-6194●	0.129	0.116	0.105	0.093	0.081
100	812-6160●	0.181	0.156	0.134	0.119	0.109
220	812-6186●	0.280	0.250	0.220	0.185	0.177
470	812-6208●	0.340	0.300	0.270	0.240	0.230

16 Volt d.c.

µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
22	40	7	4	1.5	16ML22M4X7	812-6259
100	95	7	6.3	2.5	16ML100M6.3X7	812-6240
220	170	7.5	8	3.5	16ML220M8X7.5	812-6267
470	460	9	10	5	16ML470M10X9	812-6275

16 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
22	812-6259●	0.130	0.117	0.095	0.093	0.082
100	812-6240●	0.193	0.170	0.146	0.132	0.123
220	812-6267●	0.300	0.270	0.230	0.200	0.183
470	812-6275●	0.560	0.470	0.420	0.380	0.360

25 Volt d.c.

µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
10	18	5	4	1.5	25ML10M4X5	812-6380
22	42	5	5	2	25ML22M5X5	812-6402
47	65	5	6.3	2.5	25ML47M6.3X5	812-6429
100	112	7	8	3.5	25ML100M8X7	812-6399
220	190	9	8	3.5	25ML220M8X9	812-6410

25 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	812-6380●	0.145	0.121	0.109	0.097	0.094
22	812-6402●	0.145	0.121	0.109	0.097	0.094
47	812-6429●	0.181	0.157	0.135	0.133	0.123
100	812-6399●	0.290	0.260	0.230	0.191	0.182
220	812-6410●	0.340	0.310	0.270	0.260	0.230

35 Volt d.c.

µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
10	28	7	4	1.5	35ML10M4X7	812-6542
47	80	5	8	2.5	35ML47M8X5	812-6577
100	125	7.5	8	3.5	35ML100M8X7.5	812-6550
220	360	9	10	5	35ML220M10X9	812-6569

35 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	812-6542●	0.191	0.168	0.145	0.118	0.097
47	812-6577●	0.270	0.230	0.193	0.180	0.158
100	812-6550●	0.310	0.280	0.240	0.230	0.196
220	812-6569●	0.590	0.490	0.440	0.400	0.370

50 Volt d.c.

µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
1	8	5	4	1.5	50ML1M4X5	812-6933
2.2	11	5	4	1.5	50ML2R2M4X5	812-6950
4.7	23	7	4	1.5	50ML4R7M4X7	812-6976
10	30	7	5	2	50ML10M5X7	812-6941
22	50	5	8	2.5	50ML22M8X5	812-6968

372154

50 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
1	812-6933●	0.145	0.121	0.109	0.097	0.094
2.2	812-6950●	0.141	0.117	0.106	0.094	0.092
4.7	812-6976●	0.164	0.139	0.117	0.104	0.081
10	812-6941●	0.168	0.142	0.121	0.107	0.083
22	812-6968●	0.270	0.230	0.193	0.179	0.158

MCMHR Series 7mm – 105°C

multicomp



- Ultra miniature radial electrolytic capacitors
- 7mm profile for high density applications

Operating temperature -40°C to +105°C
Tolerance @ 120Hz 20°C ±20%
DC leakage current 0.01CV or 3µA whichever is greater

µF	Ripple (mA) @ 120Hz 105°C	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
6.3 Volt d.c.							
47	50	7	5	0.45	2	MCMR6V3476M5X7	945-2559
100	77	7	6.3	0.45	2.5	MCMR6V3107M6.3X7	945-2567
220	130	7	8	0.5	3.5	MCMR6V3227M8X7	945-2575
330	170	7	8	0.5	3.5	MCMHR6V3337M8X7	945-2583
16 Volt d.c.							
10	29	7	4	0.45	1.5	MCMHR16V106M4X7	945-2591
22	44	7	5	0.45	2	MCMHR16V226M5X7	945-2613
33	57	7	6.3	0.45	2.5	MCMHR16V336M6.3X7	945-2621
47	68	7	6.3	0.45	2.5	MCMHR16V476M6.3X7	945-2630
100	107	7	6.3	0.45	2.5	MCMHR16V107M6.3X7	945-2648
35 Volt d.c.							
10	36	7	5	0.45	2	MCMHR35V106M5X7	945-2656
22	57	7	6.3	0.45	2.5	MCMHR35V226M6.3X7	945-2664
33	72	7	6.3	0.45	2.5	MCMHR35V336M6.3X7	945-2672
47	81	7	8	0.5	3.5	MCMHR35V476M8X7	945-2680
50 Volt d.c.							
3.3	24	7	4	0.45	1.5	MCMHR50V335M4X7	945-2699
10	44	7	6.3	0.45	2.5	MCMHR50V106M6.3X7	945-2702
22	65	7	6.3	0.45	2.5	MCMHR50V226M6.3X7	945-2710
63 Volt d.c.							
0.1	2	7	4	0.45	1.5	MCMHR63V104M4X7	945-2729
1	13	7	4	0.45	1.5	MCMHR63V105M4X7	945-2737
4.7	32.4	7	5	0.45	2	MCMHR63V475M5X7	945-2745

208569

Order Multiple=5 µF	Order Code	Price Each 5+	25+	100+	500+	1K+
6.3 Volt d.c.						
47	945-2559●	0.103	0.088	0.080	0.068	0.053
100	945-2567●	0.120	0.105	0.092	0.080	0.065
220	945-2575●	0.270	0.200	0.186	0.158	0.129
330	945-2583●	0.270	0.200	0.186	0.158	0.129
16 Volt d.c.						
10	945-2591●	0.088	0.074	0.063	0.054	0.044
22	945-2613●	0.103	0.088	0.080	0.068	0.053
33	945-2621●	0.120	0.105	0.092	0.080	0.065
47	945-2630●	0.120	0.105	0.092	0.080	0.065
100	945-2648●	0.120	0.105	0.092	0.080	0.065
35 Volt d.c.						
10	945-2656●	0.103	0.088	0.080	0.068	0.053
22	945-2664●	0.120	0.105	0.092	0.080	0.065
33	945-2672●	0.120	0.105	0.092	0.080	0.065
47	945-2680●	0.270	0.200	0.175	0.153	0.122
50 Volt d.c.						
3.3	945-2699●	0.087	0.075	0.067	0.055	0.046
10	945-2702●	0.120	0.105	0.092	0.080	0.065
22	945-2710●	0.120	0.105	0.092	0.080	0.065
63 Volt d.c.						
0.1	945-2729●	0.087	0.075	0.067	0.055	0.046
1	945-2737●	0.087	0.075	0.067	0.055	0.046
4.7	945-2745●	0.103	0.088	0.080	0.068	0.053

KXW Series – 105°C (Miniature Aluminum Electrolytic)

Rubycon



- Body diameter of 10mm to 18mm with high ripple current capability
- Wide range of rated voltages up to 450 Volts
- Ultra high ripple current in a miniature Package
- Specifically designed for Switch Mode applications
- One case size smaller than standard Switch Mode Capacitors

Tolerance ±20%
Leakage current (max) 0.01 CV or 3µA whichever is greater
Operating temperature -25°C to +105°C
Load life 2000 hrs

200 Volt d.c.

µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
220	0.8	30	14.5	7.5	200KXW220MLST14.5X30	812-6348
330	1.01	30	18	7.5	200KXW330MLST18X30	812-6356
470	1.27	40	18	7.5	200KXW470MLST18X40	812-6364
560	1.39	45	18	7.5	200KXW560MLST18X45	812-6372

RL Re-reeling available

Farnell

Aluminium Electrolytic - Radial - continued

KXW Series – 105°C
(Miniature Aluminum Electrolytic) - continued

200 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
		Price Each				
220	812-6348●	2.32	2.02	1.75	1.60	1.46
330	812-6356●	3.46	3.04	2.65	2.41	2.25
470	812-6364●	4.57	4.00	3.48	3.18	2.95
560	812-6372●	5.18	4.65	4.04	3.68	3.43

400 Volt d.c.

µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
47	0.37	30	12.5	5	400KXW47MLST12.5X30	812-6860
56	420	35	12.5	5	400KXW56M12.5X35	154-7015
68	480	40	12.5	5	400KXW68M12.5X40	154-7016
82	0.52	35	14.5	7.5	400KXW82MLST14.5X35	812-6879
100	0.58	30	16	7.5	400KXW100MLST16X30	812-6844
120	670	30	18	7.5	400KXW120M18X30	154-7017
180	880	40	18	7.5	400KXW180M18X40	154-7018
220	1	45	18	7.5	400KXW220MLST18X45	812-6852

400 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
		Price Each				
47	812-6860●	1.73	1.52	1.31	1.19	1.10
56	NEW 154-7015●	1.27	1.17	1.01	0.91	0.81
68	NEW 154-7016●	1.45	1.36	1.16	1.05	0.95
82	812-6879●	3.10	2.71	2.37	2.15	2.00
100	812-6844●	4.15	3.62	3.15	2.87	2.67
120	NEW 154-7017●	2.50	2.34	2.01	1.80	1.64
180	NEW 154-7018●	3.47	3.23	2.78	2.49	2.26
220	812-6852●	8.65	7.59	6.61	6.04	5.57

450 Volt d.c.

µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
47	380	40	12.5	5	450KXW47M12.5X40	154-7019
150	800	45	18	7.5	450KXW150M18X45	154-7020

372153

450 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
		Price Each				
47	NEW 154-7019●	1.90	1.77	1.51	1.36	1.24
150	NEW 154-7020●	5.35	4.99	4.28	3.84	3.48

GPR Series – General Purpose

multicomp



- General purpose radial leaded electrolytic
- Supplied loose with straight leads

Operating temp.	-40°C to +85°C
Tolerance	±20%
DC leakage current	I = 0.01CV +3 (µA) max
Ripple current measured at	120Hz @ 85°C

16 Volt d.c.

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Order Code
10	39	11	5	0.5	2	945-1056
22	50	11	5	0.5	2	945-1064
47	78	11	5	0.5	2	945-1072
100	123	12	6.3	0.5	2.5	945-1080
220	232	12	6	0.5	2.5	945-1099
330	310	12	8	0.6	3.5	945-1102
470	390	12	8	0.6	3.5	945-1110
1000	690	17	10	0.6	5	945-1129
2200	1052	21	13	0.6	5	945-1137
4700	1960	26	16	0.8	7.5	945-1145

Order Multiple=10

16 Volt d.c.

µF	Order Code	10+	50+	100+	500+	1K+
		Price Each				
10	945-1056●	0.035	0.032	0.029	0.027	0.024
22	945-1064●	0.040	0.035	0.033	0.029	0.024
47	945-1072●	0.040	0.035	0.033	0.029	0.028
100	945-1080●	0.052	0.046	0.043	0.038	0.037
220	945-1099●	0.075	0.070	0.064	0.052	0.051
330	945-1102●	0.087	0.081	0.073	0.067	0.060
470	945-1110●	0.125	0.118	0.107	0.087	0.085
1000	945-1129●	0.195	0.179	0.164	0.134	0.129
2200	945-1137●	0.380	0.360	0.330	0.280	0.270
4700	945-1145●	0.930	0.820	0.720	0.660	0.570

25 Volt d.c.

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Order Code
10	39	11	5	0.5	2	945-1153
22	50	11	5	0.5	2	945-1161
47	89	11	5	0.5	2	945-1170
100	142	12	6.3	0.5	2.5	945-1188
220	270	12	8	0.5	3.5	945-1196
470	460	17	10	0.6	5	945-1200
1000	850	21	10	0.6	5	945-1226

Order Multiple=10

25 Volt d.c.

µF	Order Code	10+	50+	100+	500+	1K+
		Price Each				
10	945-1153●	0.035	0.032	0.029	0.024	0.023
22	945-1161●	0.040	0.035	0.033	0.029	0.028
47	945-1170●	0.046	0.041	0.037	0.033	0.031
100	945-1188●	0.054	0.046	0.044	0.040	0.037
220	945-1196●	0.113	0.101	0.094	0.079	0.077
470	945-1200●	0.167	0.148	0.133	0.114	0.108
1000	945-1226●	0.360	0.330	0.310	0.270	0.260

35 Volt d.c.

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Order Code
4.7	27	11	5	0.5	2	945-1234
10	39	11	5	0.5	2	945-1242
22	69	11	5	0.5	2	945-1250
33	75	12	6.3	0.5	2.5	945-1269
47	102	12	6.3	0.5	2.5	945-1277
100	140	12	8	0.6	3.5	945-1285
220	315	13	10	0.6	5	945-1293
330	435	16	10	0.6	5	945-1307
470	560	21	10	0.6	5	945-1315
1000	875	22	13	0.6	5	945-1323
2200	1462	32	16	0.8	7.5	945-1331

Order Multiple=10

35 Volt d.c.

µF	Order Code	10+	50+	100+	500+	1K+
		Price Each				
4.7	945-1234●	0.040	0.032	0.029	0.024	0.023
10	945-1242●	0.038	0.032	0.029	0.023	0.022
22	945-1250●	0.041	0.037	0.036	0.031	0.029
33	945-1269●	0.050	0.045	0.042	0.035	0.033
47	945-1277●	0.050	0.046	0.043	0.036	0.035
100	945-1285●	0.075	0.070	0.060	0.051	0.050
220	945-1293●	0.157	0.142	0.126	0.113	0.102
330	945-1307●	0.164	0.150	0.142	0.119	0.102
470	945-1315●	0.200	0.193	0.177	0.152	0.141
1000	945-1323●	0.410	0.370	0.340	0.310	0.280
2200	945-1331●	0.830	0.750	0.680	0.600	0.540

50 Volt d.c.

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Order Code
0.47	8	11	5	0.5	2	945-1340
1	12	11	5	0.5	2	945-1358
2.2	18	11	5	0.5	2	945-1366
4.7	27	11	5	0.5	2	945-1374
10	39	11	5	0.5	2	945-1382
22	65	11	5	0.5	2	945-1390
47	112	12	6	0.5	2.5	945-1404
100	220	11	8	0.6	3.5	945-1412
220	395	17	10	0.6	5	945-1420
470	670	21	13	0.6	5	945-1439
1000	1140	26	16	0.8	7.5	945-1447

Order Multiple=10

50 Volt d.c.

µF	Order Code	10+	50+	100+	500+	1K+
		Price Each				
0.47	945-1340●	0.036	0.032	0.030	0.024	0.023
1	945-1358●	0.036	0.032	0.030	0.024	0.023
2.2	945-1366●	0.036	0.032	0.030	0.024	0.023
4.7	945-1374●	0.036	0.032	0.030	0.024	0.023
10	945-1382●	0.041	0.036	0.033	0.030	0.027
22	945-1390●	0.048	0.044	0.039	0.035	0.033
47	945-1404●	0.073	0.066	0.062	0.050	0.048
100	945-1412●	0.121	0.109	0.094	0.086	0.080
220	945-1420●	0.199	0.179	0.161	0.142	0.132
470	945-1439●	0.400	0.370	0.340	0.300	0.280
1000	945-1447●	0.820	0.730	0.670	0.580	0.530

63 Volt d.c.

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Order Code
1	12	11	5	0.5	2.5	945-1455
2.2	20	11	5	0.5	2.5	945-1463
4.7	30	11	5	0.5	2.5	945-1471
10	50	11	5	0.5	2.5	945-1480
22	85	11	6.3	0.5	2.5	945-1498
47	146	11	8	0.6	2.5	945-1501
100	285	13	10	0.6	5	945-1510
220	460	21	10	0.6	5	945-1528
470	768	26	13	0.6	5	945-1536
1000	1435	32	16	0.8	7.5	945-1544

Order Multiple=10

63 Volt d.c.

µF	Order Code	10+	50+	100+	500+	1K+
		Price Each				
1	945-1455●	0.039	0.035	0.033	0.029	0.027
2.2	945-1463●	0.039	0.035	0.033	0.029	0.027
4.7	945-1471●	0.039	0.035	0.033	0.029	0.027
10	945-1480●	0.046	0.041	0.037	0.033	0.031
22	945-1498●	0.052	0.046	0.042	0.036	0.035
47	945-1501●	0.083	0.074	0.068	0.055	0.052
100	945-1510●	0.136	0.121	0.106	0.094	0.089
220	945-1528●	0.220	0.200	0.184	0.158	0.146
470	945-1536●	0.440	0.400	0.370	0.330	0.310
1000	945-1544●	0.920	0.810	0.710	0.630	0.580

100 Volt d.c.

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Order Code
1	15	11	5	0.5	2	945-1552
10	61	11	6.3	0.5	2.5	945-1560
22	106	11	8	0.6	3.5	945-1579
47	190	16	10	0.6	5	945-1587
100	320	21	13	0.6	5	945-1595
220	665	26	16	0.8	7.5	945-1609
470	925	32	16	0.8	7.5	945-1617

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RL Re-reeling available

Farnell

Order Multiple=10
100 Volt d.c.

µF	Order Code	Price Each 10+	50+	100+	500+	1K+
1	**945-1552●**	0.041	0.035	0.034	0.031	0.029
10	**945-1560●**	0.047	0.042	0.036	0.034	0.032
22	**945-1579●**	0.074	0.066	0.064	0.052	0.051
47	**945-1587●**	0.142	0.121	0.116	0.100	0.093
100	**945-1595●**	0.280	0.250	0.210	0.187	0.172
220	**945-1609●**	0.570	0.480	0.460	0.400	0.390
470	**945-1617●**	0.900	0.790	0.750	0.660	0.610

M Series - General Purpose

Panasonic ideas for life



- Miniature general purpose radial electrolytic

Operating temperature	-40°C to +85°C
Tolerance	±20%
Ripple current measured at	120Hz @ 85°C
DC leakage current	0.01CV or 3µA whichever is greater

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Pitch	Mftrs. List No.	Order Code
16 Volt d.c.							
10	30	11	5	0.5	2	ECA1CM100	969-3548
22	75	11	5	0.5	2	ECA1CM220	969-3564
47	130	11	5	0.5	2	ECA1CM470	969-3572
100	180	11	5	0.5	2	ECA1CM101	969-3580
220	280	11.2	6.3	0.5	2.5	ECA1CM221	969-3599
470	440	11.5	8	0.6	3.5	ECA1CM471	969-3602
1000	680	16	10	0.6	5	ECA1CM102	969-3610
2200	1000	20	12.5	0.6	5	ECA1CM222	969-3629

Order Multiple=5
16 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
10	**969-3548●**	0.072	0.059	0.038	0.026	0.019
22	**969-3564●**	0.070	0.058	0.038	0.026	0.019
47	**969-3572●**	0.072	0.059	0.038	0.026	0.019
100	**969-3580●**	0.100	0.066	0.043	0.029	0.021
220	**969-3599●**	0.130	0.077	0.052	0.036	0.027
470	**969-3602●**	0.185	0.113	0.077	0.055	0.041
1000	**969-3610●**	0.320	0.198	0.135	0.099	0.087
2200	**969-3629●**	0.610	0.350	0.250	0.195	0.176

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Pitch	Mftrs. List No.	Order Code
35 Volt d.c.							
10	60	11	5	0.5	2	ECA1VM100	969-3637
22	95	11	5	0.5	2	ECA1VM220	969-3645
33	110	11	5	0.5	2	ECA1VM330	969-3653
47	130	11	5	0.5	2	ECA1VM470	969-3661
100	210	11.2	6.3	0.5	2.5	ECA1VM101	969-3670
220	350	11.5	8	0.6	3.5	ECA1VM221	969-3688
330	440	12.5	10	0.6	5	ECA1VM331	969-3696
470	550	16	10	0.6	5	ECA1VM471	969-3700
1000	900	20	12.5	0.6	5	ECA1VM102	969-3718
2200	1250	25	16	0.8	7.5	ECA1VM222	969-3726

Order Multiple=5
35 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
10	**969-3637●**	0.068	0.057	0.038	0.026	0.019
22	**969-3645●**	0.068	0.057	0.038	0.026	0.019
33	**969-3653●**	0.066	0.055	0.043	0.029	0.021
47	**969-3661●**	0.086	0.066	0.043	0.029	0.021
100	**969-3670●**	0.128	0.077	0.052	0.042	0.037
220	**969-3688●**	0.186	0.113	0.077	0.060	0.053
330	**969-3696●**	0.260	0.175	0.119	0.086	0.068
470	**969-3700●**	0.310	0.200	0.138	0.099	0.085
1000	**969-3718●**	0.610	0.390	0.270	0.198	0.176
2200	**969-3726●**	1.120	0.630	0.490	0.440	0.390

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Pitch	Mftrs. List No.	Order Code
50 Volt d.c.							
0.47	5	11	5	0.5	2	ECA1HMR47	119-8285
1	10	11	5	0.5	2	ECA1HM010	969-3734
2.2	20	11	5	0.5	2	ECA1HM2R2	969-3742
4.7	45	11	5	0.5	2	ECA1HM4R7	969-3750
10	65	11	5	0.5	2	ECA1HM100	969-3769
22	100	11	5	0.5	2	ECA1HM220	969-3777
47	130	11.2	6.3	0.5	2.5	ECA1HM470	969-3785
100	250	11.5	8	0.6	3.5	ECA1HM101	969-3793
220	400	12.5	10	0.6	5	ECA1HM221	969-3807
470	650	20	10	0.6	5	ECA1HM471	969-3815
1000	1050	25	12.5	0.6	5	ECA1HM102	969-3823

Order Multiple=5
50 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.47	**119-8285●**	0.077	0.059	0.038	0.026	0.019
1	**969-3734●**	0.068	0.057	0.038	0.026	0.019
2.2	**969-3742●**	0.070	0.059	0.038	0.026	0.019
4.7	**969-3750●**	0.072	0.059	0.038	0.026	0.019
10	**969-3769●**	0.068	0.057	0.038	0.026	0.019
22	**969-3777●**	0.068	0.057	0.043	0.029	0.021
47	**969-3785●**	0.100	0.086	0.059	0.040	0.029
100	**969-3793●**	0.143	0.120	0.084	0.058	0.044
220	**969-3807●**	0.220	0.182	0.127	0.091	0.068
470	**969-3815●**	0.460	0.270	0.187	0.156	0.136
1000	**969-3823●**	0.920	0.470	0.360	0.310	0.280

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Pitch	Mftrs. List No.	Order Code
63 Volt d.c.							
10	70	11	5	0.5	2	ECA1JM100	969-3831
22	105	11	5	0.5	2	ECA1JM220	969-3840
47	160	11.2	6.3	0.5	2.5	ECA1JM470	969-3858
100	270	11.5	8	0.6	3.5	ECA1JM101	969-3866
220	450	16	10	0.6	5	ECA1JM221	969-3874
470	750	20	12.5	0.6	5	ECA1JM471	969-3882
1000	1100	25	16	0.6	7.5	ECA1JM102	969-3890

Order Multiple=5
63 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
10	**969-3831●**	0.072	0.059	0.043	0.029	0.021
22	**969-3840●**	0.100	0.066	0.043	0.029	0.021
47	**969-3858●**	0.130	0.084	0.057	0.039	0.030
100	**969-3866●**	0.186	0.136	0.093	0.067	0.049
220	**969-3874●**	0.320	0.194	0.137	0.099	0.089
470	**969-3882●**	0.610	0.400	0.290	0.200	0.170
1000	**969-3890●**	1.240	0.630	0.450	0.320	0.260

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Pitch	Mftrs. List No.	Order Code
100 Volt d.c.							
0.47	10	11	5	0.5	2	ECA2AMR47	119-8286
1	20	11	5	0.5	2	ECA2AM010	969-3904
2.2	30	11	5	0.5	2	ECA2AM2R2	119-8287
4.7	50	11	5	0.5	2	ECA2AM4R7	119-8289
10	70	11	5	0.5	2	ECA2AM100	969-3912
22	115	11.2	6.3	0.5	2.5	ECA2AM220	969-3920
47	180	11.5	8	0.6	3.5	ECA2AM470	969-3939
100	350	16	10	0.6	5	ECA2AM101	969-3947
220	550	20	12.5	0.6	5	ECA2AM221	969-3955
470	900	25	16	0.8	7.5	ECA2AM471	969-3963
1000	1300	35.5	18	0.8	7.5	ECA2AM102	969-3971

Order Multiple=5
100 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.47	**119-8285●**	0.077	0.059	0.038	0.026	0.019
1	**969-3904●**	0.070	0.058	0.044	0.030	0.022
4.7	**119-8289●**	0.070	0.058	0.044	0.030	0.022
4.7	**119-8289●**	0.070	0.058	0.044	0.030	0.022
10	**969-3912●**	0.100	0.071	0.046	0.031	0.023
22	**969-3920●**	0.126	0.084	0.057	0.039	0.030
47	**969-3939●**	0.230	0.144	0.098	0.070	0.052
100	**969-3947●**	0.430	0.220	0.154	0.111	0.098
220	**969-3955●**	0.840	0.410	0.300	0.210	0.168
470	**969-3963●**	1.420	0.700	0.550	0.490	0.430
1000	**969-3971●**	2.430	1.350	0.970	0.770	0.680

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Pitch	Mftrs. List No.	Order Code
250 Volt d.c.							
1	34	11.2	6.3	0.5	2.5	ECA2EM010	969-3980
2.2	50	11.2	6.3	0.5	2.5	ECA2EM2R2	969-3998
4.7	86	11.5	8	0.6	3.5	ECA2EM4R7	969-4005
10	110	16	10	0.6	5	ECA2EM100	969-4013
22	180	20	12.5	0.6	5	ECA2EM220	969-4021
47	330	25	12.5	0.6	5	ECA2EM470	969-4030
100	530	31.5	16	0.8	7.5	ECA2EM101	969-4048
220	930	40	18	0.8	7.5	ECA2EM221	969-4056

Order Multiple=5
250 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
1	**969-3980●**	0.240	0.096	0.064	0.061	0.059
2.2	**969-3998●**	0.187	0.170	0.149	0.118	0.107
4.7	**969-4005●**	0.350	0.143	0.093	0.080	0.078
10	**969-4013●**	0.460	0.200	0.137	0.118	0.115
22	**969-4021●**	0.720	0.310	0.192	0.187	0.182
47	**969-4030●**	1.080	0.500	0.330	0.320	0.310
100	**969-4048●**	1.700	0.840	0.730	0.660	0.570
220	**969-4056●**	3.690	1.850	1.330	0.940	0.920

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Pitch	Mftrs. List No.	Order Code
400 Volt d.c.							
47	350	31.5	16	0.8	7.5	ECA2GM470	969-4064
100	600	40	18	0.8	7.5	ECA2GM101	969-4072

Order Multiple=5
400 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
47	**969-4064●**	1.46	1.23	1.09	0.97	0.85
100	**969-4072●**	2.75	2.35	2.06	1.83	1.61

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Pitch	Mftrs. List No.	Order Code
450 Volt d.c.							
1	37	12.5	10	0.6	5	ECA2WM010	969-4080
2.2	44	16	10	0.6	5	ECA2WM2R2	969-4099
4.7	79	20	12.5	0.6	5	ECA2WM4R7	969-4102
10	130	25	12.5	0.6	5	ECA2WM100	969-4110
22	210	31.5	16	0.8	7.5	ECA2WM220	969-4129
33	285	31.5	18	0.8	7.5	ECA2WM330	969-4137

RL Re-reeling available

Farnell

Aluminium Electrolytic - Radial - continued

M Series - General Purpose - continued

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Order Multiple=5 450 Volt d.c.		Price Each				
µF	Order Code	5+	50+	100+	500+	1K+
1	969-4080●	0.320	0.147	0.101	0.086	0.084
2.2	969-4099●	0.300	0.260	0.147	0.130	0.120
4.7	969-4102●	0.700	0.290	0.187	0.178	0.174
10	969-4110●	0.840	0.410	0.300	0.200	0.199
22	969-4129●	1.130	0.650	0.470	0.400	0.390
33	969-4137●	1.740	0.970	0.590	0.530	0.510

UPS Series – 105°C

nichicon



- High temperature radial leaded electrolytic
- Designed for use in switch mode power supplies
- Reduced case sizes - supersedes PR series

Operating temperature	-55°C to +105°C (10 to 100V dc) -40°C to +105°C (160 to 350V dc) -25°C to +105°C (450V dc)
Tolerance	±20%
Ripple current measured at	120Hz @ 105°C
DC leakage current (max)	0.03CV or 4µA whichever greater (10 to 100V) 0.1CV + 40µA (CV≤1000) 0.04CV + 100µA (CV>1000)

µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
10 Volt d.c.								
100	160	1.50	11	5	0.5	2	UPS1A101MDD	881-2896
470	410	0.28	11.5	8	0.6	3.5	UPS1A471MPD	881-2900
1000	800	0.14	16	10	0.6	5	UPS1A102MPD	881-2918
3300	1550	0.057	25	12.5	0.6	5	UPS1A332MHD	881-2926
4700	1900	0.038	25	16	0.8	7.5	UPS1A472MHD	881-2934
16 Volt d.c.								
47	160	1.50	11	5	0.5	2	UPS1C470MDD	881-2942
470	600	0.19	12.5	10	0.6	5	UPS1C471MPD	881-2950
1000	800	0.14	20	10	0.6	5	UPS1C102MPD	881-2969
2200	1550	0.057	25	12.5	0.6	5	UPS1C222MHD	881-2977
4700	2350	0.033	31.5	16	0.8	7.5	UPS1C472MHD	881-2985
35 Volt d.c.								
22	160	1.50	11	5	0.5	2	UPS1V220MDD	881-2993
470	250	0.65	20	10	0.5	5	UPS1V471MPD	881-3000
1000	1550	0.057	25	12.5	0.6	5	UPS1V102MHD	881-3019
2200	2350	0.033	31.5	16	0.8	7.5	UPS1V222MHD	881-3027
50 Volt d.c.								
47	250	0.65	11	6.3	0.5	2.5	UPS1H470MED	881-3035
470	1100	0.13	20	12.5	0.6	5	UPS1H471MHD	881-3043
63 Volt d.c.								
10	110	2.10	11	5	0.5	2	UPS1J100MDD	881-3051
100	390	0.31	12.5	10	0.6	5	UPS1J101MPD	881-3060
1000	1380	0.049	31.5	16	0.8	7.5	UPS1J102MHD	881-3078
100 Volt d.c.								
1	30	20	11	5	0.5	2	UPS2A010MDD	881-3086
4.7	74	4.60	11	5	0.5	2	UPS2A4R7MDD	881-3094
100	580	0.18	20	12.5	0.6	5	UPS2A101MHD	881-3108
470	1310	0.076	31.5	16	0.8	7.5	UPS2A471MHD	881-3116
160 Volt d.c.								
4.7	220	—	11.5	8	0.6	5	UPS2C4R7MPD	881-3124
47	220	—	25	12.5	0.6	5	UPS2C470MHD	881-3132
450 Volt d.c.								
1	18	—	12.5	10	0.6	5	UPS2W010MPD	881-3167

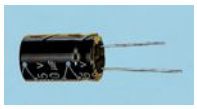
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Order Multiple=5		Price Each				
µF	Order Code	5+	50+	100+	500+	1K+
10 Volt d.c.						
100	881-2896●	0.092	0.078	0.069	0.062	0.055
470	881-2900●	0.173	0.147	0.131	0.116	0.103
1000	881-2918●	0.260	0.210	0.192	0.170	0.151
3300	881-2926●	0.540	0.460	0.410	0.360	0.320
4700	881-2934●	0.730	0.620	0.550	0.490	0.430
16 Volt d.c.						
47	881-2942●	0.092	0.078	0.069	0.062	0.055
470	881-2950●	0.200	0.173	0.153	0.135	0.119
1000	881-2969●	0.330	0.280	0.250	0.210	0.191
2200	881-2977●	0.560	0.480	0.420	0.370	0.330
4700	881-2985●	1.090	0.930	0.820	0.720	0.630
35 Volt d.c.						
22	881-2993●	0.123	0.102	0.091	0.081	0.068
470	881-3000●	0.350	0.300	0.260	0.220	0.200
1000	881-3019●	0.570	0.490	0.430	0.380	0.340
2200	881-3027●	0.970	0.830	0.720	0.640	0.560
50 Volt d.c.						
47	881-3035●	0.133	0.112	0.100	0.089	0.080
470	881-3043●	0.410	0.350	0.310	0.280	0.240
63 Volt d.c.						
10	881-3051●	0.092	0.078	0.069	0.062	0.055
100	881-3060●	0.250	0.200	0.184	0.162	0.143
1000	881-3078●	1.000	0.800	0.720	0.660	0.590

Order Multiple=5		Price Each				
µF	Order Code	5+	50+	100+	500+	1K+
100 Volt d.c.						
1	881-3086●	0.082	0.069	0.061	0.054	0.048
4.7	881-3094●	0.092	0.078	0.069	0.062	0.055
100	881-3108●	0.340	0.290	0.260	0.220	0.199
470	881-3116●	1.000	0.800	0.720	0.660	0.590
160 Volt d.c.						
4.7	881-3124●	0.250	0.193	0.178	0.165	0.152
47	881-3132●	0.610	0.470	0.430	0.400	0.360
450 Volt d.c.						
1	881-3167●	0.220	0.181	0.160	0.149	0.138

ECRH Series – 105°C

multicomp



- High temperature radial leaded electrolytic
- Supplied loose with straight leads

Operating temperature	-40°C to +105°C
Tolerance	±20%
Ripple current measured at	120Hz@85°C
DC leakage current	I = 0.03CV

µF	Ripple (mA)	Dimensions H	Dia.	Dia.	Pitch	Order Code
10 Volt d.c.						
100	99	11	5	0.5	2	945-1625
220	171	11	6.3	0.5	2.5	945-1633
470	328	11	8	0.6	3.5	945-1641
1000	570	16	10	0.6	5	945-1650
2200	960	21	13	0.6	5	945-1668
3300	1194	21	13	0.6	5	945-1676
4700	1423	26	16	0.8	7.5	945-1684

Order Multiple=5 10 Volt d.c.		Price Each				
µF	Order Code	5+	50+	100+	500+	1K+
100	945-1625●	0.096	0.088	0.081	0.071	0.060
220	945-1633●	0.129	0.119	0.111	0.094	0.079
470	945-1641●	0.180	0.159	0.154	0.139	0.108
1000	945-1650●	0.320	0.300	0.290	0.220	0.194
2200	945-1668●	0.490	0.450	0.400	0.360	0.330
3300	945-1676●	0.330	0.310	0.280	0.260	0.198
4700	945-1684●	0.830	0.780	0.720	0.590	0.500

µF	Ripple (mA)	Dimensions H	Dia.	Dia.	Pitch	Order Code
16 Volt d.c.						
10	39	11	5	0.5	2	945-1692
22	49	11	5	0.5	2	945-1706
47	76	11	5	0.5	2	945-1714
100	129	12	6.3	0.5	2.5	945-1722
220	225	11	8	0.6	3.5	945-1730
330	295	11	8	0.6	3.5	945-1749
470	392	13	10	0.6	5	945-1765
1000	577	21	10	0.6	5	945-1773
2200	1053	21	13	0.6	5	945-1781
3300	1586	26	13	0.6	5	945-1790
4700	1889	32	16	0.8	7.5	945-1803

Order Multiple=5 16 Volt d.c.		Price Each				
µF	Order Code	5+	50+	100+	500+	1K+
10	945-1692●	0.095	0.090	0.086	0.077	0.072
22	945-1706●	0.090	0.086	0.081	0.073	0.069
47	945-1714●	0.090	0.086	0.081	0.073	0.068
100	945-1722●	0.125	0.119	0.116	0.102	0.096
220	945-1730●	0.172	0.162	0.157	0.141	0.132
330	945-1749●	0.250	0.210	0.200	0.188	0.176
470	945-1765●	0.260	0.250	0.220	0.197	0.188
1000	945-1773●	0.370	0.350	0.340	0.310	0.290
2200	945-1781●	0.600	0.540	0.520	0.460	0.440
3300	945-1790●	0.950	0.900	0.870	0.790	0.730
4700	945-1803●	1.010	0.920	0.910	0.820	0.780

µF	Ripple (mA)	Dimensions H	Dia.	Dia.	Pitch	Order Code
25 Volt d.c.						
33	88	11	5	0.5	2	945-1811
47	81	11	5	0.5	2	945-1820
100	137	11	6.3	0.5	2.5	945-1838
220	200	11	8	0.6	3.5	945-1846
330	347	13	10	0.6	5	945-1854
470	458	16	10	0.6	5	945-1862
1000	505	21	13	0.6	5	945-1870
2200	1234	26	13	0.6	5	945-1889
3300	1630	32	16	0.8	7.5	945-1897

Order Multiple=5 25 Volt d.c.		Price Each				
µF	Order Code	5+	50+	100+	500+	1K+
33	945-1811●	0.050	0.044	0.042	0.036	0.031
47	945-1820●	0.105	0.089	0.086	0.073	0.060
100	945-1838●	0.129	0.115	0.110	0.093	0.079
220	945-1846●	0.188	0.160	0.155	0.138	0.110
330	945-1854●	0.290	0.250	0.220	0.184	0.161
470	945-1862●	0.340	0.300	0.280	0.220	0.195
1000	945-1870●	0.530	0.460	0.440	0.360	0.330
2200	945-1889●	0.900	0.750	0.730	0.640	0.530
3300	945-1897●	1.140	0.970	0.950	0.840	0.700

RL Re-reeling available

Farnell

µF	Ripple (mA)	Dimensions H	Dia.	Dia.	Pitch	Order Code
35 Volt d.c.						
10	39	11	5	0.5	2	945-1900
22	60	11	5	0.5	2	945-1919
33	72	11	5	0.5	2	945-1927
47	101	11	6.3	0.5	2.5	945-1935
100	172	11	8	0.6	3.5	945-1943
220	300	13	10	0.6	5	945-1951
330	417	16	10	0.6	5	945-1960
470	535	21	10	0.6	5	945-1978
1000	869	21	13	0.6	5	945-1986
2200	1362	32	16	0.8	7.5	945-1994

Order Multiple=5

35 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
10	**945-1900**	0.087	0.083	0.077	0.070	0.067
22	**945-1919**	0.094	0.089	0.085	0.077	0.072
33	**945-1927**	0.098	0.092	0.084	0.081	0.071
47	**945-1935**	0.125	0.119	0.116	0.102	0.096
100	**945-1943**	0.200	0.177	0.164	0.135	0.119
220	**945-1951**	0.290	0.260	0.250	0.187	0.166
330	**945-1960**	0.350	0.310	0.290	0.260	0.198
470	**945-1978**	0.420	0.370	0.350	0.300	0.260
1000	**945-1986**	0.690	0.610	0.580	0.490	0.430
2200	**945-1994**	1.160	1.020	1.000	0.800	0.680

µF	Ripple (mA)	Dimensions H	Dia.	Dia.	Pitch	Order Code
63 Volt d.c.						
1	12	11	5	0.5	2	945-2001
2.2	20	11	5	0.5	2	945-2010
4.7	30	11	5	0.5	2	945-2028
10	50	11	6.3	0.5	2	945-2036
22	85	11	6.3	0.5	2.5	945-2044
33	105	11	6.3	0.5	2.5	945-2052
47	146	11	8	0.6	3.5	945-2060
100	285	13	10	0.6	5	945-2079
220	460	21	10	0.6	5	945-2087
330	551	21	13	0.6	5	945-2095
470	768	26	13	0.6	5	945-2109
1000	1435	32	16	0.8	7.5	945-2117

Order Multiple=5

63 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
1	**945-2001**	0.102	0.090	0.085	0.066	0.054
2.2	**945-2010**	0.102	0.090	0.085	0.066	0.054
4.7	**945-2028**	0.102	0.090	0.085	0.066	0.054
10	**945-2036**	0.105	0.093	0.088	0.069	0.060
22	**945-2044**	0.128	0.118	0.110	0.093	0.079
33	**945-2052**	0.128	0.118	0.110	0.092	0.079
47	**945-2060**	0.200	0.173	0.164	0.141	0.118
100	**945-2079**	0.300	0.270	0.260	0.200	0.168
220	**945-2087**	0.420	0.390	0.360	0.330	0.280
330	**945-2095**	0.550	0.480	0.460	0.410	0.340
470	**945-2109**	0.640	0.590	0.580	0.490	0.400
1000	**945-2117**	1.160	1.020	0.970	0.840	0.720

µF	Ripple (mA)	Dimensions H	Dia.	Dia.	Pitch	Order Code
100 Volt d.c.						
22	106	11	8	0.6	3.5	945-2125
47	190	16	10	0.6	5	945-2133
100	320	21	13	0.6	5	945-2141
220	665	26	16	0.8	7.5	945-2150
330	702	26	16	0.8	7.5	945-2168

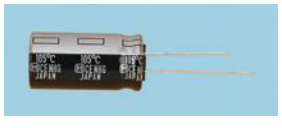
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Order Multiple=5

100 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
22	**945-2125**	0.200	0.177	0.164	0.132	0.116
47	**945-2133**	0.125	0.110	0.103	0.090	0.075
100	**945-2141**	0.530	0.470	0.440	0.400	0.340
220	**945-2150**	0.890	0.720	0.680	0.550	0.500
330	**945-2168**	0.940	0.860	0.820	0.670	0.590

NHG Series – 105°C

Panasonic ideas for life



● High temperature miniature radial electrolytic

Operating temperature -55°C to +105°C 6.3 to 100V
-55°C to +105°C 160 to 450V

Tolerance ±20%

Leakage current 0.01CV or 3uA 6.3 to 100V
0.06CV + 10uA 160 to 450V

Ripple current measured at 120Hz @ 105°C

µF	Ripple (mA)	Dimensions H	D	Lead Dia.	Pitch	Mftrs. List No.	Order Code
6.3 Volt d.c.							
1000	380	11.5	8	0.6	3.5	ECA0JHG102	969-2738

Order Multiple=5

6.3 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
1000	**969-2738**	0.240	0.170	0.116	0.084	0.070

µF	Ripple (mA)	Dimensions H	Dia	Lead Dia.	Pitch	Mftrs. List No.	Order Code
10 Volt d.c.							
3300	1000	20	12.5	0.6	5	ECA1AHG332	969-2746
4700	1260	25	12.5	0.6	5	ECA1AHG472	969-2754
6800	1570	25	16	0.8	7.5	ECA1AHG682	969-2762

Order Multiple=5

10 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
4700	**969-2754**	0.96	0.58	0.42	0.31	0.30
6800	**969-2762**	1.24	0.80	0.57	0.39	0.38
6800	**969-2762**	1.24	0.80	0.57	0.39	0.38

µF	Ripple (mA)	Dimensions H	D	Lead Dia.	Pitch	Mftrs. List No.	Order Code
16 Volt d.c.							
330	260	11.5	8	0.6	3.5	ECA1CHG331	969-2770
470	310	11.5	8	0.6	3.5	ECA1CHG471	969-2789
1000	560	16	10	0.6	5	ECA1CHG102	969-2797
2200	920	20	12.5	0.6	5	ECA1CHG222	969-2800
4700	1480	25	16	0.8	7.5	ECA1CHG472	969-2819

Order Multiple=5

16 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
330	**969-2770**	0.240	0.155	0.106	0.078	0.076
470	**969-2789**	0.260	0.170	0.116	0.084	0.074
1000	**969-2797**	0.370	0.270	0.189	0.137	0.117
2200	**969-2800**	0.590	0.430	0.310	0.220	0.210
4700	**969-2819**	1.280	0.700	0.510	0.390	0.380

µF	Ripple (mA)	Dimensions H	D	Lead Dia.	Pitch	Mftrs. List No.	Order Code
25 Volt d.c.							
100	130	11.2	6.3	0.5	2.5	ECA1EHG101	969-2827
220	230	11.5	8	0.6	3.5	ECA1EHG221	969-2835
470	380	12.5	10	0.6	5	ECA1EHG471	969-2843
2200	1090	25	12.5	0.6	5	ECA1EHG222	969-2851
3300	1400	25	16	0.8	7.5	ECA1EHG332	969-2860

Order Multiple=5

25 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
100	**969-2827**	0.143	0.116	0.078	0.054	0.041
220	**969-2835**	0.250	0.155	0.106	0.077	0.073
470	**969-2843**	0.370	0.220	0.157	0.113	0.102
2200	**969-2851**	0.930	0.580	0.420	0.280	0.270
3300	**969-2860**	1.230	0.750	0.540	0.390	0.380

µF	Ripple (mA)	Dimensions H	D	Lead Dia.	Pitch	Mftrs. List No.	Order Code
35 Volt d.c.							
1000	810	20	12.5	0.6	5	ECA1VHG102	969-2878

Order Multiple=5

35 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
1000	**969-2878**	0.590	0.450	0.320	0.230	0.187

µF	Ripple (mA)	Dimensions H	D	Lead Dia.	Pitch	Mftrs. List No.	Order Code
50 Volt d.c.							
1	10	11	5	0.5	2	ECA1HHG010	969-2886
2.2	18	11	5	0.5	2	ECA1HHG2R2	969-2894
3.3	22	11	5	0.5	2	ECA1HHG3R3	969-2908
4.7	26	11	5	0.5	2	ECA1HHG4R7	969-2916
10	39	11	5	0.5	2	ECA1HHG100	969-2924
22	65	11	5	0.5	2	ECA1HHG220	969-2932
33	90	11	5	0.5	2	ECA1HHG330	969-2940
47	110	11.2	6.3	0.5	2.5	ECA1HHG470	969-2959
100	180	11.5	8	0.6	3.5	ECA1HHG101	969-2967
220	300	12.5	10	0.6	5	ECA1HHG221	969-2975
330	410	16	10	0.6	5	ECA1HHG331	969-2983
470	530	20	10	0.6	5	ECA1HHG471	969-2991
1000	950	25	12.5	0.6	5	ECA1HHG102	969-3009
2200	1470	31.5	16	0.8	7.5	ECA1HHG222	969-3017

Order Multiple=5

50 Volt d.c. µF	Order Code	Price Each 5+	50+	100+	500+	1K+
1	**969-2886**	0.107	0.086	0.056	0.038	0.028
2.2	**969-2894**	0.107	0.086	0.056	0.038	0.028
3.3	**969-2908**	0.095	0.085	0.056	0.038	0.028
4.7	**969-2916**	0.100	0.085	0.056	0.038	0.028
10	**969-2924**	0.100	0.086	0.056	0.038	0.028
22	**969-2932**	0.113	0.074	0.050	0.034	0.026
33	**969-2940**	0.143	0.074	0.051	0.043	0.041
47	**969-2959**	0.143	0.116	0.078	0.054	0.041
100	**969-2967**	0.240	0.162	0.111	0.080	0.070
220	**969-2975**	0.370	0.220	0.157	0.113	0.102
330	**969-2983**	0.420	0.270	0.189	0.137	0.120
470	**969-2991**	0.500	0.350	0.250	0.180	0.154
1000	**969-3009**	0.950	0.580	0.420	0.300	0.260
2200	**969-3017**	1.550	0.940	0.680	0.520	0.510

µF	Ripple (mA)	Dimensions H	D	Lead Dia.	Pitch	Mftrs. List No.	Order Code
63 Volt d.c.							
33	100	11.2	6.3	0.5	2.5	ECA1JHG330	969-3025
47	120	11.2	6.3	0.5	2.5	ECA1JHG470	969-3033
220	335	16	10	0.6	5	ECA1JHG221	969-3041
330	510	20	10	0.6	5	ECA1JHG331	969-3050
470	640	20	12.5	0.6	5	ECA1JHG471	969-3068
1000	930	25	16	0.8	7.5	ECA1JHG102	969-3076

RL Re-reeling available

Farnell

Aluminium Electrolytic - Radial - continued

NHG Series – 105°C - continued

Order Multiple=5
63 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
33	969-3025●	0.143	0.120	0.082	0.056	0.042
47	969-3033●	0.194	0.108	0.077	0.061	0.057
220	969-3041●	0.380	0.290	0.210	0.149	0.118
330	969-3050●	0.500	0.390	0.270	0.198	0.170
470	969-3068●	0.620	0.500	0.360	0.250	0.230
1000	969-3076●	1.280	0.780	0.560	0.440	0.430

100 Volt d.c. µF	Ripple (mA)	Dimensions H	D	Lead Dia.	Pitch	Mftrs. List No.	Order Code
0.47	9	11	5	0.5	2	ECA2AHGR47	969-3084
1	14	11	5	0.5	2	ECA2AHG010	969-3092
2.2	21	11	5	0.5	2	ECA2AHG2R2	969-3106
3.3	31	11	5	0.5	2	ECA2AHG3R3	969-3114
4.7	38	11	5	0.5	2	ECA2AHG4R7	969-3122
10	54	11.2	6.3	0.5	2.5	ECA2AHG100	969-3130
22	93	11.2	6.3	0.5	2.5	ECA2AHG220	969-3149
330	540	25	16	0.8	7.5	ECA2AHG331	969-3157
470	715	25	16	0.8	7.5	ECA2AHG471	969-3165
33	130	11.5	8	0.6	3.5	ECA2AHG330	969-4609
47	165	12.5	10	0.6	5	ECA2AHG470	969-4617
100	265	20	10	0.6	5	ECA2AHG101	969-4625
220	440	25	12.5	0.6	5	ECA2AHG221	969-4633

Order Multiple=5
100 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
0.47	969-3084●	0.123	0.077	0.052	0.036	0.032
1	969-3092●	0.113	0.077	0.052	0.036	0.032
2.2	969-3106●	0.113	0.077	0.052	0.036	0.032
3.3	969-3114●	0.101	0.077	0.052	0.033	0.032
4.7	969-3122●	0.113	0.077	0.052	0.036	0.031
10	969-3130●	0.157	0.121	0.082	0.056	0.043
22	969-3149●	0.162	0.139	0.107	0.081	0.075
330	969-3157●	1.090	0.830	0.600	0.420	0.400
470	969-3165●	1.500	0.880	0.640	0.500	0.490
33	969-4609●	0.390	0.186	0.129	0.101	0.096
47	969-4617●	0.350	0.220	0.153	0.126	0.123
100	969-4625●	0.510	0.390	0.270	0.188	0.183
220	969-4633●	1.090	0.590	0.420	0.370	0.360

160 Volt d.c. µF	Ripple (mA)	Dimensions H	Dia	Lead Dia.	Pitch	Mftrs. List No.	Order Code
4.7	43	11.2	6.3	0.5	2.5	ECA2CHG4R7	969-3173
10	70	12.5	10	0.6	5	ECA2CHG100	969-3181

Order Multiple=5
160 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
4.7	969-3173●	0.270	0.119	0.109	0.084	0.081
10	969-3181●	0.390	0.210	0.150	0.119	0.114

200 Volt d.c. µF	Ripple (mA)	Dimensions H	Dia	Lead Dia.	Pitch	Mftrs. List No.	Order Code
3.3	36	11.2	6.3	0.5	2.5	ECA2DHG3R3	969-3190
22	140	20	10	0.6	5	ECA2DHG220	969-3203
47	220	20	12.5	0.6	5	ECA2DHG470	969-3211
100	335	25	16	0.8	7.5	ECA2DHG101	969-3220

Order Multiple=5
200 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
3.3	969-3190●	0.200	0.170	0.149	0.131	0.114
22	969-3203●	0.350	0.300	0.270	0.240	0.200
47	969-3211●	0.540	0.450	0.400	0.360	0.320
100	969-3220●	1.050	0.890	0.790	0.690	0.620

250 Volt d.c. µF	Ripple (mA)	Dimensions H	Dia	Lead Dia.	Pitch	Mftrs. List No.	Order Code
1	17	11.2	6.3	0.5	2.5	ECA2EHG010	969-3238
2.2	29	11.2	6.3	0.5	2.5	ECA2EHG2R2	969-3246
4.7	50	11.5	8	0.6	3.5	ECA2EHG4R7	969-3254
10	88	16	10	0.6	5	ECA2EHG100	969-3262
22	155	20	12.5	0.6	5	ECA2EHG220	969-3270
33	190	20	12.5	0.6	5	ECA2EHG330	969-3289
47	230	25	12.5	0.6	5	ECA2EHG470	969-3300

Order Multiple=5
250 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
1	969-3238●	0.200	0.116	0.079	0.060	0.058
2.2	969-3246●	0.270	0.119	0.109	0.084	0.081
4.7	969-3254●	0.370	0.160	0.116	0.113	0.110
10	969-3262●	0.460	0.270	0.189	0.150	0.129
22	969-3270●	0.430	0.410	0.360	0.280	0.270
33	969-3289●	0.730	0.410	0.300	0.250	0.240
47	969-3300●	1.080	0.890	0.700	0.510	0.320

400 Volt d.c. µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Pitch	Mftrs. List No.	Order Code
1	18	11.2	6.3	0.5	2.5	ECA2GHG010	969-3319
2.2	30	11.5	8	0.6	3.5	ECA2GHG2R2	969-3327
3.3	40	12.5	10	0.6	5	ECA2GHG3R3	969-3335
4.7	50	16	10	0.6	5	ECA2GHG4R7	969-3343
10	80	20	10	0.6	5	ECA2GHG100	969-3351
22	145	25	12.5	0.6	5	ECA2GHG220	969-3360
33	195	25	16	0.8	7.5	ECA2GHG330	969-3378
47	250	31.5	16	0.8	7.5	ECA2GHG470	969-3386

Order Multiple=5
400 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
1	969-3319●	0.200	0.174	0.153	0.134	0.117
2.2	969-3327●	0.320	0.280	0.250	0.210	0.185
3.3	969-3335●	0.410	0.350	0.310	0.270	0.250
4.7	969-3343●	0.380	0.330	0.290	0.260	0.220
10	969-3351●	0.580	0.480	0.430	0.380	0.340
22	969-3360●	0.910	0.770	0.680	0.610	0.530
33	969-3378●	1.140	0.980	0.850	0.760	0.670
47	969-3386●	1.490	1.270	1.110	0.990	0.880

450 Volt d.c. µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Pitch	Mftrs. List No.	Order Code
1	18	11.5	8	0.6	3.5	ECA2WHG010	969-3394
2.2	29	12.5	10	0.6	5	ECA2WHG2R2	969-3408
3.3	41	16	10	0.6	5	ECA2WHG3R3	969-3416
4.7	49	20	10	0.6	5	ECA2WHG4R7	969-3424
10	75	20	12.5	0.6	5	ECA2WHG100	969-3432
22	115	25	16	0.8	7.5	ECA2WHG220	969-3440
33	155	31.5	16	0.8	7.5	ECA2WHG330	969-3459

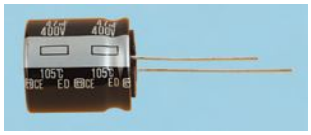
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Order Multiple=5
450 Volt d.c.

µF	Order Code	Price Each 5+	50+	100+	500+	1K+
1	969-3394●	0.450	0.195	0.162	0.131	0.129
2.2	969-3408●	0.510	0.220	0.195	0.156	0.150
3.3	969-3416●	0.580	0.280	0.220	0.175	0.171
4.7	969-3424●	0.760	0.340	0.290	0.230	0.220
10	969-3432●	0.930	0.500	0.360	0.330	0.320
22	969-3440●	1.290	1.090	0.870	0.670	0.650
33	969-3459●	2.120	0.880	0.660	0.640	0.620

ED Series – Low Impedance, Long Life, 105°C

Panasonic ideas for life



- High performance miniature radial electrolytic
- High temperature 105°C
- Low impedance
- High ripple current (at high frequency)
- Long life

Operating temperature	-25°C to +105°C	Operating life @ °C	Dependent on case dia.
Tolerance	±20%		12.5 or greater 10000hrs
Leakage current	0.06CV + 10µA		10 8000hrs
Ripple current measured at	100kHz @ 105°C		

160 Volt d.c. µF	Ripple (mA)	Dimensions H	D	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
22	500	20	10	0.6	5	EEUED2C220	969-6180
33	580	20	10	0.6	5	EEUED2C330	969-6199
47	750	20	10	0.6	5	EEUED2C470	969-6202
68	950	20	12.5	0.6	5	EEUED2C680	969-6210
100	1170	25	12.5	0.6	5	EEUED2C101	969-6229
150	1400	25	16	0.8	7.5	EEUED2C151	969-6237
220	1700	31.5	16	0.8	7.5	EEUED2C221	969-6245
330	2000	31.5	18	0.8	7.5	EEUED2C331	969-6253

160 Volt d.c.

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
22	969-6180●	0.53	0.42	0.38	0.32	0.31
33	969-6199●	0.53	0.41	0.36	0.31	0.30
47	969-6202●	0.53	0.42	0.38	0.33	0.29
68	969-6210●	0.81	0.50	0.46	0.45	0.44
100	969-6229●	1.04	0.77	0.68	0.60	0.53
150	969-6237●	1.43	0.95	0.85	0.70	0.64
220	969-6245●	1.88	1.25	1.11	0.97	0.86
330	969-6253●	3.56	2.15	1.61	1.45	1.41

200 Volt d.c. µF	Ripple (mA)	Dimensions H	D	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
22	600	20	10	0.6	5	EEUED2D220	969-6261
33	650	20	10	0.6	5	EEUED2D330	969-6270
47	790	20	12.5	0.6	5	EEUED2D470	969-6288
100	1300	25	16	0.8	7.5	EEUED2D101	969-6296
150	1400	25	16	0.8	7.5	EEUED2D151	969-6300
220	2000	31.5	18	0.8	7.5	EEUED2D221	969-6318
330	2400	40	18	0.8	7.5	EEUED2D331	969-6326

200 Volt d.c.

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
22	969-6261●	0.53	0.38	0.33	0.32	0.31
33	969-6270●	0.52	0.47	0.42	0.37	0.32
47	969-6288●	0.81	0.49	0.45	0.44	0.43
100	969-6296●	1.43	0.88	0.78	0.69	0.61
150	969-6300●	1.43	0.88	0.78	0.69	0.61
220	969-6318●	3.28	2.15	1.61	1.29	1.26
330	969-6326●	4.36	2.91	2.18	1.72	1.68

RL Re-reeling available

Farnell

250 Volt d.c. µF	Ripple (mA)	Dimensions H	D	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
22	560	20	10	0.6	5	EEUED2E220	969-6334
33	710	20	12.5	0.6	5	EEUED2E330	969-6342
47	920	25	12.5	0.6	5	EEUED2E470	969-6369
68	1000	20	16	0.8	7.5	EEUED2E680S	969-6377
100	1500	31.5	16	0.8	7.5	EEUED2E101	969-6385
150	1800	31.5	18	0.8	7.5	EEUED2E151	969-6393
220	2100	40	18	0.8	7.5	EEUED2E221	969-6407

250 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
22	969-6334	0.53	0.41	0.36	0.32	0.31
33	969-6342	0.81	0.57	0.49	0.45	0.43
47	969-6369	1.04	0.75	0.66	0.54	0.53
68	969-6377	1.32	0.80	0.62	0.58	0.56
100	969-6385	1.88	1.25	1.11	0.97	0.86
150	969-6393	3.56	2.15	1.61	1.27	1.24
220	969-6407	4.79	2.91	2.18	1.53	1.35

350 Volt d.c. µF	Ripple (mA)	Dimensions H	D	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
10	350	20	10	0.6	5	EEUED2V100	969-6415
22	480	20	12.5	0.6	5	EEUED2V220	969-6423
33	640	20	16	0.8	7.5	EEUED2V330S	969-6431
47	800	25	16	0.8	7.5	EEUED2V470	969-6440
100	1200	31.5	18	0.8	7.5	EEUED2V101	969-6458

350 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	969-6415	0.61	0.38	0.33	0.31	0.30
22	969-6423	0.93	0.56	0.44	0.42	0.41
33	969-6431	1.47	0.90	0.67	0.55	0.54
47	969-6440	1.65	0.99	0.83	0.81	0.79
100	969-6458	3.58	2.15	1.61	1.36	1.32

400 Volt d.c. µF	Ripple (mA)	Dimensions H	D	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
10	300	20	10	0.6	5	EEUED2G100	969-6466
15	410	20	12.5	0.6	5	EEUED2G150	969-6474
22	500	25	12.5	0.6	5	EEUED2G220	969-6482
33	730	20	16	0.8	7.5	EEUED2G330S	969-6490
47	840	25	16	0.8	7.5	EEUED2G470	969-6504
47	840	20	18	0.8	7.5	EEUED2G470S	153-9446
68	1200	31.5	18	0.8	7.5	EEUED2G680	969-6512
82	1500	40	18	0.8	7.5	EEUED2G820	969-6520

400 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	969-6466	0.62	0.53	0.47	0.42	0.36
15	969-6474	0.93	0.56	0.43	0.42	0.41
22	969-6482	1.16	0.77	0.68	0.59	0.57
33	969-6490	1.49	0.93	0.82	0.73	0.71
47	969-6504	1.65	0.99	0.86	0.75	0.67
47	NEW 153-9446	1.67	1.49	1.33	1.09	1.01
68	969-6512	3.58	2.15	1.61	1.43	1.40
82	969-6520	4.46	2.91	2.18	1.69	1.64

450 Volt d.c. µF	Ripple (mA)	Dimensions H	D	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
10	350	20	12.5	0.6	5	EEUED2W100	969-6539
15	560	25	12.5	0.6	5	EEUED2W150	969-6547
22	680	20	16	0.8	7.5	EEUED2W220S	969-6555
33	850	31.5	16	0.8	7.5	EEUED2W330	969-6563
47	1000	31.5	18	0.8	7.5	EEUED2W470	969-6571
68	1300	40	18	0.8	7.5	EEUED2W680	969-6580

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450 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	969-6539	0.93	0.56	0.48	0.42	0.41
15	969-6547	1.04	0.70	0.62	0.58	0.56
22	969-6555	1.49	0.93	0.82	0.72	0.64
33	969-6563	2.20	1.33	1.16	1.02	1.00
47	969-6571	3.58	2.15	1.61	1.41	1.38
68	969-6580	4.79	2.91	2.18	1.73	1.68

EE Series

New

Panasonic ideas for life



- High performance miniature radial electrolytic
- High ripple current (at high frequency) - **40 % higher than ED Series**
- High temperature 105°C
- Long life

Operating temperature	-25°C to +105°C	Operating life	Dependent on case dia.
Tolerance	±20%		12.5 or greater 10000hrs
Leakage current	0.06CV + 10µA		10 8000hrs
Ripple current measured at	100kHz @ 105°CC		

160 Volt d.c. µF	Ripple (mA)	Dimensions H	D	Lead Pitch	Mftrs. List No.	Order Code
22	700	10	20	5	EEUEE2C220	167-3438
33	810	10	20	5	EEUEE2C330	167-3441
47	1065	10	20	5	EEUEE2C470	167-3442
68	1350	12.5	20	5	EEUEE2C680	167-3443
82	1480	12.5	25	5	EEUEE2C820	167-3444
100	1660	12.5	25	5	EEUEE2C101	167-3445
100	1700	16	20	7.5	EEUEE2C101S	167-3446
150	1890	16	25	7.5	EEUEE2C151	167-3447
150	1820	18	20	7.5	EEUEE2C151S	167-3448
220	2280	16	31.5	7.5	EEUEE2C221	167-3449
220	1950	18	25	7.5	EEUEE2C221S	167-3450
330	2600	18	31.5	7.5	EEUEE2C331	167-3451

160 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
22	167-3438	0.40	0.37	0.33	0.28	0.26
33	167-3441	0.40	0.37	0.33	0.28	0.26
47	167-3442	0.40	0.37	0.33	0.28	0.26
68	167-3443	0.62	0.56	0.50	0.43	0.40
82	167-3444	0.85	0.78	0.67	0.59	0.54
100	167-3445	0.85	0.78	0.67	0.59	0.54
100	167-3446	1.00	0.92	0.81	0.70	0.64
150	167-3447	1.29	1.17	1.01	0.90	0.83
150	167-3448	1.33	1.21	1.06	0.92	0.85
220	167-3449	1.53	1.40	1.22	1.06	0.98
220	167-3450	1.57	1.43	1.26	1.09	1.00
330	167-3451	2.45	2.24	1.96	1.70	1.57

200 Volt d.c. µF	Ripple (mA)	Dimensions H	D	Lead Pitch	Mftrs. List No.	Order Code
22	850	10	20	5	EEUEE2D220	167-3453
33	920	10	20	5	EEUEE2D330	167-3454
47	1100	12.5	20	5	EEUEE2D470	167-3455
68	1330	12.5	25	5	EEUEE2D680	167-3456
68	1330	16	20	7.5	EEUEE2D680S	167-3457
82	1460	16	20	7.5	EEUEE2D820S	167-3458
100	1730	16	25	7.5	EEUEE2D101	167-3459
100	1665	18	20	7.5	EEUEE2D101S	167-3460
150	1860	16	25	7.5	EEUEE2D151	167-3461
220	2600	18	31.5	7.5	EEUEE2D221	167-3462
330	3120	18	40	7.5	EEUEE2D331	167-3463

200 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
22	167-3453	0.40	0.37	0.33	0.28	0.26
33	167-3454	0.40	0.37	0.33	0.28	0.26
47	167-3455	0.62	0.56	0.50	0.43	0.40
68	167-3456	0.85	0.78	0.67	0.59	0.54
68	167-3457	1.00	0.92	0.81	0.70	0.64
82	167-3458	1.00	0.92	0.81	0.70	0.64
100	167-3459	1.29	1.17	1.01	0.90	0.83
100	167-3460	1.33	1.21	1.06	0.92	0.85
150	167-3461	1.41	1.29	1.12	0.98	0.90
220	167-3462	2.45	2.24	1.96	1.70	1.57
330	167-3463	3.54	3.23	2.83	2.46	2.26

250 Volt d.c. µF	Ripple (mA)	Dimensions H	D	Lead Pitch	Mftrs. List No.	Order Code
22	785	10	20	5	EEUEE2E220	167-3465
33	995	12.5	20	5	EEUEE2E330	167-3466
47	1290	12.5	25	5	EEUEE2E470	167-3467
47	1400	16	20	7.5	EEUEE2E470S	167-3468
68	1400	16	20	7.5	EEUEE2E680S	167-3469
82	1680	16	25	7.5	EEUEE2E820	167-3470
82	1680	18	20	7.5	EEUEE2E820S	167-3471
100	2100	16	31.5	7.5	EEUEE2E101	167-3472
100	2100	18	25	7.5	EEUEE2E101S	167-3473
150	2520	18	31.5	7.5	EEUEE2E151	167-3474
220	2940	18	40	7.5	EEUEE2E221	167-3475

250 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
22	167-3465	0.40	0.37	0.33	0.28	0.26
33	167-3466	0.62	0.56	0.50	0.43	0.40
47	167-3467	0.85	0.78	0.67	0.59	0.54
47	167-3468	1.00	0.92	0.81	0.70	0.64
68	167-3469	1.00	0.92	0.81	0.70	0.64
82	167-3470	1.41	1.29	1.12	0.98	0.90
82	167-3471	1.45	1.33	1.15	1.01	0.93
100	167-3472	1.53	1.40	1.22	1.06	0.98
100	167-3473	1.57	1.43	1.26	1.09	1.00
150	167-3474	2.45	2.24	1.96	1.70	1.57
220	167-3475	3.54	3.23	2.83	2.46	2.26

350 Volt d.c. µF	Ripple (mA)	Dimensions H	D	Lead Pitch	Mftrs. List No.	Order Code
15	480	10	20	5	EEUEE2V150	167-3477
22	660	12.5	20	5	EEUEE2V220	167-3478
33	790	12.5	25	5	EEUEE2V330	167-3479
33	900	16	20	7.5	EEUEE2V330S	167-3480
47	1070	16	25	7.5	EEUEE2V470	167-3481
47	1070	18	20	7.5	EEUEE2V470S	167-3482
68	1530	16	31.5	7.5	EEUEE2V680	167-3483
68	1330	18	25	7.5	EEUEE2V680S	167-3484
82	1530	18	25	7.5	EEUEE2V820S	167-3485
100	1600	18	31.5	7.5	EEUEE2V101	167-3486

350 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
15	167-3477	0.46	0.42	0.37	0.33	0.30
22	167-3478	0.70	0.64	0.56	0.49	0.45
33	167-3479	0.93	0.85	0.73	0.64	0.59
33	167-3480	1.12	1.01	0.90	0.79	0.72
47	167-3481	1.41	1.29	1.12	0.98	0.90
47	167-3482	1.45	1.33	1.15	1.01	0.93
68	167-3483	1.68	1.54	1.35	1.17	1.08
68	167-3484	1.77	1.61	1.42	1.23	1.13
82	167-3485	1.77	1.61	1.42	1.23	1.13
100	167-3486	2.69	2.46	2.15	1.88	1.72

RL Re-reeling available

Farnell

Aluminium Electrolytic - Radial - continued

EE Series - continued

400 Volt d.c. µF	Ripple (mA)	Dimensions H	D	Lead Pitch	Mftrs. List No.	Order Code
10	430	10	20	5	EEUEE2G100	167-3487
15	590	12.5	20	5	EEUEE2G150	167-3489
22	760	12.5	25	5	EEUEE2G220	167-3491
22	860	16	20	7.5	EEUEE2G220S	167-3492
33	1020	16	20	7.5	EEUEE2G330S	167-3493
47	1180	16	25	7.5	EEUEE2G470	167-3494
47	1180	18	20	7.5	EEUEE2G470S	167-3495
68	1470	18	25	7.5	EEUEE2G680	167-3496
82	1645	18	31.5	7.5	EEUEE2G820	167-3497
100	2060	18	40	7.5	EEUEE2G101	167-3498

400 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	167-3487●	0.46	0.42	0.37	0.33	0.30
15	167-3489●	0.70	0.64	0.56	0.49	0.45
22	167-3491●	0.93	0.85	0.73	0.64	0.59
22	167-3492●	1.12	1.01	0.90	0.79	0.72
33	167-3493●	1.12	1.01	0.90	0.79	0.72
47	167-3494●	1.41	1.29	1.12	0.98	0.90
47	167-3495●	1.45	1.33	1.15	1.01	0.93
68	167-3496●	1.85	1.69	1.48	1.29	1.18
82	167-3497●	2.69	2.46	2.15	1.88	1.72
100	167-3498●	3.54	3.23	2.83	2.46	2.26

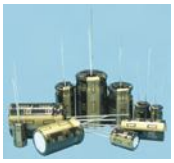
450 Volt d.c. µF	Ripple (mA)	Dimensions H	D	Lead Pitch	Mftrs. List No.	Order Code
10	330	10	20	5	EEUEE2W100U	167-3499
10	490	12.5	20	5	EEUEE2W100	167-3500
15	780	12.5	25	5	EEUEE2W150	167-3501
22	945	16	20	7.5	EEUEE2W220S	167-3502
33	1000	16	25	7.5	EEUEE2W330	167-3503
33	1000	18	20	7.5	EEUEE2W330S	167-3504
47	1200	6	31.5	7.5	EEUEE2W470	167-3505
47	1200	18	25	7.5	EEUEE2W470S	167-3507
56	1380	18	31.5	7.5	EEUEE2W560	167-3508
68	1800	18	40	7.5	EEUEE2W680	167-3509

527420

450 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	167-3499●	0.46	0.42	0.37	0.33	0.30
10	167-3500●	0.70	0.64	0.56	0.49	0.45
15	167-3501●	0.93	0.85	0.73	0.64	0.59
22	167-3502●	1.12	1.01	0.90	0.79	0.72
33	167-3503●	1.41	1.29	1.12	0.98	0.90
33	167-3504●	1.45	1.33	1.15	1.01	0.93
47	167-3505●	1.72	1.58	1.39	1.20	1.10
47	167-3507●	1.85	1.69	1.48	1.29	1.18
56	167-3508●	2.69	2.46	2.15	1.88	1.72
68	167-3509●	3.54	3.23	2.83	2.46	2.26

FM Series – Low Impedance 105°C

Panasonic ideas for life



- High temperature – 105°C
- Low impedance
- High ripple current capability
- Long life – 2000 to 7000 hours
- Approximately 30% smaller case size than standard FC series
- Applications include the secondary circuit of a switching power supply

Operating temperature -40°C to +105°C
Tolerance ±20%
DC Leakage current (max) 0.01µA
Ripple current measured at 100kHz @ 105°C
Impedance measured at 100kHz @ 20°C

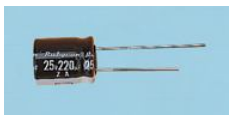
µF	Ripple (mA)	Impedance (Ω)	Operating Life (h)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
6.3 Volt d.c									
150	280	0.3	2000	11	5	0.5	2	EEUFM0J151	121-9442
330	455	0.13	2000	11.2	6	0.5	2.5	EEUFM0J331	121-9445
1200	1560	0.03	4000	20	8	0.6	3.5	EEUFM0J122L	121-9446
1000	1290	0.038	4000	12.5	10	0.6	5	EEUFM0J102	121-9447
1500	2180	0.019	5000	20	10	0.6	5	EEUFM0J152	121-9448
2200	2470	0.018	5000	25	10	0.6	5	EEUFM0J222L	121-9449
3300	2600	0.018	5000	20	12.5	0.6	5	EEUFM0J332	121-9450
4700	3630	0.013	7000	30	12.5	0.8	5	EEUFM0J472L	121-9451
6800	3820	0.014	7000	25	16	0.8	7.5	EEUFM0J682	121-9452
10 Volt d.c.									
100	280	0.3	2000	11	5	0.5	2	EEUFM1A101	121-9453
220	455	0.13	2000	11.2	6	0.5	2.5	EEUFM1A221	121-9454
1000	1560	0.03	4000	20	8	0.6	3.5	EEUFM1A102L	121-9456
3300	3190	0.015	7000	25	12.5	0.6	5	EEUFM1A332	121-9458
4700	3750	0.012	7000	35	12.5	0.8	5	EEUFM1A472L	121-9459
5600	3820	0.014	7000	25	16	0.8	7.5	EEUFM1A562	121-9460
16 Volt d.c.									
330	950	0.056	3000	11.5	8	0.6	3.5	EEUFM1C331	121-9461
470	1240	0.041	3000	15	8	0.6	3.5	EEUFM1C471L	121-9462
1000	2180	0.019	5000	20	10	0.6	5	EEUFM1C102	121-9463
2200	3190	0.015	7000	25	12.5	0.6	5	EEUFM1C222	121-9464
3300	3750	0.012	7000	35	12.5	0.8	5	EEUFM1C332L	121-9465
25 Volt d.c.									
100	455	0.13	2000	11.2	6	0.5	2.5	EEUFM1E101	121-9466
220	950	0.056	3000	11.5	8	0.6	3.5	EEUFM1E221	121-9468
330	1240	0.041	3000	15	8	0.6	3.5	EEUFM1E331L	121-9469
470	1560	0.03	4000	20	8	0.6	3.5	EEUFM1E471L	121-9470
1000	2600	0.018	5000	20	12.5	0.6	5	EEUFM1E102	121-9471
2200	3750	0.012	7000	35	12.5	0.8	5	EEUFM1E222L	121-9472
35 Volt d.c.									
220	1240	0.04	3000	15	8	0.6	3.5	EEUFM1V221L	121-9473
330	1560	0.03	4000	20	8	0.6	3.5	EEUFM1V331L	121-9474
470	2180	0.019	5000	20	10	0.6	5	EEUFM1V471	121-9475
1000	3190	0.015	7000	25	12.5	0.6	5	EEUFM1V102	121-9476
1500	3630	0.013	7000	30	12.5	0.8	5	EEUFM1V152L	121-9477
50 Volt d.c.									
100	870	0.061	3000	11.5	8	0.6	3.5	EEUFM1H101	121-9478
220	1650	0.03	4000	16	10	0.6	5	EEUFM1H221	121-9481
330	2150	0.022	5000	25	10	0.6	5	EEUFM1H331L	121-9482
470	2260	0.022	5000	20	12.5	0.6	5	EEUFM1H471	121-9483
1000	3320	0.016	7000	25	16	0.8	7.5	EEUFM1H102	121-9484

438036

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
6.3 Volt d.c.						
150	121-9442●	0.107	0.089	0.060	0.034	0.030
330	121-9445●	0.153	0.110	0.075	0.048	0.037
1200	121-9446●	0.380	0.240	0.164	0.118	0.105
1000	121-9447●	0.320	0.210	0.142	0.114	0.101
1500	121-9448●	0.530	0.330	0.230	0.176	0.156
2200	121-9449●	0.540	0.340	0.240	0.182	0.156
3300	121-9450●	0.680	0.430	0.300	0.260	0.230
4700	121-9451●	0.880	0.550	0.390	0.320	0.280
6800	121-9452●	1.160	0.740	0.530	0.440	0.380
10 Volt d.c.						
100	121-9453●	0.123	0.089	0.060	0.034	0.030
220	121-9454●	0.153	0.110	0.075	0.048	0.037
1000	121-9456●	0.410	0.280	0.189	0.116	0.097
3300	121-9458●	0.850	0.540	0.380	0.310	0.280
4700	121-9459●	1.190	0.760	0.550	0.420	0.370
5600	121-9460●	1.160	0.740	0.530	0.420	0.370
16 Volt d.c.						
330	121-9461●	0.260	0.164	0.111	0.081	0.069
470	121-9462●	0.320	0.210	0.140	0.097	0.082
1000	121-9463●	0.530	0.330	0.230	0.176	0.156
2200	121-9464●	0.850	0.540	0.380	0.310	0.280
3300	121-9465●	1.190	0.760	0.550	0.420	0.370
25 Volt d.c.						
100	121-9466●	0.153	0.109	0.075	0.042	0.037
220	121-9468●	0.250	0.164	0.111	0.079	0.067
330	121-9469●	0.320	0.210	0.140	0.099	0.084
470	121-9470●	0.380	0.240	0.164	0.118	0.099
1000	121-9471●	0.680	0.430	0.300	0.260	0.230
2200	121-9472●	1.190	0.760	0.580	0.440	0.360
35 Volt d.c.						
220	121-9473●	0.320	0.210	0.140	0.099	0.084
330	121-9474●	0.380	0.240	0.164	0.122	0.107
470	121-9475●	0.530	0.330	0.230	0.176	0.156
1000	121-9476●	0.850	0.540	0.380	0.280	0.230
1500	121-9477●	1.190	0.760	0.550	0.430	0.380
50 Volt d.c.						
100	121-9478●	0.240	0.164	0.111	0.070	0.058
220	121-9481●	0.450	0.280	0.189	0.143	0.124
330	121-9482●	0.540	0.340	0.240	0.200	0.182
470	121-9483●	0.680	0.430	0.300	0.260	0.230
1000	121-9484●	1.160	0.740	0.530	0.450	0.400

BXA Series – 105°C (Miniature Aluminum Electrolytic)

Rubycon



- Upgraded Ultra Long Life (12,000 Hours at 105 degrees)
- Very High Ripple Current Handling further enhances life characteristics
- Miniaturised Package with High CV values available
- Ideally suited for Light Ballast or Power supply applications

Tolerance ±20%
Leakage current (max) 0.02 CV +25 µF whichever is greater
Operating temperature -25°C to +105°C
Ripple current measured at 105°C@ 100kHz

250 Volt d.c.

µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
10	280	20	10	5	250BXA10MEFG10X20	812-6470
22	600	20	12.5	5	250BXA22MEFG12.5X20	812-6500
33	600	20	12.5	5	250BXA33MEFG12.5X20	812-6518
47	720	25	12.5	5	250BXA47MEFG12.5X25	812-6526
100	1200	31.5	16	7.5	250BXA100MEFG16X31.5	812-6488
150	1500	31.5	18	7.5	250BXA150MEFG18X31.5	812-6496

250 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	812-6470●	0.56	0.47	0.43	0.38	0.36
22	812-6500●	0.77	0.68	0.60	0.54	0.49
33	812-6518●	0.85	0.74	0.64	0.59	0.55
47	812-6526●	1.06	0.94	0.81	0.74	0.69
100	812-6488●	2.01	1.76	1.52	1.40	1.30
150	812-6496●	2.16	1.91	1.69	1.53	1.42

400 Volt d.c.

µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
6.8	220	16	10	5	400BXA6R8MEFG10X16	812-6828
10	280	20	10	5	400BXA10MEFG10X20	812-6780
22	430	25	12.5	5	400BXA22MEFG12.5X25	812-6798
33	640	25	16	7.5	400BXA33MEFG16X25	812-6801
47	840	25	18	7.5	400BXA47MEFG18X25	812-6810
68	1000	31.5	18	7.5	400BXA68MEFG18X31.5	812-6836

RL Re-reeling available

Farnell

400 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
6.8	812-6828●	0.58	0.48	0.43	0.39	0.37
10	812-6780●	0.72	0.63	0.55	0.48	0.46
22	812-6798●	1.25	1.08	0.96	0.88	0.80
33	812-6801●	1.98	1.71	1.49	1.37	1.26
47	812-6810●	2.67	2.34	2.02	1.84	1.71
68	812-6836●	3.33	2.91	2.54	2.32	2.15

450 Volt d.c. µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
6.8	150	20	10	5	450BXA6R8MEFG10X20	812-6925
10	320	20	12	5	450BXA10MEFG12.5X20	812-6887
22	560	25	16	7.5	450BXA22MEFG16X25	812-6895
33	700	31.5	16	7.5	450BXA33MEFG16X31.5	812-6909
47	880	31.5	18	7.5	450BXA47MEFG18X31.5	812-6917

372152

450 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
6.8	812-6925●	0.58	0.49	0.43	0.39	0.37
10	812-6887●	1.06	0.93	0.80	0.74	0.68
22	812-6895●	2.05	1.80	1.56	1.42	1.32
33	812-6909●	2.09	1.82	1.58	1.44	1.34
47	812-6917●	3.39	2.97	2.59	2.37	2.19

2222 152 Series – 105°C



Lead length = 5

- High voltage radial electrolytic
- Long life, high temperature
- Applications include filtering, decoupling high voltages

Operating temperature -40°C to +105°C
Tolerance ±20%
Useful life @ 105°C case 10 and 12.5 16 dia. 3000hrs 3000hrs

Voltage	µF	Ripple (mA)	ESR (Ω)	Impedance (Ω)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
200	10	85	19.1	3.5	12	10	0.6	5	2222 152 62109	116-5453
200	22	120	8.7	3.2	16	10	0.6	5	2222 152 62229	116-5454
200	47	240	4.1	0.8	20	12.5	0.6	5	2222 152 62479	116-5455
200	100	340	1.9	0.4	20	16	0.8	7.5	2222 152 62101	116-5456
250	47	18	4.1	0.9	25	12.5	0.6	5	2222 152 63479	116-5457
400	4.7	15	50.8	18	16	10	0.6	5	2222 152 66478	116-5459
400	10	16	23.9	9	20	10	0.6	5	2222 152 66109	116-5461
400	22	18	10.9	3.8	25	12.5	0.6	5	2222 152 66229	116-5462
400	47	18	5.1	2	25	16	0.6	7.5	2222 152 66479	116-5463
450	10	17	31.8	10	20	12.5	0.6	5	2222 152 67109	116-5464
450	22	19	14.5	4.6	25	16	0.6	7.5	2222 152 67229	116-5465

208600

Voltage	µF	Order Code	Price Each 1+	50+	100+	1K+	2K+
200	10	116-5453●	0.39	0.32	0.28	0.27	0.24
200	22	116-5454●	0.44	0.36	0.31	0.29	0.27
200	47	116-5455●	0.68	0.59	0.49	0.44	0.43
200	100	116-5456●	1.02	0.84	0.71	0.65	0.63
250	47	116-5457●	0.83	0.69	0.59	0.53	0.49
400	4.7	116-5459●	0.45	0.37	0.32	0.30	0.28
400	10	116-5461●	0.63	0.53	0.44	0.40	0.37
400	22	116-5462●	0.99	0.82	0.68	0.62	0.60
400	47	116-5463●	1.49	1.26	1.02	0.93	0.90
450	10	116-5464●	0.81	0.68	0.57	0.50	0.48
450	22	116-5465●	0.97	0.79	0.67	0.60	0.58

UHD Series – Low Impedance 105°C



- High performance minature radial electrolytic
- High temperature – 105°C
- Low impedance
- High ripple current capability
- Laminated case
- Markings on case top for easy identification in high density board population

Operating temperature -40°C to +105°C
Tolerance ±20%
Useful life @ 85°C 2000 hrs
DC Leakage current (max) 0.01CV or 3µA whichever greater
Ripple current measured at 100kHz @ 105°C
Impedance measured at 100kHz @ 20°C

µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
6.3 Volt d.c								
1000	1030	0.053	12.5	10	0.6	5	UHD0J102MPD	882-2778
2200	2150	0.022	25	10	0.6	5	UHD0J222MPD	882-2786
4700	3290	0.016	31.5	12.5	0.8	5	UHD0J472MHD	882-2794
10 Volt d.c.								
100	250	0.3	11	5	0.5	2	UHD1A101MDD	882-2808
470	760	0.072	11.5	8	0.6	3.5	UHD1A471MPD	882-2816
1000	1430	0.038	16	10	0.6	5	UHD1A102MPD6	882-2824
16 Volt d.c.								
470	1030	0.053	12.5	10	0.6	5	UHD1C471MPD6	882-2840
1000	1820	0.023	20	10	0.6	5	UHD1C102MPD	882-2859
2200	2770	0.018	25	12.5	0.8	5	UHD1C222MHD	882-2867
25 Volt d.c.								
47	250	0.3	11	5	0.5	2	UHD1E470MDD	882-2875
100	405	0.13	11	6.3	0.5	2.5	UHD1E101MED	882-2883
470	1430	0.038	16	10	0.6	5	UHD1E471MPD6	882-2891
1000	2360	0.021	20	12.5	0.6	5	UHD1E102MHD	882-2905
35 Volt d.c.								
220	1030	0.042	12.5	10	0.6	5	UHD1V221MPD6	882-2913
470	1820	0.027	20	10	0.6	5	UHD1V471MPD	882-2921
1000	2770	0.021	25	12.5	0.8	5	UHD1V102MHD	882-2930
50 Volt d.c.								
22	238	0.34	11	5	0.5	2	UHD1H220MDD	882-2948
100	724	0.074	11.5	8	0.6	3.5	UHD1H101MPD	882-2956
470	2050	0.027	20	12.5	0.6	5	UHD1H471MHD	882-2964
1000	3010	0.021	25	16	0.8	7.5	UHD1H102MHD	882-2972

387251

µF	Order Code	Price Each 1+	50+	100+	500+	1K+
6.3 Volt d.c.						
1000	882-2778●	0.380	0.310	0.290	0.270	0.250
2200	882-2786●	0.590	0.480	0.450	0.420	0.390
4700	882-2794●	0.720	0.600	0.560	0.520	0.480
10 Volt d.c.						
100	882-2808●	0.148	0.128	0.117	0.107	0.096
470	882-2816●	0.330	0.270	0.260	0.240	0.210
1000	882-2824●	0.520	0.430	0.400	0.370	0.340
16 Volt d.c.						
470	882-2840●	0.360	0.300	0.280	0.260	0.240
1000	882-2859●	0.620	0.490	0.460	0.420	0.390
2200	882-2867●	1.010	0.840	0.790	0.730	0.670
25 Volt d.c.						
47	882-2875●	0.191	0.149	0.138	0.128	0.117
100	882-2883●	0.250	0.200	0.193	0.170	0.160
470	882-2891●	0.510	0.420	0.390	0.360	0.340
1000	882-2905●	0.810	0.670	0.620	0.560	0.510
35 Volt d.c.						
220	882-2913●	0.380	0.320	0.290	0.270	0.250
470	882-2921●	0.670	0.540	0.500	0.460	0.430
1000	882-2930●	1.000	0.830	0.780	0.710	0.660
50 Volt d.c.						
22	882-2948●	0.191	0.149	0.138	0.128	0.117
100	882-2956●	0.350	0.290	0.270	0.250	0.220
470	882-2964●	0.830	0.690	0.640	0.580	0.530
1000	882-2972●	1.210	0.990	0.930	0.860	0.800

FC Series – Low Impedance 105°C



- High performance miniature radial electrolytic
- High temperature 105°C
- Low impedance
- Long life

Operating temperature -55°C to +105°C
Tolerance ±20%
Leakage current 0.01CV or 3µA whichever is greater
Ripple current measured at 100kHz @ 105°C
Impedance measured at 100kHz @ 20°C

Operating life @ 105°C
Dependent on case dia.
4.0 to 6.3 1000hrs
8.0 2000hrs
10 3000hrs
12.5 5000hrs

µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
6.3 Volt d.c								
560	555	0.117	11.5	8	0.6	3.5	EEUFC0J561	969-1847
1000	755	0.09	12.5	10	0.6	5	EEUFC0J102	969-1855
1200	1050	0.068	16	10	0.6	5	EEUFC0J122	969-1863
2700	1690	0.43	15	16	0.8	7.5	EEUFC0J272S	969-1871
3900	1945	0.03	25	12.5	0.6	5	EEUFC0J392	969-1880
4700	2310	0.025	30	12.5	0.8	5	EEUFC0J472	969-1898
5600	2205	0.029	20	16	0.8	7.5	EEUFC0J562	969-1901
6800	2555	0.022	25	16	0.8	7.5	EEUFC0J682	969-1910
10 Volt d.c.								
180	290	0.35	11.2	6.3	0.5	2.5	EEUFC1A181	969-1928
220	400	0.25	15	6.3	0.5	2.5	EEUFC1A221	969-1936
470	555	0.117	11.5	8	0.6	3.5	EEUFC1A471	969-1944
1000	1050	0.068	16	10	0.6	5	EEUFC1A102	969-1952
1200	1220	0.052	20	10	0.6	5	EEUFC1A122	969-1960
2200	1655	0.038	20	12.5	0.6	5	EEUFC1A222	969-1979
3300	2310	0.025	30	12.5	0.6	5	EEUFC1A332	969-1987
5600	2555	0.022	25	16	0.8	7.5	EEUFC1A562	969-1995
6800	3010	0.018	31.5	16	0.8	7.5	EEUFC1A682	969-2002
10000	3680	0.015	35.5	18	0.8	7.5	EEUFC1A103	969-2010
16 Volt d.c								
82	235	0.5	15	5	0.5	2	EEUFC1C820	969-2029
180	400	0.25	15	6.3	0.5	2.5	EEUFC1C181	969-2037
330	555	0.117	11.5	8	0.6	3.5	EEUFC1C331	969-2045
470	755	0.09	12.5	10	0.6	5	EEUFC1C471	969-2053
820	1220	0.052	20	10	0.6	5	EEUFC1C821	969-2061
1200	1440	0.045	25	10	0.6	5	EEUFC1C122	969-2070
2200	1945	0.03	25	12.5	0.6	5	EEUFC1C222	969-2088
3300	2510	0.022	35	12.5	0.8	5	EEUFC1C332	969-2096
4700	3010	0.018	31.5	16	0.8	7.5	EEUFC1C472	969-2100
8200	3680	0.015	35.5	18	0.8	7.5	EEUFC1C822	969-2126
25 Volt d.c.								
120	400	0.25	15	6.3	0.5	2.5	EEUFC1E121	969-2134
220	555	0.117	11.5	8	0.6	3.5	EEUFC1E221	969-2142
330	755	0.09	12.5	10	0.6	5	EEUFC1E331	969-2150
470	1050	0.068	16	10	0.6	5	EEUFC1E471	969-2169
560	1220	0.052	20	10	0.6	5	EEUFC1E561	969-2177
820	1440	0.045	25	10	0.6	5	EEUFC1E821	969-2185
1000	1655	0.038	20	12.5	0.6	5	EEUFC1E102	969-2193

RL Re-reeling available

Farnell

Aluminium Electrolytic - Radial - continued

FC Series – Low Impedance 105°C - continued

µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
25 Volt d.c.								
1800	2205	0.029	20	16	0.8	7.5	EEUFC1E182	969-2207
2200	2510	0.022	35	12.5	0.8	5	EEUFC1E222	969-2215
3300	3010	0.018	31.5	16	0.8	7.5	EEUFC1E332	969-2223
4700	3680	0.015	35.5	18	0.8	7.5	EEUFC1E472	969-2231
35 Volt d.c.								
39	235	0.5	15	5	0.5	2	EEUFC1V390	969-2240
56	290	0.35	11.2	6.3	0.5	2.5	EEUFC1V560	969-2258
82	400	0.25	15	6.3	0.5	2.5	EEUFC1V820	969-2266
150	555	0.117	11.5	8	0.6	3.5	EEUFC1V151	969-2274
220	755	0.09	12.5	10	0.6	5	EEUFC1V221	969-2282
330	1050	0.068	16	10	0.6	5	EEUFC1V331	969-2290
680	1655	0.038	20	12.5	0.6	5	EEUFC1V681	969-2304
1000	1945	0.03	25	12.5	0.6	5	EEUFC1V102	969-2312
1200	2205	0.029	20	16	0.6	7.5	EEUFC1V122	969-2320
1800	2555	0.022	25	16	0.6	7.5	EEUFC1V182	969-2339
2200	3010	0.018	31.5	16	0.8	7.5	EEUFC1V222	969-2347
3300	3680	0.015	35.5	18	0.8	7.5	EEUFC1V332	969-2355
50 Volt d.c.								
10	90	2.5	11	4	0.45	1.5	EEUFC1H100	969-2363
18	155	1.3	11	5	0.5	2	EEUFC1H180	969-2371
27	215	0.9	11	5	0.5	2	EEUFC1H270	969-2398
33	260	0.6	11.2	6.3	0.5	2.5	EEUFC1H330	969-2401
82	485	0.234	11.5	8	0.6	3.5	EEUFC1H820	969-2410
120	615	0.162	12.5	10	0.6	5	EEUFC1H121	969-2428
270	1200	0.082	25	10	0.6	5	EEUFC1H271	969-2436
390	1480	0.063	20	12.5	0.6	5	EEUFC1H391	969-2444
680	1835	0.048	20	16	0.6	7.5	EEUFC1H681	969-2452
1000	2235	0.034	25	16	0.6	7.5	EEUFC1H102	969-2460
1200	2700	0.028	31.5	16	0.8	7.5	EEUFC1H122	969-2479
2200	3100	0.023	35.5	18	0.8	7.5	EEUFC1H222	969-2487
63 Volt d.c.								
22	240	1	11.2	6.3	0.5	2.5	EEUFC1J220	969-2495
39	330	0.7	15	6.3	0.5	2.5	EEUFC1J390	969-2509
100	535	0.256	12.5	10	0.6	5	EEUFC1J101	969-2517
180	885	0.147	20	10	0.6	5	EEUFC1J181	969-2525
220	1050	0.13	25	10	0.6	5	EEUFC1J221	969-2533
390	1720	0.07	25	12.5	0.6	5	EEUFC1J391	969-2541
470	1765	0.059	20	16	0.6	7.5	EEUFC1J471	969-2550
680	2160	0.05	25	16	0.6	7.5	EEUFC1J681	969-2568
1000	2770	0.036	35.5	16	0.8	7.5	EEUFC1J102	969-2576
1200	2950	0.032	31.5	18	0.8	7.5	EEUFC1J122	969-2584
100 Volt d.c.								
22	260	0.55	11.5	8	0.6	3.5	EEUFC2A220	969-2592
33	306	0.42	12.5	10	0.6	5	EEUFC2A330	969-2606
100	671	0.18	20	12.5	0.6	5	EEUFC2A101	969-2614
220	1170	0.089	25	16	0.8	7.5	EEUFC2A221	969-2622
330	1520	0.062	31.5	16	0.8	7.5	EEUFC2A331	969-2630
470	1920	0.047	40	16	0.8	7.5	EEUFC2A471	969-2649
680	2300	0.036	40	18	0.8	7.5	EEUFC2A681	969-2657

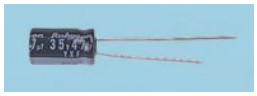
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		Price Each				
µF	Order Code	5+	50+	100+	500+	1K+
6.3 Volt d.c.						
560	969-1847●	0.270	0.186	0.125	0.086	0.075
1000	969-1855●	0.370	0.210	0.149	0.106	0.104
1200	969-1863●	0.300	0.280	0.260	0.200	0.178
2700	969-1871●	1.150	0.710	0.480	0.300	0.290
3900	969-1880●	0.920	0.560	0.410	0.290	0.280
4700	969-1898●	1.000	0.580	0.420	0.290	0.280
5600	969-1901●	1.070	0.910	0.610	0.370	0.360
6800	969-1910●	1.390	0.830	0.600	0.380	0.370
10 Volt d.c.						
180	969-1928●	0.210	0.129	0.087	0.054	0.047
220	969-1936●	0.220	0.182	0.130	0.074	0.072
470	969-1944●	0.310	0.167	0.124	0.096	0.086
1000	969-1952●	0.310	0.280	0.199	0.121	0.118
1200	969-1960●	0.540	0.340	0.240	0.176	0.156
2200	969-1979●	0.810	0.670	0.530	0.390	0.250
3300	969-1987●	1.080	0.580	0.440	0.380	0.370
5600	969-1995●	1.500	1.080	0.730	0.470	0.460
6800	969-2002●	1.740	0.940	0.710	0.520	0.480
10000	969-2010●	2.420	1.320	1.050	0.830	0.790
16 Volt d.c.						
82	969-2029●	0.200	0.153	0.103	0.065	0.063
180	969-2037●	0.240	0.172	0.118	0.088	0.086
330	969-2045●	0.310	0.167	0.124	0.092	0.089
470	969-2053●	0.370	0.210	0.149	0.120	0.117
820	969-2061●	0.540	0.340	0.240	0.143	0.139
1200	969-2070●	0.590	0.470	0.310	0.195	0.171
2200	969-2088●	0.850	0.710	0.570	0.430	0.290
3300	969-2096●	1.150	0.760	0.540	0.420	0.410
4700	969-2100●	1.760	0.940	0.770	0.610	0.590
8200	969-2126●	2.360	1.320	0.950	0.760	0.740
25 Volt d.c.						
120	969-2134●	0.240	0.172	0.118	0.083	0.081
220	969-2142●	0.270	0.167	0.114	0.095	0.093
330	969-2150●	0.390	0.210	0.162	0.124	0.119
470	969-2169●	0.430	0.280	0.199	0.133	0.129
560	969-2177●	0.540	0.410	0.280	0.172	0.168
820	969-2185●	0.680	0.470	0.310	0.220	0.210
1000	969-2193●	0.770	0.450	0.320	0.270	0.260
1800	969-2207●	1.040	0.890	0.610	0.370	0.360
2200	969-2215●	1.120	0.760	0.540	0.390	0.380
3300	969-2223●	1.700	0.940	0.680	0.550	0.540
4700	969-2231●	2.310	1.320	0.950	0.790	0.770

		Price Each				
µF	Order Code	5+	50+	100+	500+	1K+
35 Volt d.c.						
39	969-2240●	0.165	0.143	0.103	0.065	0.063
56	969-2258●	0.194	0.129	0.087	0.056	0.049
82	969-2266●	0.210	0.176	0.146	0.116	0.086
150	969-2274●	0.310	0.167	0.136	0.098	0.089
220	969-2282●	0.370	0.210	0.149	0.115	0.102
330	969-2290●	0.430	0.280	0.199	0.136	0.120
680	969-2304●	0.760	0.450	0.320	0.230	0.220
1000	969-2312●	0.860	0.560	0.410	0.330	0.320
1200	969-2320●	1.220	0.910	0.610	0.400	0.390
1800	969-2339●	1.490	1.080	0.730	0.470	0.440
2200	969-2347●	1.580	0.940	0.770	0.630	0.610
3300	969-2355●	2.310	1.320	0.950	0.850	0.830
50 Volt d.c.						
10	969-2363●	0.164	0.139	0.114	0.089	0.064
18	969-2371●	0.123	0.104	0.070	0.036	0.035
27	969-2398●	0.230	0.153	0.103	0.067	0.065
33	969-2401●	0.194	0.116	0.079	0.056	0.049
82	969-2410●	0.310	0.186	0.125	0.096	0.086
120	969-2428●	0.370	0.260	0.175	0.120	0.117
270	969-2436●	0.590	0.470	0.310	0.189	0.184
390	969-2444●	0.770	0.580	0.390	0.250	0.240
680	969-2452●	1.070	0.700	0.500	0.370	0.360
1000	969-2460●	1.500	0.830	0.620	0.470	0.460
1200	969-2479●	1.740	1.380	0.930	0.530	0.510
2200	969-2487●	2.320	1.320	0.950	0.800	0.780
63 Volt d.c.						
22	969-2495●	0.194	0.116	0.079	0.056	0.049
39	969-2509●	0.143	0.124	0.105	0.076	0.072
100	969-2517●	0.390	0.210	0.162	0.124	0.119
180	969-2525●	0.550	0.410	0.280	0.168	0.164
220	969-2533●	0.610	0.380	0.290	0.250	0.240
390	969-2541●	0.930	0.730	0.500	0.310	0.290
470	969-2550●	1.070	0.700	0.500	0.360	0.350
680	969-2568●	1.390	0.830	0.600	0.450	0.440
1000	969-2576●	1.770	1.070	0.780	0.660	0.640
1200	969-2584●	1.930	1.790	1.210	0.650	0.640
100 Volt d.c						
22	969-2592●	0.370	0.182	0.150	0.119	0.114
33	969-2606●	0.460	0.230	0.188	0.148	0.144
100	969-2614●	0.910	0.490	0.390	0.330	0.320
220	969-2622●	1.570	0.810	0.580	0.510	0.450
330	969-2630●	1.170	1.030	0.920	0.830	0.760
470	969-2649●	2.200	1.300	0.940	0.810	0.790
680	969-2657●	2.060	1.750	1.550	1.370	1.200

YXF Series – Low Impedance 105°C

Rubycon



- High performance radial electrolytic capacitors
- 105°C, low impedance

Operating temperature	-40°C to +105°C	DC leakage	0.01CV or 3µA
Tolerance	±20%		whichever is greater
Impedance Ω max. at	100kHz @ 20°C	Ripple current measured at	100kHz @105°C

6.3 Volt d.c. µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
1000	576	0.17	12.5	10	5	0.6	6.3YXF1000M10X12.5	114-4606
2200	1296	0.078	20	12.5	5	0.6	6.3YXF2200M12.5X20	114-4607

Order Multiple=5

		Price Each				
6.3 Volt d.c µF	Order Code	5+	50+	100+	500+	1K+
1000	114-4606●	0.31	0.29	0.28	0.26	0.22
2200	114-4607●	0.58	0.55	0.48	0.44	0.40

10 Volt d.c µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
100	147	0.9	11	5	2	0.5	10YXF100M5X11	114-4608
220	244	0.4	11	6.3	2.5	0.5	10YXF220M6.3X11	114-4609
470	391	0.26	11.5	8	3.5	0.6	10YXF470M8X11.5	114-4610
4700	1839	0.034	25	16	7.5	0.8	10YXF4700M16X25	114-4611

Order Multiple=5

		Price Each				
10 Volt d.c. µF	Order Code	5+	50+	100+	500+	1K+
100	114-4608●	0.115	0.097	0.081	0.071	0.062
220	114-4609●	0.160	0.134	0.108	0.097	0.090
470	114-4610●	0.240	0.186	0.152	0.136	0.127
4700	114-4611●	1.040	0.880	0.720	0.640	0.590

16 Volt d.c. µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
47	147	0.9	11	5	2	0.5	16YXF47M5X11	114-4612
100	244	0.4	11	6.3	2.5	0.5	16YXF100M6.3X11	114-4614
220	391	0.26	11.5	8	3.5	0.6	16YXF220M8X11.5	114-4615
470	576	0.17	12.5	10	5	0.6	16YXF470M10X12.5	114-4616
1000	1009	0.095	20	10	5	0.6	16YXF1000M10X20	114-4617
2200	1646	0.06	25	12.5	5	0.6	16YXF2200M12.5X25	114-4618

RL Re-reeling available

Farnell

Order Multiple=5
16 Volt d.c.

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
47	114-4612●	0.112	0.108	0.099	0.092	0.082
100	114-4614●	0.151	0.141	0.130	0.123	0.112
220	114-4615●	0.220	0.200	0.176	0.168	0.153
470	114-4616●	0.310	0.290	0.270	0.260	0.230
1000	114-4617●	0.440	0.420	0.370	0.360	0.340
2200	114-4618●	0.730	0.680	0.630	0.560	0.530

25 Volt d.c. µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
47	147	0.9	11	5	2	0.5	25YXF47M5X11	114-4619
100	244	0.4	11	6.3	2.5	0.5	25YXF100M6.3X11	114-4620
220	391	0.26	11.5	8	3.5	0.6	25YXF220M8X11.5	114-4621
330	576	0.17	12.5	10	5	0.6	25YXF330M10X12.5	114-4622
470	762	0.12	16	10	5	0.6	25YXF470M10X16	114-4623
1000	1296	0.078	20	12.5	5	0.6	25YXF1000M12.5X20	114-4624

Order Multiple=5
25 Volt d.c.

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
47	114-4619●	0.123	0.112	0.098	0.084	0.067
100	114-4620●	0.157	0.149	0.135	0.113	0.095
220	114-4621●	0.240	0.220	0.194	0.165	0.137
330	114-4622●	0.350	0.280	0.240	0.191	0.177
470	114-4623●	0.420	0.380	0.330	0.290	0.240
1000	114-4624●	0.670	0.610	0.540	0.450	0.380

35 Volt d.c. µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
47	244	0.4	11	6.3	2.5	0.5	35YXF47M6.3X11	114-4626
100	391	0.26	11.5	8	3.5	0.6	35YXF100M8X11.5	114-4627
220	576	0.17	12.5	10	5	0.6	35YXF220M10X12.5	114-4628
470	1009	0.095	20	10	5	0.6	35YXF470M10X20	114-4629
1000	1646	0.06	25	12.5	5	0.6	35YXF1000M12.5X25	114-4630
2200	1994	0.029	31.5	16	7.5	0.8	35YXF2200M16X31.5	114-4631

Order Multiple=5
35 Volt d.c.

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
47	114-4626●	0.149	0.139	0.129	0.121	0.111
100	114-4627●	0.270	0.230	0.196	0.165	0.138
220	114-4628●	0.340	0.320	0.300	0.240	0.220
470	114-4629●	0.530	0.460	0.410	0.360	0.300
1000	114-4630●	0.880	0.740	0.680	0.590	0.510
2200	114-4631●	1.460	1.240	1.130	0.920	0.760

50 Volt d.c. µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
10	100	1.5	11	5	2	0.5	50YXF10M5X11	114-4632
47	244	0.4	11	6.3	2.5	0.5	50YXF47M6.3X11	114-4633
100	391	0.26	11.5	8	3.5	0.6	50YXF100M8X11.5	114-4634
220	762	0.12	16	10	5	0.6	50YXF220M10X16	114-4635
1000	1839	0.034	25	16	7.5	0.8	50YXF1000M16X25	114-4636

Order Multiple=5
50 Volt d.c.

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
10	114-4632●	0.127	0.103	0.090	0.076	0.063
47	114-4633●	0.179	0.146	0.129	0.110	0.090
100	114-4634●	0.280	0.230	0.187	0.162	0.131
220	114-4635●	0.460	0.380	0.330	0.290	0.240
1000	114-4636●	1.350	1.100	0.930	0.810	0.660

63 Volt d.c. µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
100	300	0.45	12.5	10	5	0.6	63YXF100M10X12.5	114-4638
470	750	0.14	25	12.5	5	0.6	63YXF470M12.5X25	114-4639

Order Multiple=5
63 Volt d.c.

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
100	114-4638●	0.340	0.310	0.280	0.240	0.187
470	114-4639●	0.790	0.660	0.590	0.490	0.410

100 Volt d.c. µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
10	138	2.2	11	6.3	2.5	0.5	100YXF10M6.3X11	114-4640
47	290	0.53	16	10	5	0.6	100YXF47M10X16	114-4641
100	430	0.37	20	12.5	5	0.6	100YXF100M12.5X20	114-4642
220	900	0.12	25	16	7.5	0.8	100YXF220M16X25	114-4643

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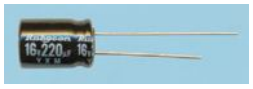
Order Multiple=5
100 Volt d.c.

µF	Order Code	5+	50+	Price Each 100+	500+	1K+
10	114-4640●	0.161	0.132	0.104	0.095	0.087
47	114-4641●	0.420	0.340	0.290	0.250	0.240
100	114-4642●	0.680	0.580	0.480	0.380	0.360
220	114-4643●	1.120	0.880	0.700	0.630	0.580

YXM Series

10,000 hours - 105°C

Rubycon



- Miniaturised aluminium electrolytic can size
- Extremely long life of 10,000 hours

Tolerance ±20%
Leakage current (max) 0.01 CV or 3µA whichever is greater
Operating temperature -25°C to +105°C
Ripple current measured at 105°C@ 100kHz

16 Volt d.c. µF	Ripple (mA)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
220	330	11.5	8	0.6	3.5	16YXM220M8X11.5	128-1849

16 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
220	128-1849●	0.49	0.42	0.35	0.30	0.26

35 Volt d.c. µF	Ripple (mA)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
100	330	11.5	8	0.6	3.5	35YXM100M8X11.5	128-1853

35 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
100	128-1853●	0.70	0.60	0.51	0.43	0.38

50 Volt d.c. µF	Ripple (mA)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
2.2	35	11	5	0.5	2	50YXM2R2M5X11	128-1850
47	190	11	6.3	0.5	2.5	50YXM47M6.3X11	128-1851
4.7	80	11	5	0.5	2	50YXM4R7M5X11	128-1852

50 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
2.2	128-1850●	0.300	0.270	0.230	0.191	0.160
47	128-1851●	0.430	0.370	0.320	0.280	0.240
4.7	128-1852●	0.290	0.260	0.220	0.180	0.160

63 Volt d.c. µF	Ripple (mA)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
33	170	11	6.3	0.5	2.5	63YXM33M6.3X11	128-1854

63 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
33	128-1854●	0.45	0.39	0.33	0.29	0.26

100 Volt d.c. µF	Ripple (mA)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
22	230	11.5	8	0.6	3.5	100YXM22M8X11.5	128-1855

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100 Volt d.c. µF	Order Code	1+	50+	Price Each 100+	500+	1K+
22	128-1855●	0.55	0.47	0.39	0.34	0.30

UPM Series – Extremely Low Impedance – 105°C

nichicon



- High temperature radial leaded electrolytic
- Extremely low impedance
- High reliability, long life up to 5000 hours
- Designed for use in switch mode power supplies
- Reduced case sizes - supersedes PL series

Operating temperature -55°C to +105°C(6.3 to 100V)
-40°C to +105°C(250 to 400V)
Tolerance ±20%
DC Leakage current (max) 0.03CV or 4µA whichever greater
Useful life @105°C 5000hrs (3000 hrs 8.0 case dia.)
(2000hrs 5 to 6.3 case dia.)
Ripple current measured at 120Hz @ 105°C
Impedance measured at 100kHz @ 20°C

µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
10 Volt d.c.								
470	475	0.13	12.5	10	0.6	5	UPM1A471MPD6	881-2381
1000	820	0.075	20	10	0.6	5	UPM1A102MPD	881-2390
2200	1320	0.043	25	12.5	0.6	5	UPM1A222MHD	881-2403
16 Volt d.c.								
100	175	0.075	11	6.3	0.5	2.5	UPM1C101MED	881-2411
220	205	0.30	11.5	8	0.6	3.5	UPM1C221MPD	881-2420
470	455	0.14	15	10	0.6	5	UPM1C471MPD6	881-2438
680	845	0.065	20	10	0.6	5	UPM1C681MPD	881-2446
1000	1210	0.047	31.5	10	0.6	5	UPM1C102MPD	881-2454
25 Volt d.c.								
100	1430	0.036	15	6.3	0.6	2.5	UPM1E101MED	881-2462
220	455	0.11	15	8	0.6	3.5	UPM1E221MPD	881-2470
330	610	0.085	20	8	0.6	3.5	UPM1E331MPD	881-2489
470	810	0.065	20	10	0.6	5	UPM1E471MPD	881-2497
1000	1430	0.036	25	12.5	0.6	5	UPM1E102MHD	881-2500
2200	2120	0.024	40	12.5	0.6	5	UPM1E222MHD	881-2519
3300	2410	0.020	35.5	16	0.8	7.5	UPM1E332MHD	881-2527

RL Re-reeling available

Farnell

Aluminium Electrolytic - Radial - continued

UPM Series – Extremely Low Impedance – 105°C - continued

µF	Ripple (mA)	Impedance (Ω)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
35 Volt d.c.								
22	85	0.75	11	5	0.5	2	UPM1V220MDD	881-2535
100	305	0.16	11.5	8	0.6	3.5	UPM1V101MPD	881-2543
470	1130	0.041	31.5	10	0.6	5	UPM1V471MPD	881-2551
820	1370	0.038	15	18	0.8	7.5	UPM1V821MHD6	881-2560
1000	1710	0.029	20	16	0.8	7.5	UPM1V102MHD6	881-2578
50 Volt d.c.								
2.2	27	5.0	11	5	0.5	2	UPM1H2R2MDD	881-2586
10	57	1.40	11	5	0.5	2	UPM1H100MDD	881-2594
100	385	0.16	15	10	0.6	5	UPM1H101MPD6	881-2608
220	670	0.08	15	12.5	0.6	5	UPM1H221MHD6	881-2616
470	1190	0.044	25	12.5	0.6	5	UPM1H471MHD	881-2624
1000	1830	0.030	31.5	16	0.8	7.5	UPM1H102MHD	881-2632
63 Volt d.c.								
22	110	0.52	11	6.3	0.5	2.5	UPM1J220MED	881-2640
47	215	0.25	11.5	8	0.6	3.5	UPM1J470MPD	881-2659
100	495	0.12	20	10	0.6	5	UPM1J101MPD	881-2667
120	555	0.10	20	10	0.6	5	UPM1J121MPD	881-2675
220	835	0.065	20	12.5	0.6	5	UPM1J221MHD	881-2683
470	1420	0.039	35.5	12.5	0.6	5	UPM1J471MHD	881-2691
1000	2050	0.027	40	16	0.8	7.5	UPM1J102MHD	881-2705
100 Volt d.c.								
10	52	1.20	11	6.3	0.5	2.5	UPM2A100MED	881-2756
22	122	0.55	11.5	8	0.6	3.5	UPM2A220MPD	881-2764
47	252	0.28	20	10	0.6	5	UPM2A470MPD	881-2772
220	730	0.087	35.5	12.5	0.6	5	UPM2A221MHD	881-2799
470	1530	0.047	40	16	0.8	7.5	UPM2A471MHD	881-2802
250 Volt d.c.								
10	98	—	20	12.5	0.6	5	UPM2E100MHD	881-2837
47	225	—	31.5	16	0.8	7.5	UPM2E470MHD	881-2845
400 Volt d.c.								
4.7	55	—	20	12.5	0.6	5	UPM2G4R7MHD	881-2861
10	85	—	25	12.5	0.6	5	UPM2G100MHD	881-2870
22	130	—	31.5	16	0.8	7.5	UPM2G220MHD	881-2888

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Order Multiple=5		Price Each				
µF	Order Code	5+	50+	100+	500+	1K+
10 Volt d.c.						
470	881-2381●	0.310	0.260	0.220	0.200	0.190
1000	881-2390●	0.360	0.310	0.270	0.240	0.200
2200	881-2403●	0.650	0.490	0.450	0.410	0.380
16 Volt d.c.						
100	881-2411●	0.148	0.117	0.107	0.096	0.086
220	881-2420●	0.200	0.160	0.149	0.128	0.117
470	881-2438●	0.290	0.220	0.200	0.193	0.170
680	881-2446●	0.430	0.340	0.310	0.280	0.260
1000	881-2454●	0.490	0.390	0.350	0.320	0.300
25 Volt d.c.						
100	881-2462●	0.220	0.177	0.153	0.142	0.131
220	881-2470●	0.330	0.280	0.250	0.210	0.186
330	881-2489●	0.300	0.260	0.220	0.197	0.174
470	881-2497●	0.400	0.340	0.300	0.270	0.240
1000	881-2500●	0.650	0.550	0.490	0.430	0.380
2200	881-2519●	1.240	0.980	0.890	0.810	0.750
3300	881-2527●	1.420	1.120	1.010	0.920	0.850
35 Volt d.c.						
22	881-2535●	0.136	0.115	0.103	0.092	0.082
100	881-2543●	0.200	0.160	0.149	0.128	0.117
470	881-2551●	0.570	0.450	0.400	0.370	0.340
820	881-2560●	0.720	0.560	0.500	0.450	0.420
1000	881-2578●	0.870	0.690	0.630	0.560	0.500
50 Volt d.c.						
2.2	881-2586●	0.126	0.105	0.094	0.083	0.082
10	881-2594●	0.137	0.116	0.104	0.093	0.082
100	881-2608●	0.280	0.220	0.200	0.181	0.170
220	881-2616●	0.370	0.290	0.260	0.240	0.210
470	881-2624●	0.710	0.550	0.490	0.450	0.410
1000	881-2632●	0.970	0.780	0.700	0.640	0.570
63 Volt d.c.						
22	881-2640●	0.200	0.160	0.149	0.128	0.117
47	881-2659●	0.184	0.155	0.137	0.120	0.106
100	881-2667●	0.330	0.260	0.240	0.210	0.193
120	881-2675●	0.340	0.290	0.260	0.220	0.199
220	881-2683●	0.490	0.420	0.370	0.330	0.290
470	881-2691●	0.770	0.650	0.570	0.510	0.450
1000	881-2705●	1.220	1.040	0.920	0.810	0.710
100 Volt d.c.						
10	881-2756●	0.148	0.117	0.107	0.096	0.086
22	881-2764●	0.191	0.149	0.138	0.128	0.117
47	881-2772●	0.320	0.250	0.220	0.200	0.193
220	881-2799●	0.850	0.680	0.590	0.530	0.490
470	881-2802●	1.460	1.160	1.040	0.950	0.870
250 Volt d.c.						
10	881-2837●	0.730	0.560	0.500	0.460	0.430
47	881-2845●	1.200	0.950	0.860	0.790	0.720
400 Volt d.c.						
4.7	881-2861●	0.770	0.590	0.530	0.480	0.440
10	881-2870●	0.900	0.710	0.650	0.570	0.530
22	881-2888●	1.320	1.040	0.940	0.860	0.790

2222 136 Series – Very low Impedance 105°C



Lead length = 5

- High performance radial electrolytic capacitors
- Very low impedance and ESR
- High ripple current capabilities
- Suitable for high frequency industrial applications, SMPS, DC/DC converters

Operating temperature	-55°C to +105°C	Useful life @	≥ 4000hrs105°C
Tolerance	±20%	Ripple current measured at	100kHz @ 20°C
Climatic category **(IEC68)**	55/105/56	ESR measured at	120Hz @ 20°C
DC Leakage current	0.01CV (µA)	Impedance measured at	100kHz @ 20°C

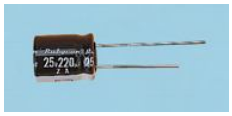
µF	Ripple (mA)	ESR (Ω)	Impedance (Ω)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
10 Volt d.c.									
1000	1000	0.3	0.062	20	10	0.6	5	2222 136 64102	116-5601
2200	1700	0.15	0.034	25	12.5	0.6	5	2222 136 64222	116-5602
16 Volt.d.c.									
470	1700	0.54	0.034	16	10	0.6	5	2222 136 65471	116-5603
4700	2600	0.075	0.022	35	16	0.8	7.5	2222 136 65472	116-5605
25 Volt d.c.									
470	1000	0.47	0.062	20	10	0.6	5	2222 136 66471	116-5510
1000	1700	0.22	0.034	25	12.5	0.6	5	2222 136 66102	116-5606
3300	2600	0.087	0.022	35	16	0.8	7.5	2222 136 66332	116-5607
35 Volt d.c.									
220	830	0.87	0.084	16	10	0.6	5	2222 136 60221	116-5608
1000	1700	0.19	0.038	20	16	0.8	7.5	2222 136 60102	116-5511
2200	2600	0.1	0.022	35	16	0.8	7.5	2222 136 60222	116-5609
50 Volt d.c.									
100	480	1.6	0.2	12	10	0.6	5	2222 136 61101	116-5512
470	1500	0.34	0.044	25	12.5	0.6	5	2222 136 61471	116-5610
1000	2200	0.16	0.03	31	16	0.8	7.5	2222 136 61102	116-5611
63 Volt d.c.									
47	380	3.4	0.3	12	10	0.6	5	2222 136 68479	116-5612
100	580	1.6	0.19	16	10	0.6	5	2222 136 68101	116-5613
220	870	0.72	0.11	20	12.5	0.6	5	2222 136 68221	116-5614
470	1500	0.34	0.055	25	16	0.8	7.5	2222 136 68471	116-5615
100 Volt d.c.									
47	450	2.4	0.32	16	10	0.6	5	2222 136 69479	116-5514
100	800	1.1	0.15	20	12.5	0.6	5	2222 136 69101	116-5515
220	1300	0.51	0.081	25	16	0.8	7.5	2222 136 69221	116-5516

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		Price Each			
µF	Order Code	1+	100+	1K+	3K+
10 Volt d.c.					
1000	116-5601●	0.65	0.48	0.40	0.34
2200	116-5602●	1.07	0.78	0.66	0.54
16 Volt d.c.					
470	116-5603●	0.52	0.35	0.32	0.28
4700	116-5605●	2.21	1.60	1.38	1.14
25 Volt d.c.					
470	116-5510●	0.58	0.40	0.34	0.30
1000	116-5606●	1.07	0.78	0.66	0.54
3300	116-5607●	2.29	1.64	1.41	1.16
35 Volt d.c.					
220	116-5608●	0.52	0.35	0.32	0.28
1000	116-5511●	1.21	0.84	0.73	0.62
2200	116-5609●	2.29	1.64	1.41	1.16
50 Volt d.c.					
100	116-5512●	0.46	0.32	0.29	0.26
470	116-5610●	0.81	0.59	0.51	0.40
1000	116-5611●	2.03	1.46	1.26	1.03
63 Volt d.c.					
47	116-5612●	0.53	0.35	0.32	0.28
100	116-5613●	0.52	0.35	0.32	0.28
220	116-5614●	0.98	0.71	0.62	0.49
470	116-5615●	1.28	1.08	0.96	0.84
100 Volt d.c.					
47	116-5514●	0.50	0.34	0.31	0.27
100	116-5515●	0.76	0.54	0.47	0.39
220	116-5516●	1.40	0.98	0.85	0.71

ZL Series – Ultra Low Impedance – High Ripple 105°C

Rubycon



- 40% Lower impedance than conventional low impedance electrolytics
- High ripple and low impedance offers component reduction or miniaturisation opportunities

Tolerance	±20%	Operating temperature	-40°C to +105°C
Leakage current (max)	0.01 CV or 3µA whichever is greater	Ripple current measured at	105°C@ 100kHz

6.3 Volt d.c. µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
1000	1030	0.053	12.5	10	0.6	5	6.3ZL1000M10X12.5	114-4671
1500	1820	0.023	20	10	0.6	5	6.3ZL1500M10X20	114-4672
2200	2150	0.022	23	10	0.6	5	6.3ZL2200M10X23	114-4673
4700	3290	0.016	30	12.5	0.6	5	6.3ZL4700M12.5X30	114-4675
5600	3140	0.018	20	16	0.8	7.5	6.3ZL5600M16X20	114-4676
6800	3460	0.016	25	16	0.8	7.5	6.3ZL6800M16X25	114-4677

RL Re-reeling available

Farnell

6.3 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
1000	114-4671●	0.34	0.33	0.31	0.29	0.27
1500	114-4672●	0.58	0.54	0.49	0.44	0.41
2200	114-4673●	0.61	0.58	0.53	0.46	0.44
4700	114-4675●	0.88	0.83	0.77	0.68	0.64
5600	114-4676●	1.17	1.10	1.02	0.93	0.85
6800	114-4677●	1.36	1.29	1.20	1.06	1.00

10 Volt d.c.

µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
100	250	0.3	11	5	0.5	2	10ZL100M5X11	114-4678
220	405	0.13	11	6.3	0.5	2.5	10ZL220M6.3X11	114-4679
470	760	0.072	11.5	8	0.6	3.5	10ZL470M8X11.5	114-4680
680	995	0.056	16	8	0.6	3.5	10ZL680M8X16	114-4681
1000	1250	0.041	20	8	0.6	3.5	10ZL1000M8X20	114-4682
1500	2150	0.022	23	10	0.6	5	10ZL1500M10X23	114-4684
2200	2360	0.021	20	12.5	0.6	5	10ZL2200M12.5X20	114-4685
3300	2770	0.018	25	12.5	0.6	5	10ZL3300M12.5X25	114-4687
4700	3400	0.015	35	12.5	0.8	5	10ZL4700M12.5X35	114-4683

10 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
100	114-4678●	0.150	0.141	0.136	0.113	0.101
220	114-4679●	0.154	0.138	0.134	0.116	0.114
470	114-4680●	0.280	0.260	0.240	0.200	0.186
680	114-4681●	0.250	0.230	0.220	0.200	0.184
1000	114-4682●	0.370	0.350	0.320	0.300	0.280
1500	114-4684●	0.630	0.600	0.550	0.480	0.450
2200	114-4685●	0.670	0.640	0.600	0.510	0.480
3300	114-4687●	1.030	0.980	0.910	0.800	0.750
4700	114-4683●	1.000	0.950	0.890	0.780	0.730

16 Volt d.c.

µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
330	760	0.072	11.5	8	0.6	3.5	16ZL3308X11.5	114-4688
470	995	0.056	16	8	0.6	3.5	16ZL470M8X16	114-4689
470	1030	0.053	12.5	10	0.6	5	16ZL470M10X12.5	114-4690
680	1430	0.038	16	10	0.6	5	16ZL680M10X16	114-4691
1000	1820	0.023	20	10	0.6	5	16ZL1000M10X20	114-4692
1500	2360	0.021	20	12.5	0.6	5	16ZL1500M12.5X20	114-4693
2200	2770	0.018	25	12.5	0.6	5	16ZL2200M12.5X25	114-4694
3300	3400	0.015	35	12.5	0.8	5	16ZL3300M12.5X35	114-4695

16 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
330	114-4688●	0.280	0.260	0.240	0.200	0.198
470	114-4689●	0.330	0.300	0.290	0.270	0.260
470	114-4690●	0.360	0.350	0.320	0.300	0.280
680	114-4691●	0.450	0.430	0.390	0.370	0.340
1000	114-4692●	0.580	0.550	0.510	0.440	0.410
1500	114-4693●	0.670	0.640	0.610	0.530	0.480
2200	114-4694●	0.910	0.880	0.810	0.740	0.670
3300	114-4695●	1.280	1.210	1.120	1.000	0.930

25 Volt d.c.

µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
47	250	0.3	11	5	0.5	2	25ZL47M5X11	114-4696
100	405	0.13	11	6.3	0.5	2.5	25ZL100M6.3X11	114-4697
220	760	0.072	11.5	8	0.6	3.5	25ZL220M8X11.5	114-4699
470	1250	0.041	20	8	0.6	3.5	25ZL470M8X20	114-4700
470	1430	0.038	16	10	0.6	5	25ZL470M10X16	114-4701
680	1820	0.023	20	10	0.6	5	25ZL680M10X20	114-4702
1000	2360	0.021	20	12.5	0.6	5	25ZL1000M12.5X20	114-4703
1500	2770	0.018	25	12.5	0.6	5	25ZL1500M12.5X25	114-4705
2200	3400	0.015	35	12.5	0.8	5	25ZL2200M12.5X35	114-4706

25 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
47	114-4696●	0.149	0.138	0.135	0.112	0.099
100	114-4697●	0.199	0.191	0.185	0.149	0.146
220	114-4699●	0.280	0.270	0.250	0.200	0.198
470	114-4700●	0.370	0.360	0.330	0.320	0.290
470	114-4701●	0.430	0.400	0.380	0.350	0.330
680	114-4702●	0.540	0.490	0.460	0.400	0.390
1000	114-4703●	0.680	0.660	0.630	0.540	0.490
1500	114-4705●	1.050	1.000	0.930	0.820	0.760
2200	114-4706●	1.330	1.270	1.170	1.030	0.980

35 Volt d.c.

µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
220	995	0.056	16	8	0.6	3.5	35ZL220M8X16	114-4707
470	1820	0.023	20	10	0.6	5	35ZL470M10X20	114-4708
680	2360	0.021	20	12.5	0.6	5	35ZL680M12.5X20	114-4709
1000	2770	0.18	25	12.5	0.6	5	35ZL1000M12.5X25	114-4710
1500	3400	0.015	35	12.5	0.8	5	35ZL1500M12.5X35	114-4711

35 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
220	114-4707●	0.34	0.32	0.30	0.28	0.25
470	114-4708●	0.56	0.53	0.49	0.43	0.40
680	114-4709●	0.73	0.69	0.66	0.56	0.53
1000	114-4710●	0.97	0.93	0.85	0.76	0.71
1500	114-4711●	1.36	1.29	1.20	1.06	1.00

50 Volt d.c.

µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
22	238	0.34	11	5	0.5	2	50ZL22M5X11	114-4712
100	724	0.074	11.5	8	0.6	3.5	50ZL100M8X11.5	114-4713
220	1370	0.042	16	10	0.6	5	50ZL220M10X16	114-4714
470	2050	0.027	20	12.5	0.6	5	50ZL470M12.5X20	114-4715
680	2860	0.021	30	12.5	0.6	5	50ZL680M12.5X30	114-4717
1000	3010	0.021	25	16	0.8	7.5	50ZL1000M16X25	114-4718

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50 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
22	114-4712●	0.150	0.141	0.136	0.113	0.101
100	114-4713●	0.300	0.280	0.260	0.220	0.210
220	114-4714●	0.450	0.430	0.390	0.370	0.340
470	114-4715●	0.750	0.730	0.680	0.590	0.550
680	114-4717●	1.210	1.130	1.050	0.940	0.880
1000	114-4718●	1.480	1.400	1.310	1.150	1.070

63 Volt d.c.

µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
33	265	0.35	11	6.3	0.5	2.5	63ZL33M6.3X11	128-1840
180	945	0.11	20	10	0.6	5	63ZL180M10X20	128-1838
220	1300	0.073	23	10	0.6	5	63ZL220M10X23	128-1839
680	2780	0.029	40	12.5	0.6	5	63ZL680M12.5X40	128-1842
470	1990	0.045	20	16	0.8	7.5	63ZL470M16X20	128-1841
1000	2835	0.021	35.5	16	0.8	7.5	63ZL1000M16X35.5	128-1837

63 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
33	128-1840●	0.097	0.085	0.084	0.074	0.064
180	128-1838●	0.340	0.330	0.300	0.270	0.250
220	128-1839●	0.380	0.370	0.340	0.300	0.280
680	128-1842●	1.010	0.980	0.890	0.770	0.720
470	128-1841●	0.810	0.780	0.710	0.630	0.590
1000	128-1837●	1.490	1.450	1.300	1.150	1.070

100 Volt d.c.

µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
15	205	0.57	11	6.3	0.5	2.5	100ZL15M6.3X11	128-1844
68	580	0.18	16	10	0.6	5	100ZL68M10X16	128-1848
100	880	0.12	23	10	0.6	5	100ZL100M10X23	128-1843
220	1410	0.063	30	12.5	0.6	5	100ZL220M12.5X30	128-1845
680	2570	0.028	40	18	0.8	7.5	100ZL680M18X40	128-1846
150	7000	0.036	11.5	8	0.6	3.5	35ZLG150M8X11.5	128-1819

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100 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
15	128-1844●	0.097	0.085	0.084	0.075	0.074
68	128-1848●	0.300	0.290	0.260	0.240	0.220
100	128-1843●	0.410	0.400	0.360	0.320	0.300
220	128-1845●	0.770	0.750	0.670	0.600	0.560
680	128-1846●	2.140	2.060	1.850	1.650	1.510
150	128-1819●	0.320	0.290	0.270	0.250	0.240

ZLH Series – 105°C (Miniature Aluminum Electrolytic)

Rubycon



- Ultra Low Impedance at High frequencies
- Achieved endurance improvement and miniaturization of ZL series, as well as high frequency impedance reduction
- Load Life of up to 10000 hours
- Developed for high reliability applications
- Ideally suited for output filtering on switching power supplies, High end Audio, Servers

Tolerance	±20%	Operating temperature	-40°C to +105°C
Leakage current (max)	0.01 CV or 3µA whichever is greater	Ripple current measured at	105°C@ 100kHz

6.3 Volt d.c.

µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
220	345	11	5	2	6.3ZLH220M5X11	812-7158
470	540	11	6.3	2.5	6.3ZLH470M6.3X11	812-7174
2200	1960	20	10	5	6.3ZLH2200M10X20	812-7166
4700	2900	25	12.5	5	6.3ZLH4700M12.5X25	812-7182
6800	3250	20	16	7.5	6.3ZLH6800M16X20	812-7190

6.3 Volt d.c.

µF	Order Code	1+	50+	100+	500+	1K+
220	812-7158●	0.165	0.140	0.131	0.116	0.106
470	812-7174●	0.270	0.230	0.193	0.180	0.158
2200	812-7166●	0.670	0.600	0.530	0.470	0.440
4700	812-7182●	1.200	1.050	0.910	0.830	0.760
6800	812-7190●	1.650	1.440	1.260	1.140	1.050

10 Volt d.c.

µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
1000	1250	8	16	3.5	10ZLH1000M8X16	812-6216
4700	3450	12.5	30	5	10ZLH4700M12.5X30	812-6224
4700	3250	16	20	7.5	10ZLH4700M16X20	812-6232

RL Re-reeling available

Farnell

Aluminium Electrolytic - Radial - continued

ZLH Series – 105°C
(Miniature Aluminum Electrolytic) - continued

10 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
1000	812-6216●	0.43	0.39	0.33	0.31	0.29
4700	812-6224●	1.54	1.35	1.19	1.06	1.00
4700	812-6232●	1.70	1.48	1.31	1.19	1.09

16 Volt d.c. µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
100	345	5	11	2	16ZLH100M5X11	812-6283
220	540	11	6.3	2.5	16ZLH220M6.3X11	812-6305
470	945	8	11.5	3.5	16ZLH470M8X11.5	812-6321
1000	1500	8	20	3.5	16ZLH1000M8X20	812-6291
2200	2480	12.5	20	5	16ZLH2200M12.5X20	812-6313
4700	3630	16	25	7.5	16ZLH4700M16X25	812-6330

16 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
100	812-6283●	0.165	0.140	0.131	0.116	0.106
220	812-6305●	0.270	0.230	0.193	0.180	0.158
470	812-6321●	0.400	0.350	0.310	0.290	0.260
1000	812-6291●	0.590	0.490	0.440	0.400	0.370
2200	812-6313●	1.260	1.090	0.960	0.880	0.800
4700	812-6330●	2.290	1.990	1.720	1.570	1.450

25 Volt d.c. µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
470	1330	12.5	10	5	25ZLH470M10X12.5	812-6461
1000	2250	23	10	5	25ZLH1000M10X23	812-6437
2200	3450	30	12.5	5	25ZLH2200M12.5X30	812-6445
2200	3250	20	16	7.5	25ZLH2200M16X20	812-6453

25 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
470	812-6461●	0.56	0.47	0.43	0.38	0.36
1000	812-6437●	0.90	0.78	0.68	0.63	0.58
2200	812-6445●	1.80	1.56	1.38	1.25	1.15
2200	812-6453●	1.97	1.71	1.49	1.37	1.26

35 Volt d.c. µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
47	345	11	5	2	35ZLH47M5X11	812-6747
100	540	11	6.3	2.5	35ZLH100M6.3X11	812-6658
220	945	11.5	8	3.5	35ZLH220M8X11.5	812-6690
270	1250	16	8	3.5	35ZLH270M8X16	812-6712
330	1330	12.5	10	5	35ZLH330M10X12.5	812-6720
390	1500	20	8	3.5	35ZLH390M8X20	812-6739
470	1760	16	10	5	35ZLH470M10X16	812-6755
560	1960	20	10	5	35ZLH560M10X20	812-6763
680	2250	23	10	5	35ZLH680M10X23	812-6771
1000	2480	20	12.5	5	35ZLH1000M12.5X20	812-6666
1200	2900	25	12.5	5	35ZLH1200M12.5X25	812-6674
1500	3450	30	12.5	5	35ZLH1500M12.5X30	812-6682
2200	3630	25	16	7.5	35ZLH2200M16X25	812-6704

35 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
47	812-6747●	0.170	0.157	0.136	0.121	0.110
100	812-6658●	0.280	0.240	0.210	0.190	0.170
220	812-6690●	0.410	0.360	0.320	0.300	0.280
270	812-6712●	0.430	0.390	0.330	0.310	0.290
330	812-6720●	0.560	0.480	0.420	0.390	0.370
390	812-6739●	0.420	0.370	0.320	0.300	0.280
470	812-6755●	0.670	0.600	0.510	0.460	0.440
560	812-6763●	0.760	0.660	0.600	0.530	0.480
680	812-6771●	0.900	0.770	0.680	0.630	0.570
1000	812-6666●	1.300	1.120	1.000	0.910	0.830
1200	812-6674●	1.430	1.260	1.080	1.000	0.920
1500	812-6682●	1.810	1.570	1.380	1.260	1.150
2200	812-6704●	2.470	2.170	1.890	1.720	1.590

50 Volt d.c. µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
100	724	11.5	8	3.5	50ZLH100M8X11.5	812-7077
220	1370	16	10	5	50ZLH220M10X16	812-7093
470	2050	20	12.5	5	50ZLH470M12.5X20	812-7107
1000	3010	25	16	7.5	50ZLH1000M16X25	812-7085

50 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
100	812-7077●	0.34	0.31	0.27	0.26	0.23
220	812-7093●	0.64	0.55	0.48	0.44	0.40
470	812-7107●	1.24	1.07	0.93	0.86	0.79
1000	812-7085●	2.17	1.89	1.63	1.49	1.39

80 Volt d.c. µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
330	1620	25	12.5	5	80ZLH330M16X20	154-7009

80 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
330	NEW 154-7009●	1.26	1.16	1.01	0.91	0.81

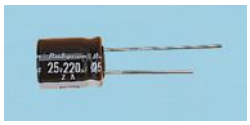
100 Volt d.c. µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
82	780	16	10	5	100ZLH82M10X20	154-7011
100	1040	20	10	5	100ZLH100M10X20	154-7012
150	1430	20	12.5	5	100ZLH150M12.5X20	154-7013
330	2140	35	12.5	5	100ZLH330M12.5X40	154-7014

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100 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
82	NEW 154-7011●	0.44	0.41	0.36	0.32	0.29
100	NEW 154-7012●	0.55	0.49	0.43	0.38	0.35
150	NEW 154-7013●	0.80	0.75	0.65	0.58	0.53
330	NEW 154-7014●	1.68	1.57	1.35	1.21	1.09

ZA Series – Ultra Low Impedance -105°C

Rubycon



- 60% lower impedance than conventional low impedance electrolytics
- Ideal for high speed digital and switching power supply applications

Tolerance ±20%
Leakage current (max) 0.01 CV or 3µA whichever is greater
Operating temperature -40°C to +105°C
Ripple current measured at 105°C@ 100kHz

6.3 Volt d.c. µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
220	640	0.077	11	6.3	0.5	2.5	6.3ZA220M6.3X11	114-4645
470	910	0.043	11.5	8	0.6	3.5	6.3ZA470M8X11.5	114-4646

6.3 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
220	114-4645●	0.79	0.75	0.71	0.62	0.58
470	114-4646●	1.59	1.50	1.41	1.25	1.15

10 Volt d.c. µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
100	480	0.15	7	6.3	0.45	2.5	10ZA100M6.3X7	114-4647
470	1230	0.03	12.5	10	0.6	5	10ZA470M10X12.5	114-4651

10 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
100	114-4647●	0.67	0.64	0.60	0.51	0.48
470	114-4651●	2.20	2.09	1.95	1.73	1.62

16 Volt d.c. µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
47	480	0.15	7	6.3	0.45	2.5	16ZA47M6.3X7	114-4652
100	640	0.078	11	6.3	5	2.5	16ZA100M6.3X11	114-4653
220	910	0.044	11.5	8	0.6	3.5	16ZA220M8X11.5	114-4654
470	1650	0.025	16	10	0.6	5	16ZA470M10X16	114-4656

16 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
47	114-4652●	0.67	0.64	0.60	0.51	0.48
100	114-4653●	0.79	0.75	0.71	0.62	0.58
220	114-4654●	1.59	1.50	1.41	1.25	1.15
470	114-4656●	2.76	2.62	2.47	2.16	2.02

25 Volt d.c. µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
10	230	0.52	7	5	0.45	1.5	25ZA10M4X7	114-4657
22	350	0.27	7	5	0.45	2	25ZA22M5X7	114-4658
33	480	0.16	7	6.3	0.45	2.5	25ZA33M6.3X7	114-4659
47	480	0.15	7	6.3	0.45	2.5	25ZA47M6.3X7	114-4660
100	640	0.078	11	6.3	0.5	2.5	25ZA100M6.3X11	114-4661
220	1230	0.031	12.5	10	0.6	5	25ZA220M10X12.5	114-4663
330	1650	0.026	16	10	0.6	5	25ZA330M10X16	114-4664

25 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	114-4657●	0.30	0.28	0.27	0.26	0.22
22	114-4658●	0.39	0.37	0.34	0.31	0.29
33	114-4659●	0.52	0.50	0.46	0.39	0.38
47	114-4660●	0.67	0.64	0.60	0.51	0.48
100	114-4661●	0.79	0.75	0.71	0.62	0.58
220	114-4663●	2.20	2.09	1.95	1.73	1.62
330	114-4664●	3.49	3.23	2.92	2.63	2.40

35 Volt d.c. µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
10	350	0.33	7	5	0.45	2	35ZA10M5X7	114-4665
22	480	0.17	7	6.3	0.45	2.5	35ZA22M6.3X7	114-4666
33	480	0.16	7	6.3	0.45	2.5	35ZA33M6.3X7	114-4667
47	640	0.089	11	6.3	0.5	2.5	35ZA47M6.3X11	114-4668
100	910	0.048	11.5	8	0.6	3.5	35ZA100M8X11.5	114-4669
220	1650	0.026	16	10	0.6	5	35ZA220M10X16	114-4670

208550

RL Re-reeling available

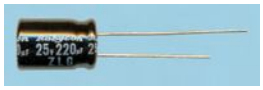
Farnell

35 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	114-4665	0.42	0.40	0.37	0.34	0.32
22	114-4666	0.67	0.64	0.60	0.51	0.48
33	114-4667	0.67	0.64	0.60	0.51	0.48
47	114-4668	0.79	0.75	0.71	0.62	0.58
100	114-4669	1.59	1.50	1.41	1.25	1.15
220	114-4670	3.45	3.29	3.09	2.71	2.52

ZLG Series – Ultra Low Impedance

Rubycon

105°C



- Extremely reduced impedance at high frequency than the ZL Series
- High ripple and low impedance offers component reduction or miniaturisation opportunities

Tolerance ±20%
Leakage current (max) 0.03 CV or 3µA whichever is greater
Operating temperature -40°C to +105°C
Ripple current measured at 105°C@ 100kHz

6.3 Volt d.c. µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
100	405	0.15	7	6.3	2.5	2.5	6.3ZLG100M6.3X7	127-8842
330	760	0.15	11	6.3	0.5	2.5	6.3ZLG330M6.3X11	128-1805
560	1000	0.036	11.5	8	0.6	3.5	6.3ZLG560M8X11.5	128-1806

6.3 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
100	127-8842	0.171	0.161	0.148	0.138	0.128
330	128-1805	0.200	0.181	0.170	0.148	0.138
560	128-1806	0.300	0.270	0.260	0.240	0.220

10 Volt d.c. µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
100	405	0.15	11	5	0.5	2	10ZLG100M5X11	128-1807
470	1000	0.065	11.5	8	0.6	3.5	10ZLG470M8X11.5	128-1808

10 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
100	128-1807	0.139	0.129	0.116	0.106	0.096
470	128-1808	0.300	0.270	0.260	0.240	0.220

16 Volt d.c. µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
47	480	0.15	7	6.3	0.45	2.5	16ZLG47M6.3X7	128-1810
120	760	0.065	11	6.3	0.5	2.5	16ZLG120M6.3X11	128-1809

16 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
47	128-1810	0.171	0.161	0.148	0.138	0.128
120	128-1809	0.200	0.181	0.170	0.148	0.138

25 Volt d.c. µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
10	230	0.52	7	4	0.45	1.5	25ZLG10M4X7	128-1813
22	350	0.27	7	5	0.45	2	25ZLG22M5X7	128-1815
33	480	0.16	7	6.3	0.45	2.5	25ZLG33M6.3X7	128-1816
100	760	0.065	11	6.3	0.5	2.5	25ZLG100M6.3X11	128-1812
220	1000	0.036	11.5	8	0.6	3.5	25ZLG220M8X11.5	128-1814

25 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
10	128-1813	0.130	0.118	0.107	0.098	0.097
22	128-1815	0.149	0.129	0.128	0.116	0.106
33	128-1816	0.171	0.161	0.148	0.138	0.128
100	128-1812	0.220	0.192	0.180	0.170	0.148
220	128-1814	0.310	0.280	0.260	0.240	0.230

35 Volt d.c. µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
4.7	230	0.64	7	4	0.45	1.5	35ZLG4R7M4X7	128-1822
10	350	0.33	7	5	0.45	2	35ZLG10M5X7	128-1818
22	480	0.16	7	6.3	0.45	2.5	35ZLG22M6.3X7	128-1820
33	480	0.15	7	6.3	0.45	2.5	35ZLG33M6.3X7	128-1821
150	7000	0.036	11.5	8	0.6	3.5	35ZLG150M8X11.5	128-1819

451904

35 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
4.7	128-1822	0.130	0.118	0.107	0.097	0.085
10	128-1818	0.149	0.129	0.128	0.116	0.106
22	128-1820	0.181	0.161	0.160	0.138	0.128
33	128-1821	0.171	0.161	0.148	0.138	0.128
150	128-1819	0.320	0.290	0.270	0.250	0.240

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ZT Series – Ultra Low Impedance

Rubycon

125°C



- Miniature aluminium electrolytic capacitors
- Ultra low impedance
- High temperature

Tolerance ±20%
Leakage current (max) 0.03 CV or 3µA whichever is greater
Operating temperature -40°C to +125°C
Ripple current measured at 105°C@ 100kHz

25 Volt d.c. µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
56	405	0.17	11	6.3	0.5	2.5	25ZT56M6.3X11	128-1869
220	995	0.073	12.5	10	0.6	5	25ZT220M10X12.5	128-1868
1000	1900	0.024	25	12.5	0.6	5	25ZT1000M12.5X25	128-1866

25 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	250+	500+
56	128-1869	0.171	0.149	0.128	0.106	0.096
220	128-1868	0.370	0.330	0.270	0.240	0.200
1000	128-1866	1.060	0.950	0.770	0.660	0.570

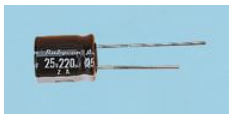
35 Volt d.c. µF	Ripple (mA)	Impedance (Ω Max @ 20°C 100kHz)	Dimensions H	Dia.	Dia.	Pitch	Mftrs. List No.	Order Code
100	760	0.094	11.5	8	0.6	3.5	35ZT100M8X11.5	128-1870
220	1430	0.05	16	10	0.6	5	35ZT220M10X16	128-1871
470	1720	0.028	20	12.5	0.6	5	35ZT470M12.5X20	128-1873

451923

35 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	250+	500+
100	128-1870	0.260	0.230	0.180	0.160	0.138
220	128-1871	0.460	0.410	0.340	0.290	0.260
470	128-1873	0.970	0.860	0.700	0.600	0.530

RX30 Series – 130°C (Miniature Aluminum Electrolytic)

Rubycon



- 1 Load Life of up to 4000 hours
- Low Impedance and high reliability
- Low impedance at 100KHz with selected material
- Ideally suited for Automotive or other high temperature applications
- The highest operating temperature V load life of any electroytic range

Tolerance ±20%
Leakage current (max) 0.01 CV or 3µA whichever is greater
Operating temperature -40°C to +130°C
Ripple current measured at 105°C@ 100kHz

35 Volt d.c. µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
100	360	11.5	8	3.5	35RX30100MEFG8X11.5	812-6585
220	620	12.5	10	5	35RX30220MEFG10X12.5	812-6607
330	800	16	10	5	35RX30330MEFG10X16	812-6623
470	960	20	10	5	35RX30470MEFG10X20	812-6640
1000	1430	25	12.5	5	35RX301000MEFG12.5X25	812-6593
3300	2800	35.5	18	7.5	35RX303300MEFG18X35.5	812-6631

35 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
100	812-6585	0.47	0.43	0.39	0.31	0.29
220	812-6607	0.66	0.60	0.55	0.42	0.38
330	812-6623	1.04	0.91	0.88	0.66	0.62
470	812-6640	1.06	0.92	0.89	0.62	0.58
1000	812-6593	1.76	1.56	1.20	1.09	1.02
3300	812-6631	5.71	4.99	4.34	3.96	3.67

50 Volt d.c. µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
1	35	11.5	8	3.5	50RX301MEFG8X11.5	812-6984
2.2	50	11.5	8	3.5	50RX302R2MEFG8X11.5	812-7018
4.7	100	11.5	8	3.5	50RX304R7MEFG8X11.5	812-7042
10	200	11.5	8	3.5	50RX3010MEFG8X11.5	812-6992
22	260	11.5	8	3.5	50RX3022MEFG8X11.5	812-7026
47	300	11.5	8	3.5	50RX3047MEFG8X11.5	812-7050
100	520	12.5	10	5	50RX30100MEFG10X12.5	812-7000
220	890	20	10	5	50RX30220MEFG10X20	812-7034
470	1200	25	12.5	5	50RX30470MEFG12.5X25	812-7069

50 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
1	812-6984	0.41	0.35	0.31	0.29	0.27
2.2	812-7018	0.43	0.39	0.33	0.31	0.29
4.7	812-7042	0.43	0.37	0.33	0.31	0.29
10	812-6992	0.42	0.36	0.32	0.30	0.28
22	812-7026	0.41	0.35	0.31	0.30	0.27
47	812-7050	0.41	0.35	0.31	0.30	0.27
100	812-7000	0.60	0.51	0.45	0.40	0.38
220	812-7034	0.91	0.79	0.70	0.64	0.59
470	812-7069	1.48	1.30	1.11	1.03	0.97

RL Re-reeling available

Aluminium Electrolytic - Radial - continued

RX30 Series – 130°C
(Miniature Aluminum Electrolytic) - continued

63 Volt d.c. µF	Ripple (mA)	Dimensions (mm) H	Dia.	Pitch	Mftrs. List No.	Order Code
47	400	12.5	10	5	63RX3047MEFG10X12.5	812-7220
100	450	16	10	5	63RX30100MEFG10X16	812-7204
220	820	20	12.5	5	63RX30220MEFG12.5X20	812-7212

372155

63 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
47	812-7220●	0.67	0.61	0.54	0.48	0.40
100	812-7204●	0.73	0.64	0.57	0.53	0.43
220	812-7212●	1.70	1.50	1.33	1.23	1.03

PLG Series
High Capacitance

nichicon



- Conductive polymer aluminium solid electrolytic capacitors
- High capacitance, low ESR, high ripple current
- Load life of 2000 hours at +105
- Suitable for lead free reflow soldering

New

Operating temperature -55°C to +105°C
Tolerance ±20%
Useful life @ 105°C 2000h

µF	Ripple (mA)	Leakage Current (µA)	ESR (mΩ)	Dimensions H	Dia.	Mftrs. List No.	Order Code
2.5 Volt d.c.							
2200	6700	1100	8	12	8	PLG0E222MDO1	158-0598
4 Volt d.c.							
1500	5560	1890	10	13	10	PLG0J152MDO1	158-0599
6.3 Volt d.c.							
330	4700	1056	13	9	8	PLG1C331MCO1	158-0600
470	5400	1504	11	12	8	PLG1C471MDO1	158-0601
820	5600	2624	11	13	10	PLG1C821MDO1	158-0602

527277

Order Multiple=5 µF	Order Code	Price Each 5+	50+	100+	500+	1K+
2.5 Volt d.c.						
2200	158-0598●	1.08	0.90	0.78	0.70	0.63
4 Volt d.c.						
1500	158-0599●	1.18	0.98	0.85	0.77	0.68
6.3 Volt d.c.						
330	158-0600●	1.04	0.87	0.75	0.67	0.61
470	158-0601●	1.08	0.90	0.78	0.70	0.63
820	158-0602●	1.23	1.03	0.89	0.81	0.72

UCY Series
Miniature Size

nichicon



- Radial aluminium electrolytic capacitors
- High ripple current
- High reliability
- Suited for ballast application

New

Operating temperature -40°C to +105°C
Tolerance ±20%
DC leakage current (max) 0.04CV
Useful life @ 105°C 10000h

µF	Ripple (mA)	Dimensions H	Dia	Mftrs. List No.	Order Code
160 Volt d.c.					
470	1920	35.5	18	UCY2C471MHD	158-0643
250 Volt d.c.					
220	1295	40	16	UCY2E221MHD	158-0645
330	1600	46	18	UCY2E331MHD	158-0646
400 Volt d.c.					
10	150	16	10	UCY2G100MPD	158-0647
22	275	31.5	10	UCY2G220MPD	158-0648
33	385	25	12.5	UCY2G330MHD	158-0649
47	520	20	16	UCY2G470MHD	158-0650
100	850	35.5	16	UCY2G101MHD	158-0651
150	1030	40	18	UCY2G151MHD	158-0652

527261

Order Multiple=5 µF	Order Code	Price Each 5+	50+	100+	500+	1K+
160 Volt d.c.						
470	158-0643●	1.80	1.50	1.29	1.16	1.08
250 Volt d.c.						
220	158-0645●	1.82	1.52	1.30	1.18	1.10
330	158-0646●	2.65	2.21	1.90	1.72	1.60

Order Multiple=5 µF	Order Code	Price Each 5+	50+	100+	500+	1K+
400 Volt d.c.						
10	158-0647●	0.33	0.28	0.24	0.21	0.20
22	158-0648●	0.60	0.50	0.43	0.39	0.36
33	158-0649●	0.79	0.65	0.56	0.51	0.48
47	158-0650●	1.05	0.88	0.75	0.68	0.63
100	158-0651●	1.87	1.56	1.34	1.21	1.13
150	158-0652●	2.64	2.20	1.89	1.71	1.60

PLE Series
Ultra Low ESR

nichicon



- Conductive polymer aluminium solid electrolytic capacitors
- Ultra low ESR, high ripple current
- Load life of 2000 hours at +105
- Suitable for lead free reflow soldering

New

Operating temperature -55°C to +105°C
Tolerance ±20%
Useful life @ 105°C 2000h

µF	Ripple (mA)	Leakage Current (µA)	ESR (mΩ)	Dimensions H	Dia.	Mftrs. List No.	Order Code
2.5 Volt d.c.							
1000	7100	500	5	13	10	PLE0E102MDO1	158-0603
1500	7300	750	5	13	10	PLE0E152MDO1	158-0604
4 Volt d.c.							
1200	7200	960	5	13	10	PLE0G122MDO1	158-0605
6.3 Volt d.c.							
470	6400	592	5	12	8	PLE0J471MDO1	158-0606
680	6700	857	5	13	10	PLE0J681MDO1	158-0608
820	6800	1033	5	13	10	PLE0J821MDO1	158-0609

527273

Order Multiple=5 µF	Order Code	Price Each 5+	50+	100+	500+	1K+
2.5 Volt d.c.						
1000	158-0603●	1.13	0.94	0.81	0.73	0.65
1500	158-0604●	1.13	0.94	0.81	0.73	0.65
4 Volt d.c.						
1200	158-0605●	1.13	0.94	0.81	0.73	0.65
6.3 Volt d.c.						
470	158-0606●	0.99	0.83	0.70	0.64	0.58
680	158-0608●	1.08	0.90	0.78	0.70	0.63
820	158-0609●	1.13	0.94	0.81	0.73	0.65

PLE Series

nichicon



- Conductive polymer aluminium solid electrolytic capacitors
- Load life of 2000 hours at +105
- Suitable for lead free reflow soldering

New

Operating temperature -55°C to +105°C
Tolerance ±20%
Useful life @ 105°C 2000h

µF	Ripple (mA)	Leakage Current (µA)	ESR (mΩ)	Dimensions H	Dia.	Mftrs. List No.	Order Code
2.5 Volt d.c.							
1500	5500	750	8	13	10	PLF0E152MDO1	158-0585
4 Volt d.c.							
1000	6640	800	6	13	10	PLF0G102MDO1	158-0586
1200	5600	960	8	13	10	PLF0G122MDO1	158-0587
16 Volt d.c.							
330	4900	1056	9	13	10	PLF1C331MDO1	158-0588
470	5000	1504	9	13	10	PLF1C471MDO1	158-0591
20 Volt d.c.							
100	3200	400	22	12	8	PLF1D101MDO2	158-0592
120	2800	480	35	10	10	PLF1D121MCL2	158-0593
150	4320	600	20	13	10	PLF1D151MDO2	158-0594
25 Volt d.c.							
10	1500	125	60	6	6.3	PLF1E100MCL2	158-0595
22	1800	275	50	7	8	PLF1E220MCL7	158-0596
47	3000	587	30	13	10	PLF1E470MDO2	158-0597

527275

Order Multiple=5 µF	Order Code	Price Each 5+	50+	100+	500+	1K+
2.5 Volt d.c.						
1500	158-0585●	1.16	0.97	0.83	0.76	0.67
4 Volt d.c.						
1000	158-0586●	0.76	0.63	0.54	0.49	0.44
1200	158-0587●	1.14	0.95	0.82	0.75	0.66

RL Re-reeling available

Farnell

Order Multiple=5				Price Each		
µF	Order Code	5+	50+	100+	500+	1K+
16 Volt d.c.						
330	**158-0588●**	0.53	0.44	0.38	0.35	0.31
470	**158-0591●**	0.53	0.44	0.38	0.35	0.31
20 Volt d.c.						
100	**158-0592●**	0.81	0.67	0.57	0.52	0.47
120	**158-0593●**	1.06	0.89	0.76	0.68	0.62
150	**158-0594●**	1.12	0.94	0.81	0.73	0.65
25 Volt d.c.						
10	**158-0595●**	0.78	0.64	0.55	0.50	0.45
22	**158-0596●**	0.66	0.55	0.48	0.43	0.39
47	**158-0597●**	0.80	0.66	0.57	0.52	0.46

2222 165 Series – High Temperature – 125°C



- High performance radial electrolytic capacitors
- Extended temperature range + 125°C
- High reliability, stability and long life

Operating temperature	-40°C to +125°C	DC Leakage current	0.02CV+3µA
Tolerance	±20%	Useful life @ 125°C	1500 hrs
Climatic category **(IEC68)**	40/125/56	Ripple current measured at	100kHz @ 125°C
ESR measured at	100Hz @20°C		

16 Volt d.c.

µF	Ripple (mA)	ESR (Ω)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
2200	1100	0.13	35	16	0.8	7.5	2222 165 55222	116-5349

16 Volt d.c.		Price Each					
µF	Order Code	1+	50+	100+	500+	1K+	3K+
2200	**116-5349●**	2.41	2.17	1.89	1.54	1.43	1.14

25 Volt d.c.

µF	Ripple (mA)	ESR (Ω)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
100	170	1	12	10	0.6	5	2222 165 56101	116-5350
220	280	0.91	20	10	0.6	5	2222 165 56221	116-5351
470	480	0.43	25	12.5	0.6	5	2222 165 56471	116-5352
1000	830	0.2	31	16	0.8	7.5	2222 165 56102	116-5353

25 Volt d.c.		Price Each					
µF	Order Code	1+	50+	100+	500+	1K+	3K+
100	**116-5350●**	0.59	0.53	0.47	0.38	0.34	0.28
220	**116-5351●**	0.85	0.77	0.68	0.54	0.49	0.40
470	**116-5352●**	1.10	1.00	0.89	0.71	0.66	0.53
1000	**116-5353●**	2.03	1.82	1.63	1.38	1.31	1.01

35 Volt d.c.

µF	Ripple (mA)	ESR (Ω)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
100	200	1.7	16	10	0.6	5	2222 165 60101	116-5492
330	460	0.52	25	12.5	0.6	5	2222 165 50331	116-5354

35 Volt d.c.		Price Each					
µF	Order Code	1+	50+	100+	500+	1K+	3K+
100	**116-5492●**	0.58	0.47	0.42	0.35	0.33	0.27
330	**116-5354●**	0.77	0.70	0.61	0.50	0.47	0.36

40 Volt d.c.

µF	Ripple (mA)	ESR (Ω)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
47	130	3.7	12	10	0.6	5	2222 165 37479	116-5356
100	210	1.7	20	10	0.6	5	2222 165 57101	116-5357
220	340	0.78	20	12.5	0.6	5	2222 165 57221	116-5358
470	650	0.37	31	16	0.8	7.5	2222 165 57471	116-5359

40 Volt d.c.		Price Each					
µF	Order Code	1+	50+	100+	500+	1K+	3K+
47	**116-5356●**	0.59	0.52	0.46	0.39	0.38	0.29
100	**116-5357●**	0.88	0.79	0.70	0.55	0.50	0.41
220	**116-5358●**	1.00	0.91	0.80	0.65	0.60	0.47
470	**116-5359●**	1.06	1.01	0.96	0.91	0.85	0.81

50 Volt d.c.

µF	Ripple (mA)	ESR (Ω)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
33	120	4.3	12	10	0.6	5	2222 165 51339	116-5360
100	260	1.4	20	12.5	0.6	5	2222 165 51101	116-5361
1000	1250	0.14	35	16	0.8	7.5	2222 165 90506	116-5617

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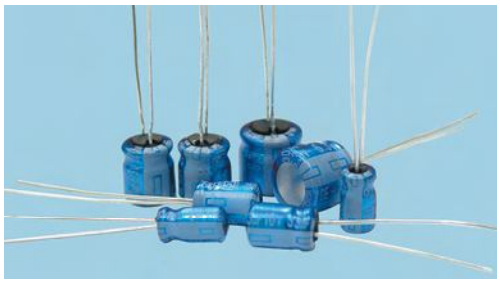
50 Volt d.c.		Price Each					
µF	Order Code	1+	50+	100+	500+	1K+	3K+
33	**116-5360●**	0.54	0.47	0.41	0.34	0.32	0.26
100	**116-5361●**	0.97	0.89	0.78	0.63	0.58	0.46
1000	**116-5617●**	1.24	1.16	1.10	1.05	1.00	0.95

Panasonic Audio Capacitors

A range of three series of capacitors suitable for audio applications. AD series with a maximum height of 5mm and AK series with a maximum height of 7mm are ideal for applications for where height is limited, e.g. car audio equipment. The AM series has a wide range of capacitance and voltage to give the user the maximum choice. All three series have been included in the module below for ease of selection.

452376

ECA Audio Caps



- High Quality Audio Grade Electrolytic Capacitor
- For use in a variety of Audio Applications

Special Features Include:

- High Fidelity
- Low Distortion, High Resolution, Low Range Loudness
- For Improved Sound Quality It Features A Special Electrolyte and Vibration Controlled Outer Sleeve

Operating Temperature	-40°C to +85°C
Tolerance	±20
DC Leakage current	≤0.01CV or 3µA whichever is greater

6.3 Volts d.c.	Ripple Current (AC)	Dimensions (mm)		Mftrs. List No.	
µF	mA	D	L		Order Code
330	130	8	7	ECA0JAK331X	876-6690
330	130	8	5	ECA0JAD331X	876-6851
220	240	5	11	ECA0JAM221X	876-7033
470	380	6.3	11.2	ECA0JAM471X	876-7041

6.3 Volts d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
330	**876-6690●**	0.196	0.163	0.133	0.096	0.082
330	**876-6851●**	0.121	0.096	0.079	0.067	0.058
220	**876-7033●**	0.075	0.066	0.056	0.041	0.032
470	**876-7041●**	0.121	0.102	0.092	0.063	0.051

10 Volts d.c.	Ripple Current (AC)	Dimensions (mm)		Mftrs. List No.	
µF	mA	D	L		Order Code
220	120	8	7	ECA1AAK221X	876-6703
33	43	5	5	ECA1AAD330X	876-6860
100	80	6.3	5	ECA1AAD101X	876-6878
220	120	8	5	ECA1AAD221X	876-6886
330	330	6.3	11.2	ECA1AAM331X	876-7068
15000	1850	18	35.5	ECA1AAM153X	876-7076

10 Volts d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
220	**876-6703●**	0.176	0.152	0.121	0.088	0.074
33	**876-6860●**	0.152	0.132	0.100	0.082	0.061
100	**876-6878●**	0.185	0.153	0.121	0.093	0.070
220	**876-6886●**	0.220	0.188	0.149	0.113	0.089
330	**876-7068●**	0.115	0.096	0.087	0.059	0.049
15000	**876-7076●**	2.610	2.200	1.770	1.370	1.050

16 Volts d.c.	Ripple Current (AC)	Dimensions (mm)		Mftrs. List No.	
µF	mA	D	L		Order Code
22	39	4	7	ECA1CAK220X	876-6711
33	60	5	7	ECA1CAK330X	876-6720
47	70	5	7	ECA1CAK470X	876-6738
100	91	6	7	ECA1CAK101X	876-6746
10	28	4	5	ECA1CAD100X	876-6894
22	39	5	5	ECA1CAD220X	876-6908
47	70	6.3	5	ECA1CAD470X	876-6916
100	91	8	5	ECA1CAD101X	876-6924
10	30	5	11	ECA1CAM100X	876-7084
22	75	5	11	ECA1CAM220X	876-7092
33	110	5	11	ECA1CAM330X	876-7106
47	130	5	11	ECA1CAM470X	876-7114
100	180	5	11	ECA1CAM101X	876-7122
220	280	6.3	11.2	ECA1CAM221X	876-7149
470	440	8	11.5	ECA1CAM471X	876-7157
1000	680	10	16	ECA1CAM102X	876-7165
2200	1000	12.5	20	ECA1CAM222X	876-7173
3300	1200	12.5	25	ECA1CAM332X	876-7181
4700	1360	16	25	ECA1CAM472X	876-7190
6800	1600	16	31.5	ECA1CAM682X	876-7203

16 Volts d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
22	**876-6711●**	0.083	0.067	0.050	0.040	0.032
33	**876-6720●**	0.119	0.100	0.091	0.062	0.051
47	**876-6738●**	0.096	0.080	0.072	0.050	0.041
100	**876-6746●**	0.140	0.119	0.099	0.070	0.060
10	**876-6894●**	0.128	0.108	0.088	0.069	0.050
22	**876-6908●**	0.132	0.111	0.091	0.071	0.051
47	**876-6916●**	0.185	0.153	0.121	0.093	0.070
100	**876-6924●**	0.290	0.250	0.191	0.146	0.114
10	**876-7084●**	0.075	0.066	0.056	0.041	0.032
22	**876-7092●**	0.075	0.066	0.056	0.041	0.032
33	**876-7106●**	0.075	0.066	0.056	0.041	0.032
47	**876-7114●**	0.075	0.066	0.056	0.041	0.032
100	**876-7122●**	0.075	0.066	0.056	0.041	0.032
220	**876-7149●**	0.118	0.099	0.090	0.061	0.050
470	**876-7157●**	0.190	0.158	0.125	0.096	0.072

RL Re-reeling available

Aluminium Electrolytic - Radial - continued

ECA Audio Caps - continued

16 Volts d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
1000	876-7165●	0.370	0.310	0.260	0.194	0.153
2200	876-7173●	0.830	0.710	0.580	0.440	0.350
3300	876-7181●	1.040	0.870	0.710	0.540	0.430
4700	876-7190●	1.310	1.090	0.900	0.680	0.540
6800	876-7203●	1.470	1.240	1.000	0.790	0.590

25 Volts d.c.	Ripple Current (AC)	Dimensions (mm)		Mftrs. List No.	
µF	mA	D	L		Order Code
10	28	4	7	ECA1EAK100X	876-6754
22	55	5	7	ECA1EAK220X	876-6762
6800	1750	18	35.5	ECA1EAM682X	876-7238

25 Volts d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
10	876-6754●	0.110	0.090	0.067	0.053	0.042
22	876-6762●	0.119	0.100	0.091	0.062	0.051
6800	876-7238●	2.680	2.260	1.820	1.410	1.080

35 Volts d.c.	Ripple Current (AC)	Dimensions (mm)		Mftrs. List No.	
µF	mA	D	L		Order Code
47	85	8	7	ECA1VAK470X	876-6770
4.7	22	4	5	ECA1VAD4R7X	876-6932
10	30	5	5	ECA1VAD100X	876-6940
22	60	6.3	5	ECA1VAD220X	876-6959
33	65	8	5	ECA1VAD330X	876-6967
47	130	5	11	ECA1VAM470X	876-7246
100	210	6.3	6.3	ECA1VAM101X	876-7254
220	350	8	11.5	ECA1VAM221X	876-7262
330	440	10	12.5	ECA1VAM331X	876-7270
470	550	10	16	ECA1VAM471X	876-7289
1000	900	12.5	20	ECA1VAM102X	876-7297
2200	1250	16	25	ECA1VAM222X	876-7300
3300	1400	16	31.5	ECA1VAM332X	876-7319
4700	1600	18	35.5	ECA1VAM472X	876-7327

35 Volts d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
47	876-6770●	0.250	0.200	0.166	0.120	0.102
4.7	876-6932●	0.105	0.089	0.072	0.057	0.041
10	876-6940●	0.156	0.135	0.102	0.084	0.063
22	876-6959●	0.185	0.153	0.121	0.093	0.070
33	876-6967●	0.280	0.240	0.186	0.142	0.111
47	876-7246●	0.075	0.066	0.056	0.041	0.032
100	876-7254●	0.121	0.102	0.092	0.063	0.051
220	876-7262●	0.240	0.181	0.148	0.114	0.083
330	876-7270●	0.330	0.280	0.220	0.172	0.133
470	876-7289●	0.380	0.320	0.270	0.199	0.158
1000	876-7297●	0.830	0.710	0.580	0.440	0.350
2200	876-7300●	1.340	1.120	0.920	0.700	0.550
3300	876-7319●	1.840	1.550	1.260	0.980	0.750
4700	876-7327●	2.760	2.340	1.870	1.450	1.110

50 Volts d.c.	Ripple Current (AC)	Dimensions (mm)		Mftrs. List No.	
µF	mA	D	L		Order Code
1	10	4	7	ECA1HAK010X	876-6789
2.2	16	4	7	ECA1HAK2R2X	876-6797
3.3	16	4	7	ECA1HAK3R3X	876-6800
10	35	5	7	ECA1HAK100X	876-6827
22	60	6.3	7	ECA1HAK220X	876-6835
33	75	8	7	ECA1HAK330X	876-6843
1	10	4	5	ECA1HAD010X	876-6975
2.2	16	4	5	ECA1HAD2R2X	876-6983
3.3	16	4	5	ECA1HAD3R3X	876-6991
4.7	23	5	5	ECA1HAD4R7X	876-7009
10	35	6.3	5	ECA1HAD100X	876-7017
22	60	8	5	ECA1HAD220X	876-7025
1	1.3	5	11	ECA1HAM010X	876-7335
3.3	35	5	11	ECA1HAM3R3X	876-7351
4.7	45	5	11	ECA1HAM4R7X	876-7360
10	65	5	11	ECA1HAM100X	876-7378
22	100	5	11	ECA1HAM220X	876-7386
33	110	5	11	ECA1HAM330X	876-7394
47	130	6.3	11.2	ECA1HAM470X	876-7408
100	250	8	11.5	ECA1HAM101X	876-7416
220	400	10	12.5	ECA1HAM221X	876-7424
330	500	10	16	ECA1HAM331X	876-7432
470	650	10	20	ECA1HAM471X	876-7440
1000	1050	12.5	25	ECA1HAM102X	876-7459
2200	1300	16	31.5	ECA1HAM222X	876-7467
3300	1500	18	35.5	ECA1HAM332X	876-7475

50 Volts d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
1	876-6789●	0.088	0.071	0.054	0.043	0.034
2.2	876-6797●	0.110	0.090	0.067	0.053	0.042
3.3	876-6800●	0.088	0.071	0.054	0.043	0.034
10	876-6827●	0.119	0.100	0.091	0.062	0.051
22	876-6835●	0.140	0.119	0.099	0.070	0.060
33	876-6843●	0.182	0.156	0.125	0.091	0.076
1	876-6975●	0.132	0.111	0.091	0.071	0.051
2.2	876-6983●	0.132	0.111	0.091	0.071	0.051
3.3	876-6991●	0.102	0.087	0.070	0.055	0.040
4.7	876-7009●	0.152	0.132	0.100	0.082	0.061
10	876-7017●	0.185	0.153	0.121	0.093	0.070
22	876-7025●	0.200	0.173	0.140	0.106	0.084
1	876-7335●	0.075	0.066	0.056	0.041	0.032
3.3	876-7351●	0.075	0.066	0.056	0.041	0.032
4.7	876-7360●	0.060	0.053	0.045	0.033	0.026
10	876-7378●	0.075	0.066	0.056	0.041	0.032

50 Volts d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
22	876-7386●	0.075	0.066	0.056	0.041	0.032
33	876-7394●	0.075	0.066	0.056	0.041	0.032
47	876-7408●	0.121	0.102	0.092	0.063	0.051
100	876-7416●	0.185	0.153	0.121	0.093	0.070
220	876-7424●	0.330	0.280	0.220	0.172	0.133
330	876-7432●	0.280	0.240	0.189	0.145	0.115
470	876-7440●	0.470	0.400	0.340	0.260	0.199
1000	876-7459●	1.300	1.080	0.890	0.670	0.530
2200	876-7467●	1.790	1.510	1.210	0.950	0.720
3300	876-7475●	2.680	2.260	1.820	1.410	1.080

63 Volts d.c.	Ripple Current (AC)	Dimensions (mm)		Mftrs. List No.	
µF	mA	D	L		Order Code
10	70	5	11	ECA1JAM100X	876-7483
22	105	5	11	ECA1JAM220X	876-7491
33	130	6.3	11.2	ECA1JAM330X	876-7505
47	160	6.3	11.2	ECA1JAM470X	876-7513
100	270	8	11.5	ECA1JAM101X	876-7521
220	450	10	16	ECA1JAM221X	876-7530
330	550	10	20	ECA1JAM331X	876-7548
470	750	12.5	20	ECA1JAM471X	876-7556
1000	1100	16	25	ECA1JAM102X	876-7564
2200	1400	18	35.5	ECA1JAM222X	876-7572

63 Volts d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
10	876-7483●	0.075	0.066	0.056	0.041	0.032
22	876-7491●	0.075	0.066	0.056	0.041	0.032
33	876-7505●	0.128	0.108	0.088	0.069	0.050
47	876-7513●	0.140	0.119	0.099	0.070	0.060
100	876-7521●	0.240	0.181	0.148	0.114	0.083
220	876-7530●	0.380	0.320	0.270	0.199	0.158
330	876-7548●	0.540	0.440	0.370	0.290	0.210
470	876-7556●	0.830	0.710	0.580	0.440	0.350
1000	876-7564●	1.340	1.120	0.920	0.700	0.550
2200	876-7572●	2.760	2.340	1.870	1.450	1.110

100 Volts d.c.	Ripple Current (AC)	Dimensions (mm)		Mftrs. List No.	
µF	mA	D	L		Order Code
2.2	30	5	11	ECA2AAM2R2X	876-7599
3.3	40	5	11	ECA2AAM3R3X	876-7602
4.7	50	5	11	ECA2AAM4R7X	876-7610
10	70	5	11	ECA2AAM100X	876-7629
22	115	6.3	11.2	ECA2AAM220X	876-7637
33	145	8	11.5	ECA2AAM330X	876-7645
47	180	8	11.5	ECA2AAM470X	876-7653
100	350	10	16	ECA2AAM101X	876-7661
220	550	12.5	20	ECA2AAM221X	876-7670
330	700	12.5	25	ECA2AAM331X	876-7688
470	900	16	25	ECA2AAM471X	876-7696

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100 Volts d.c.		Price Each				
µF	Order Code	1+	50+	100+	500+	1K+
2.2	876-7599●	0.075	0.066	0.056	0.041	0.032
3.3	876-7602●	0.057	0.049	0.042	0.031	0.024
4.7	876-7610●	0.075	0.066	0.056	0.041	0.032
10	876-7629●	0.075	0.066	0.056	0.041	0.032
22	876-7637●	0.136	0.116	0.096	0.068	0.058
33	876-7645●	0.220	0.175	0.144	0.111	0.081
47	876-7653●	0.168	0.132	0.108	0.084	0.060
100	876-7661●	0.470	0.390	0.330	0.250	0.194
220	876-7670●	0.930	0.780	0.630	0.470	0.380
330	876-7688●	0.980	0.820	0.670	0.510	0.400
470	876-7696●	1.090	0.920	0.760	0.560	0.460

Aluminium Electrolytic - Non-Polarised

NP Series – Non-Polarised

multicomp



- Non-Polarized aluminium electrolytic capacitors
- Have excellent frequency characteristic and small deviation of capacitance
- suitable for crossover network for HI-FI equipments and speakers, etc.

Operating temp. -40°C to +85°C
Tolerance ±20%
DC leakage current I = 0.03CV or 3 (µA) after 5 minutes
Ripple current measured at 120Hz @ 85°C

16 Volt d.c.	Ripple	Dimensions		Lead	Lead	Order
µF	(mA)	H	Dia.	Dia.	Pitch	Code
1	15	11	5	0.5	2	123-6655
4.7	30	11	5	0.5	2	123-6656
10	40	11	5	0.5	2	123-6657
22	55	11	5	0.5	2	123-6658
47	95	11	6.3	0.5	2.5	123-6661
100	160	11.5	8	0.6	3.5	123-6662
220	275	12.5	10	0.6	5	123-6663
470	485	20	10	0.6	5	123-6664
1000	855	25	13	0.6	5	123-6665

RL Re-reeling available

Farnell

Order Multiple=5

16 Volt d.c.

µF	Order Code	5+	25+	50+	100+	500+	1K+
		Price Each					
1	**123-6655●**	0.028	0.027	0.024	0.021	0.018	0.015
4.7	**123-6656●**	0.030	0.029	0.028	0.023	0.020	0.016
10	**123-6657●**	0.059	0.057	0.055	0.048	0.043	0.035
22	**123-6658●**	0.059	0.057	0.055	0.048	0.043	0.035
47	**123-6661●**	0.072	0.071	0.070	0.059	0.051	0.044
100	**123-6662●**	0.119	0.117	0.109	0.098	0.083	0.070
220	**123-6663●**	0.192	0.188	0.185	0.158	0.139	0.110
470	**123-6664●**	0.310	0.300	0.290	0.260	0.200	0.168
1000	**123-6665●**	0.590	0.570	0.540	0.480	0.420	0.350

35 Volt d.c.

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Order Code
1	15	11	5	0.5	2	123-6666
2.2	20	11	5	0.5	2	123-6667
4.7	30	11	5	0.5	2	123-6668
10	40	11	5	0.5	2	123-6669
22	70	11	6.3	0.5	2.5	123-6670
47	120	11.5	8	0.6	3.5	123-6671
100	230	16	10	0.6	5	123-6673
220	410	20	13	0.6	5	123-6674
470	655	25	13	0.6	5	123-6675

Order Multiple=5

35 Volt d.c.

µF	Order Code	5+	25+	50+	100+	500+	1K+
		Price Each					
1	**123-6666●**	0.030	0.027	0.024	0.021	0.019	0.016
2.2	**123-6667●**	0.030	0.029	0.028	0.023	0.020	0.016
4.7	**123-6668●**	0.030	0.029	0.028	0.023	0.020	0.016
10	**123-6669●**	0.057	0.056	0.054	0.047	0.042	0.035
22	**123-6670●**	0.094	0.092	0.086	0.079	0.066	0.054
47	**123-6671●**	0.125	0.123	0.120	0.105	0.091	0.074
100	**123-6673●**	0.220	0.200	0.187	0.168	0.149	0.131
220	**123-6674●**	0.480	0.470	0.460	0.420	0.360	0.300
470	**123-6675●**	0.610	0.600	0.590	0.500	0.430	0.360

63 Volt d.c.

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Order Code
0.47	13	11	5	0.5	2	123-6676
1	19	11	5	0.5	2	123-6677
2.2	25	11	5	0.5	2	123-6678
4.7	35	11	6.3	0.5	2.5	123-6679
10	55	11	6.3	0.5	2.5	123-6680
22	90	11.5	8	0.6	3.5	123-6681
47	180	16	10	0.6	5	123-6682
100	320	20	13	0.6	5	123-6683
220	575	25	16	0.8	7.5	123-6685

Order Multiple=5

63 Volt d.c.

µF	Order Code	5+	25+	50+	100+	500+	1K+
		Price Each					
0.47	**123-6676●**	0.030	0.029	0.028	0.023	0.020	0.016
1	**123-6677●**	0.030	0.029	0.028	0.023	0.020	0.016
2.2	**123-6678●**	0.057	0.056	0.054	0.047	0.042	0.035
4.7	**123-6679●**	0.060	0.059	0.055	0.049	0.042	0.036
10	**123-6680●**	0.084	0.075	0.070	0.065	0.061	0.055
22	**123-6681●**	0.129	0.126	0.122	0.110	0.094	0.077
47	**123-6682●**	0.280	0.270	0.260	0.210	0.187	0.149
100	**123-6683●**	0.460	0.440	0.420	0.410	0.380	0.320
220	**123-6685●**	1.030	1.010	0.990	0.850	0.730	0.600

100 Volt d.c.

µF	Ripple (mA)	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Order Code
1	19	11	5	0.5	2	123-6686
2.2	25	11	6.3	0.5	2.5	123-6687
3.3	35	11	6.3	0.5	2.5	123-6688
4.7	40	11	6.3	0.5	2.5	123-6689
10	70	11.5	8	0.6	3.5	123-6690
33	220	20	13	0.6	5	123-6691
47	240	20	13	0.6	5	123-6692
100	425	25	25	0.8	7.5	123-6693

443140

Order Multiple=5

100 Volt d.c.

µF	Order Code	5+	25+	50+	100+	500+	1K+
		Price Each					
1	**123-6686●**	0.031	0.028	0.024	0.022	0.019	0.016
2.2	**123-6687●**	0.043	0.039	0.036	0.032	0.029	0.024
3.3	**123-6688●**	0.043	0.039	0.036	0.032	0.029	0.024
4.7	**123-6689●**	0.118	0.116	0.109	0.098	0.082	0.070
10	**123-6690●**	0.131	0.128	0.123	0.110	0.095	0.077
33	**123-6691●**	0.450	0.440	0.430	0.380	0.330	0.280
47	**123-6692●**	0.450	0.440	0.430	0.380	0.330	0.280
100	**123-6693●**	0.840	0.830	0.810	0.700	0.610	0.480

SU Series – 50 Volt d.c. Bi-polar

Panasonic ideas for life



- General purpose miniature bi-polar aluminium electrolytic
- Compact version of S series
- Suitable for circuits where polarity is not constant or where reverse voltage may be applied

Operating temperature	-40°C to +85°C	DC leakage current	0.03CV + 3µA
Tolerance	±20%	Operating life @ 85°C	2000 hrs
Power factor	0.15		

µF	Dimensions H	Dia.	Lead Pitch	Lead Dia.	Mftrs. List No.	Order Code
1	11	5	2	0.5	ECEA1HN010U	969-6601
2.2	11	5	2	0.5	ECEA1HN2R2U	969-6610
4.7	11	5	2	0.5	ECEA1HN4R7U	969-6628
10	11.2	6.3	2.5	0.5	ECEA1HN100U	969-6636
22	11.5	8	3.5	0.6	ECEA1HN220U	969-6644
47	12.5	10	5	0.6	ECEA1HN470U	969-6652
100	20	10	5	0.6	ECEA1HN101U	969-6660

234320

Order Multiple=5

µF	Order Code	5+	50+	100+	500+	1K+
		Price Each				
1	**969-6601●**	0.092	0.090	0.072	0.054	0.041
2.2	**969-6610●**	0.092	0.090	0.072	0.054	0.041
4.7	**969-6628●**	0.089	0.088	0.070	0.053	0.041
10	**969-6636●**	0.143	0.126	0.107	0.080	0.060
22	**969-6644●**	0.250	0.220	0.153	0.110	0.082
47	**969-6652●**	0.310	0.280	0.210	0.153	0.116
100	**969-6660●**	0.540	0.400	0.290	0.200	0.161

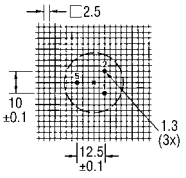
Aluminium Electrolytic - PCB Mounting

2222 051, 053 Series – 85°C High Capacitance

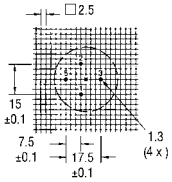
BC COMPONENTS



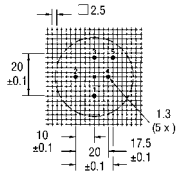
- Long life, high capitance aluminium electrolytic
- PCB Mounting
- Low ESR and ESL
- Printed wire terminals marked 1 for positive and 5 for negative



25.6mm can diameter



35.6mm can diameter
Drilling plans



40.6 can diameter

Operating temperature	-40 to +85 °C	Climatic category **(IEC68)**	40/085/56
Tolerance	±20%	DC leakage current	0.006CV + 4µA
Basic specification	**IEC60384**, long life grade	Useful life @ 85°C	1200012000 hrs
PCB footprint to	**DIN 45910-T192**		

µF	Ripple (A) @ 100Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
16 Volt d.c.					
10000	4	40	25	2222 051 55103	116-6598
22000	5.5	40	35	2222 051 55223	116-6599
40 Volt d.c.					
4700	3.8	40	25	2222 051 57472	116-6565
10000	5.2	40	35	2222 051 57103	116-6567
22000	5.5	50	40	2222 051 57223	116-6600
47000	10.4	100	40	2222 051 57473	116-6601
63 Volts d.c.					
2200	2.5	30	25	2222 051 58222	116-6568
4700	4.1	40	30	2222 051 58472	116-6602
10000	5.4	50	35	2222 051 58103	116-6569
22000	10	100	40	2222 051 58223	116-6570
200 Volt d.c.					
470	1.66	40	35	2222 053 52471	116-6603
400 Volt d.c.					
100	0.73	40	25	2222 053 56101	116-6605
220	1.28	40	35	2222 053 56221	116-6606
470	2.12	50	40	2222 053 56471	116-6607
1000	4.05	100	40	2222 053 56102	116-6609

208660

µF	Order Code	1+	50+	100+
			Price Each	
16 Volt d.c.				
10000	**116-6598●**	3.55	2.36	2.12
22000	**116-6599●**	5.24	3.46	3.11
40 Volt d.c.				
4700	**116-6565●**	4.45	2.91	2.60
10000	**116-6567●**	6.64	4.33	3.91
22000	**116-6600●**	7.50	4.96	4.44
47000	**116-6601●**	12.88	8.51	7.63
63 Volt d.c.				
2200	**116-6568●**	4.09	2.69	2.40
4700	**116-6602●**	5.35	3.52	3.17
10000	**116-6569●**	8.76	5.73	5.15
22000	**116-6570●**	9.15	8.70	8.25
200 Volt d.c.				
470	**116-6603●**	4.63	3.06	2.73
1000	**116-6604●**	5.63	3.71	3.34
400 Volt d.c.				
100	**116-6605●**	3.97	2.62	2.36
220	**116-6606●**	6.22	4.11	3.70
470	**116-6607●**	10.60	6.99	6.26
1000	**116-6609●**	18.27	12.05	10.83

RL Re-reeling available

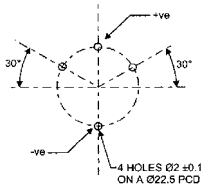
Farnell

Aluminium Electrolytic - PCB Mounting - continued

ALC10 Series – 85°C
(PCB Mounting Snap-In)



- Long life aluminium electrolytic
- High ripple current capability
- 4 pin snap-in PCB mounting
- Negative pin denoted by line on sleeve



Operating Temperature -40°C to +85°C to
Tolerance ±20%
DC leakage current 0.006CV+4µA
Operating life @ 85°C 18000hrs

µF	Ripple (A) @ 85°C 100Hz	10kHz	ESR max mΩ @ 20°C 100Hz	Dimensions H	Dia	Mftrs. List No.	Order Code
35 Volt dc							
15000	4.24	4.31	87	30	40	ALC10C153EB035	934-7933
33000	7.16	7.27	42	50	40	ALC10C333EF035	934-8026
56000	10.91	11.14	23	80	40	ALC10C563EL035	934-8050
40 Volt dc							
10000	3.69	4.01	86	35	35	ALC10A103DC040	167-9495
63 Volt dc							
10000	4.58	4.67	80	35	40	ALC10C103EC063	934-7917
15000	7.02	7.18	44	50	40	ALC10C153EF063	934-7941
250 Volt dc							
680	2.79	3.56	187	30	40	ALC10C681EB250	934-8069
1500	5.29	6.58	89	55	40	ALC10C152EG250	934-7925
400 Volt dc							
330	1.73	2.92	461	35	35	ALC10A331DC400	167-9496
470	2.62	4.41	321	50	35	ALC10A471DF400	167-9497
680	2.9	4.73	232	60	35	ALC10A681DH400	167-9498
1000	5	8.82	120	80	40	ALC10C102EL400	934-7909
450 Volt dc							
220	1.77	3.31	517	30	40	ALC10C221EB450	934-7950
330	2.35	4.51	348	40	40	ALC10C331ED450	934-8018
220	1.56	2.89	559	35	35	ALC10A221DC450	167-9499
330	2.41	4.38	373	50	35	ALC10A331DF450	167-9500
470	2.43	4.03	252	50	35	ALC10A471DF450	167-9501
1000	4.95	9.32	114	80	40	ALC10C102EL450	167-9502

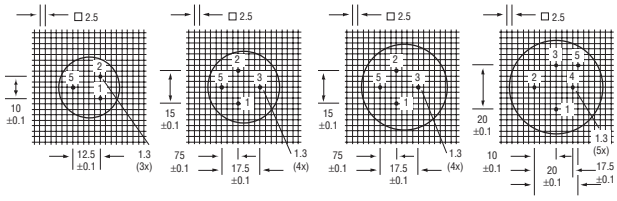
208567

µF	Order Code	1+	10+	Price Each 50+	100+	250+
35 Volt dc						
15000	934-7933●	8.33	7.08	6.25	5.52	4.87
33000	934-8026●	12.45	10.58	9.34	8.25	7.28
56000	934-8050●	17.60	14.96	13.20	11.65	10.28
40 Volt dc						
10000	NEW SMD 167-9495●	14.16	7.08	4.72	3.54	3.36
63 Volt dc						
10000	934-7917●	10.30	8.75	7.72	6.81	6.01
15000	934-7941●	12.79	10.87	9.59	8.46	7.46
250 Volt dc						
680	934-8069●	8.78	8.27	7.87	6.77	5.73
1500	934-7925●	12.79	10.87	9.59	8.46	7.46
400 Volt dc						
330	NEW SMD 167-9496●	17.68	8.84	5.89	4.42	4.20
470	NEW SMD 167-9497●	21.68	10.84	7.22	5.42	5.15
680	NEW SMD 167-9498●	27.76	13.88	9.25	6.94	6.59
1000	934-7909●	15.53	13.20	11.65	10.28	9.08
450 Volt dc						
220	934-7950●	8.60	7.31	6.45	5.69	5.02
330	934-8018●	10.40	8.84	7.80	6.88	6.07
220	NEW SMD 167-9499●	16.24	8.12	5.41	4.06	3.86
330	NEW SMD 167-9500●	20.24	10.12	6.74	5.06	4.81
470	NEW SMD 167-9501●	25.20	12.60	8.40	6.30	5.99
1000	NEW SMD 167-9502●	55.20	27.60	18.40	13.80	13.11

ALP 22 Series – Long Life (PCB Mounting)



- Long life grade PCB mounting electrolytic capacitor
- PCB mounting, low ESR and low impedance
- Printed wire terminals marked 1 for positive and 5 for negative



Operating temperature -40°C to +85°C DC leakage current 0.006CV + 4µA
Tolerance ±20% Operating life @ 85°C Life is dependent on case size dia.
PCB footprint to **DIN 41238**

Dia.
40 26000hrs
35 18000hrs
30 15000hrs
25 12000hrs

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max mΩ @ 20°C 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
16 Volt d.c.							
47000	3.3	3.53	31	55	40	ALP22A473DD016	934-8204
40 Volt d.c.							
10000	3.21	4.46	50	45	35	ALP22A103CB040	934-8123
22000	4.23	5.88	39	55	40	ALP22A223DD040	934-8166
4700	4.23	5.88	57	57	25	ALP22A472AB040	934-8182
63 Volt d.c.							
10000	3.65	5.07	42	55	35	ALP22A103CD063	934-8131
15000	4.97	6.91	30	75	40	ALP22A153DE063	934-8140
4700	7.19	9.99	55	45	30	ALP22A472BB063	934-8190
385 Volt d.c.							
1000	0.67	1.26	151	105	40	ALP22A102DF385	934-8107
470	2.37	4.48	324	55	40	ALP22A471DD385	934-8174

208460

µF	Order Code	1+	10+	Price Each 50+	100+	250+
16 Volt d.c.						
47000	934-8204●	9.05	7.69	6.79	6.00	5.29
40 Volt d.c.						
10000	934-8123●	6.83	5.81	5.12	4.51	3.95
22000	934-8166●	12.10	10.28	9.07	8.00	7.06
4700	934-8182●	4.69	3.99	3.52	3.11	2.60
63 Volt d.c.						
10000	934-8131●	10.75	9.14	8.06	7.11	6.05
15000	934-8140●	15.20	12.92	11.40	10.06	8.88
4700	934-8190●	6.40	5.44	4.80	4.24	3.50
385 Volt d.c.						
1000	934-8107●	21.30	18.10	15.97	14.09	12.43
470	934-8174●	12.05	10.24	9.04	7.98	7.05

B43511 Series - 85°C (PCB Mounting 4 Pin Snap-In)



- 4 pin snap-in electrolytic
- Compact size, high capacitance per unit volume
- For frequency converters and switch mode power supplies in industrial and consumer electronics applications

Operating temperature -40°C to +85°C (400V)
Tolerance ±20%
Useful life @ 85°C 12000 hrs
Climatic category 40/085/56 (400V)

µF	Ripple Current (A)	Impedance max (mΩ) @10kHz, 20°C	ESR (mΩ) @ 100Hz	H	Dia.	Mftrs. List No.	Order Code
400 Volt d.c.							
1000	4.8	110	130	60	45	B43511B9108M	121-9089
1500	7.2	70	90	100	40	B43511A9158M	121-9088

234196

µF	Order Code	1+	10+	Price Each 50+	100+	250+
400 Volt d.c.						
1000	121-9089●	14.25	13.42	12.02	10.63	10.42
1500	121-9088●	20.91	19.59	19.21	17.88	15.45

B43514 Series - 105°C (PCB Mounting 4 Pin Snap-In)



- High performance 4 pin snap-in electrolytic
- Temperature rating 105°C
- Compact size, high capacitance per unit volume
- For frequency converters and switch mode power supplies in industrial and consumer electronics applications

Operating temperature -40°C to +105°C (400V)
-25°C to +105°C (450V)
Tolerance ±20%
Useful life @ 85°C 3000 hrs
Climatic category 40/105/56
25/105/56 (450V)

RL Re-reeling available

µF	Ripple Current (A)	Impedance max (mΩ) @10kHz, 20°C	ESR (mΩ) @ 100Hz	H	Dia.	Mftrs. List No.	Order Code
400 Volt d.c.							
470	2.4	220	280	60	35	B43514A9477M	121-9090
680	2.8	150	190	60	40	B43514C9687M	121-9094
1000	3.8	110	130	80	40	B43514C9108M	121-9093
450 Volt d.c.							
680	3	240	300	70	40	B43514A5687M	121-9135

333324

µF	Order Code	Price Each 1+	10+	50+	100+	250+
400 Volt d.c.						
470	**121-9090●**	10.36	9.12	8.45	7.89	7.63
680	**121-9094●**	12.44	11.20	10.58	9.96	9.56
1000	**121-9093●**	13.85	12.63	12.02	11.42	11.08
450 Volt d.c.						
680	**121-9135●**	14.85	13.67	13.08	12.51	12.22

Aluminium Electrolytic - Snap-In

LPR Series - 85°C (PCB Mounting Snap-In)

multicomp



- General purpose snap-in aluminium electrolytic
- "Self-standing" terminals for easy soldering

Lead pitch = 10
Mounting hole dia. = 2.0

Operating temperature	-40°C to +85°C (16 to 100V dc) -25°C to +85°C (400V dc)
Tolerance	±20%
DC leakage current	0.02CV or 3000µA max whichever is greater
Useful life @ 85°C	2000 hrs

16 Volt d.c. µF	Ripple (A) @ 120Hz, 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
4700	2.3	25	22	MCLPR16V478M22X25	945-2753
10000	3.32	25	22	MCLPR16V109M22X25	945-2761
15000	4.29	35	22	MCLPR16V159M22X35	945-2770

16 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
4700	**945-2753●**	0.81	0.71	0.68	0.66	0.60
10000	**945-2761●**	1.38	1.21	1.15	1.11	1.02
15000	**945-2770●**	1.87	1.68	1.58	1.51	1.40

25 Volt d.c. µF	Ripple (A) @ 120Hz, 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
4700	2.5	25	22	MCLPR25V478M22X25	945-2788
6800	3.06	30	22	MCLPR25V688M22X30	945-2796
10000	3.99	25	30	MCLPR25V109M30X25	945-2800
15000	5.1	35	30	MCLPR25V159M30X35	945-2818
22000	6.22	45	30	MCLPR25V229M30X45	945-2826

25 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
4700	**945-2788●**	1.13	1.02	0.97	0.92	0.84
6800	**945-2796●**	1.40	1.24	1.17	1.13	1.04
10000	**945-2800●**	2.08	1.87	1.78	1.67	1.53
15000	**945-2818●**	2.57	2.33	2.18	2.08	1.91
22000	**945-2826●**	3.74	3.37	3.18	3.05	2.77

35 Volt d.c. µF	Ripple (A) @ 120Hz, 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
2200	1.8	25	22	MCLPR35V228M22X25	945-2834
4700	3.06	30	22	MCLPR35V478M22X30	945-2842
6800	3.57	30	26	MCLPR35V688M26X30	945-2850
10000	4.58	30	30	MCLPR35V109M30X30	945-2869
22000	7.07	45	35	MCLPR35V229M35X45	945-2877

35 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
2200	**945-2834●**	0.86	0.79	0.72	0.70	0.64
4700	**945-2842●**	1.44	1.30	1.21	1.16	1.07
6800	**945-2850●**	1.87	1.67	1.57	1.50	1.39
10000	**945-2869●**	2.71	2.44	2.33	2.21	2.03
22000	**945-2877●**	5.55	4.99	4.69	4.51	4.13

50 Volt d.c. µF	Ripple (A) @ 120Hz, 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
2200	2.3	25	22	MCLPR50V228M22X25	945-2885
4700	3.86	25	30	MCLPR50V478M30X25	945-2893
10000	5.97	35	35	MCLPR50V109M35X35	945-2907

50 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
2200	**945-2885●**	1.24	1.12	1.06	1.02	0.93
4700	**945-2893●**	2.08	1.87	1.77	1.67	1.53
10000	**945-2907●**	4.04	3.63	3.45	3.26	3.01

63 Volt d.c. µF	Ripple (A) @ 120Hz, 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
2200	2.58	25	26	MCLPR63V228M26X25	945-2915
4700	4.19	40	26	MCLPR63V478M26X40	945-2923
6800	5.16	40	30	MCLPR63V688M30X40	945-2931
10000	6.32	50	30	MCLPR63V109M30X50	945-2940

63 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
2200	**945-2915●**	1.60	1.44	1.37	1.30	1.18
4700	**945-2923●**	2.18	1.98	1.86	1.79	1.62
6800	**945-2931●**	3.91	3.52	3.31	3.16	2.89
10000	**945-2940●**	4.36	4.04	3.89	3.75	3.54

100 Volt d.c. µF	Ripple (A) @ 120Hz, 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
1000	2.3	30	22	MCLPR100V108M22X30	945-2958
2200	3.74	40	26	MCLPR100V228M26X40	945-2966
4700	5.86	50	30	MCLPR100V478M30X50	945-2974

100 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
1000	**945-2958●**	1.56	1.41	1.34	1.27	1.16
2200	**945-2966●**	2.99	2.68	2.55	2.42	2.22
4700	**945-2974●**	4.88	4.19	3.94	3.64	3.44

400 Volt d.c. µF	Ripple (A) @ 120Hz, 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
47	0.4	25	22	MCLPR400V476M22X25	945-2982
100	0.78	30	22	MCLPR400V107M22X30	945-2990
220	1.41	40	26	MCLPR400V227M26X40	945-3008
470	2.4	40	35	MCLPR400V477M35X40	945-3016

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400 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
47	**945-2982●**	1.26	1.14	1.08	1.02	0.93
100	**945-2990●**	2.87	2.59	2.44	2.34	2.13
220	**945-3008●**	4.07	3.55	3.05	2.83	2.57
470	**945-3016●**	6.44	5.56	5.19	4.80	4.54

TSUQ Series - 85°C (PCB Mounting Snap-In) Miniature Can Size

Panasonic ideas for life



- General purpose snap-in electrolytic
- Highly miniaturised can size
- 30% smaller than TSUP series
- 2000 hrs life expectancy @ 85°C

Lead pitch=10
Mounting hole dia.=2.0

Operating temperature	-40°C to +85°C (160 to 250V d.c.) -40°C to +85°C (400 to 450V d.c.)	Tolerance DC leakage current	±20% 3√CV µA

160 Volt d.c. µF	Ripple (A rms) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
1000	3	30	25	EETUQ2C102CA	119-8665
1500	3.73	40	25	EETUQ2C152CA	119-8666
2200	4.78	40	30	EETUQ2C222DA	119-8667
2700	5.45	40	35	EETUQ2C272EA	119-8668
3900	6	50	35	EETUQ2C392EA	119-8669

160 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	600+
1000	**119-8665●**	3.21	2.24	1.80	1.53	1.49
1500	**119-8666●**	4.25	2.97	2.39	2.15	2.10
2200	**119-8667●**	4.86	3.50	2.89	2.88	2.80
2700	**119-8668●**	5.87	4.23	3.49	3.31	3.23
3900	**119-8669●**	5.58	5.14	4.76	4.44	4.15

250 Volt d.c. µF	Ripple (A rms) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
330	1.75	30	22	EETUQ2E331BA	119-8670
470	2.11	30	25	EETUQ2E471CA	119-8672
680	2.5	35	25	EETUQ2E681CA	119-8673
820	2.77	40	25	EETUQ2E821CA	119-8674
1000	3.32	35	30	EETUQ2E102DA	119-8675
1500	4.04	40	35	EETUQ2E152EA	119-8676

250 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	600+
330	**119-8670●**	3.05	2.08	1.63	1.31	1.28
470	**119-8672●**	3.15	2.20	1.76	1.52	1.48
680	**119-8673●**	3.79	2.67	2.14	1.57	1.53
820	**119-8674●**	4.25	2.97	2.39	1.96	1.91
1000	**119-8675●**	5.25	3.66	2.94	2.18	2.13
1500	**119-8676●**	6.35	4.57	3.78	3.53	3.44

400 Volt d.c. µF	Ripple (A rms) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
150	1.16	30	22	EETUQ2G151BA	119-8677
220	1.49	30	25	EETUQ2G221CA	119-8678
270	1.67	35	25	EETUQ2G271CA	119-8679
330	1.9	40	25	EETUQ2G331CA	119-8680
470	2.39	40	30	EETUQ2G471DA	119-8681
680	2.96	45	35	EETUQ2G681EA	119-8682
820	3.25	50	35	EETUQ2G821EA	119-8684

400 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	600+
150	**119-8677●**	3.00	2.10	1.69	1.45	1.41
220	**119-8678●**	3.71	2.60	2.09	1.79	1.75
270	**119-8679●**	4.24	2.95	2.37	1.81	1.76
330	**119-8680●**	4.81	3.36	2.70	2.28	2.22
470	**119-8681●**	5.52	3.98	3.29	3.03	2.95
680	**119-8682●**	6.89	5.05	4.24	4.01	3.91
820	**119-8684●**	7.97	5.85	5.11	4.98	4.85

RL Re-reeling available

Aluminium Electrolytic - Snap-In - continued

TSUQ Series - 85°C (PCB Mounting Snap-In)
Miniature Can Size - continued

450 Volt d.c. µF	Ripple (A rms) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
100	0.93	25	22	EETUQ2W101BA	119-8685
150	1.19	30	25	EETUQ2W151CA	119-8686
220	1.55	40	25	EETUQ2W221CA	119-8687
330	2.01	40	30	EETUQ2W331DA	119-8688
470	2.53	40	35	EETUQ2W471EA	119-8689
560	2.82	50	30	EETUQ2W561DA	119-8690

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450 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	600+
100	119-8685●	2.90	2.03	1.63	1.21	1.18
150	119-8686●	3.55	2.48	1.99	1.46	1.43
220	119-8687●	4.43	3.09	2.48	1.84	1.79
330	119-8688●	5.49	3.96	3.27	3.06	2.98
470	119-8689●	7.21	5.20	4.29	4.12	4.01
560	119-8690●	7.22	5.31	4.46	4.06	3.96

LLS Series – 85°C (PCB Mounting Snap-In)

nichicon



- General purpose miniature snap-in
- 4mm long terminals
- 3000 hrs life expectancy at 85°C
- Supersedes LQ series

Lead pitch = 10
Lead length = 4
Mounting hole dia = 2.0

Operating Temperature -40°C to +85°C (16 to 200V dc)
-40°C to +85°C (400 to 450V dc)
DC Leakage current ≤3√CVµA
Useful life @ 85°C 3000hrs
Tolerance ±20%

µF	Ripple (A) @ 120Hz, 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
16 Volt d.c.					
10000	2.89	30	22	LLS1C103MELZ	881-3175
25 Volt d.c.					
15000	4.1	40	25	LLS1E153MELA	881-3183
22000	5.33	40	30	LLS1E223MELB	881-3477
35 Volt d.c.					
4700	2.43	25	25	LLS1V472MELA	881-3191
6800	2.89	30	25	LLS1V682MELA	881-3205
10000	3.65	40	25	LLS1V103MELA	881-3213
50 Volt dc					
4700	3.01	25	30	LLS1H472MELB	881-3221
10000	4.92	35	35	LLS1H103MELC	881-3230
63 Volt dc					
2200	2.3	25	25	LLS1J222MELA	881-3248
2200	2.35	30	22	LLS1J222MELZ	881-3493
3300	2.74	30	25	LLS1J332MELA	881-3256
4700	3.59	40	25	LLS1J472MELA	881-3264
4700	3.54	30	30	LLS1J472MELB	881-3272
80 Volt dc					
4700	4.28	50	25	LLS1K472MELA	881-3280
4700	4.12	30	35	LLS1K472MELC	881-3299
100 Volt dc					
1500	2.47	30	25	LLS2A152MELA	881-3302
2200	3.17	30	30	LLS2A222MELB	881-3310
3300	4.18	50	25	LLS2A332MELA	881-3329
4700	5.26	50	30	LLS2A472MELB	881-3337
4700	5.23	40	35	LLS2A472MELC	881-3345
200 Volt dc					
1000	3.15	35	30	LLS2D102MELB	881-3353
400 Volt dc					
220	1.66	30	30	LLS2G221MELB	881-3361
470	2.51	35	35	LLS2G471MELC	881-3370
680	3.1	50	35	LLS2G681MELC	881-3388
450 Volt dc					
100	0.97	25	25	LLS2W101MELA	881-3396
220	1.64	30	30	LLS2W221MELB	881-3400

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µF	Order Code	Price Each 1+	10+	50+	100+	250+
16 Volt dc						
10000	881-3175●	1.96	1.53	1.38	1.26	1.15
25 Volt dc						
15000	881-3183●	3.87	3.14	2.77	2.62	2.44
22000	881-3477●	4.99	4.19	3.60	3.15	2.81
35 Volt dc						
4700	881-3191●	2.17	1.71	1.53	1.39	1.28
6800	881-3205●	2.66	2.10	1.88	1.71	1.56
10000	881-3213●	3.45	2.75	2.50	2.28	2.10
50 Volt dc						
4700	881-3221●	2.81	2.20	1.98	1.81	1.66
10000	881-3230●	5.05	4.04	3.67	3.33	3.08

µF	Order Code	Price Each 1+	10+	50+	100+	250+
63 Volt dc						
2200	881-3248●	2.17	1.71	1.53	1.39	1.28
2200	881-3493●	2.24	1.90	1.61	1.41	1.26
3300	881-3256●	2.59	2.04	1.83	1.67	1.52
4700	881-3264●	3.10	2.44	2.20	2.01	1.83
4700	881-3272●	3.31	2.60	2.35	2.14	1.96
80 Volt dc						
4700	881-3280●	4.12	3.23	2.92	2.64	2.44
4700	881-3299●	4.99	3.92	3.53	3.21	2.95
100 Volt dc						
1500	881-3302●	2.69	2.12	1.91	1.73	1.58
2200	881-3310●	3.52	2.77	2.49	2.26	2.08
3300	881-3329●	4.42	3.47	3.13	2.85	2.60
4700	881-3337●	7.30	6.04	5.30	4.77	4.51
4700	881-3345●	6.95	5.46	4.92	4.46	4.09
200 Volt dc						
1000	881-3353●	4.33	2.80	2.31	2.11	1.93
400 Volt dc						
220	881-3361●	3.39	2.19	1.82	1.65	1.52
470	881-3370●	5.66	3.86	2.93	2.09	1.83
680	881-3388●	9.50	6.13	5.29	4.76	4.36
450 Volt dc						
100	881-3396●	2.40	1.55	1.29	1.24	1.21
220	881-3400●	3.62	2.47	1.87	1.29	1.26

2222 157 Series – 85°C
(PCB Mounting Miniature Snap-In)

BC COMPONENTS



- General purpose, industrial and audio/video systems
- Standard and switched mode power supplies
- Energy storage in pulse systems

Lead pitch = 10, Mounting hole dia = 2.0

Operating Temperature -25°C to +85°C to
Tolerance ±20%
Useful life @ 85°C 2500 hrs
Climatic category (IEC) 25/085/56

200 Volt d.c. µF	Ripple (A) 120Hz @ 85°C	ESR (mΩ 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
330	1.36	260	30	22	2222 157 52331	116-5655
470	1.68	190	35	22	2222 157 32471	116-5656
680	2.18	170	40	25	2222 157 42681	116-5657
1000	2.66	120	40	30	2222 157 52102	116-5658
1500	3.31	90	50	30	2222 157 42152	116-5659
2200	3.68	260	60	35	2222 157 52222	116-5660

200 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
330	116-5655●	3.12	2.68	2.24	1.70	1.62
470	116-5656●	4.13	3.55	2.95	2.26	2.15
680	116-5657●	5.11	4.43	3.68	2.81	2.67
1000	116-5658●	7.09	6.09	5.08	3.89	3.71
1500	116-5659●	9.85	8.47	7.04	5.40	5.13
2200	116-5660●	13.25	11.38	9.49	7.26	6.93

250 Volt d.c. µF	Ripple (A) 120Hz @ 85°C	ESR (mΩ 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
220	1.23	340	30	22	2222 157 53221	116-5661
330	1.53	230	35	22	2222 157 33331	116-5662
470	1.87	180	35	25	2222 157 33471	116-5663
680	2.29	130	45	25	2222 157 63681	116-5664
1000	2.88	110	45	30	2222 157 33102	116-5666
1500	3.49	90	50	35	2222 157 53152	116-5667

250 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
220	116-5661●	1.53	1.45	1.38	1.32	1.26
330	116-5662●	4.37	3.74	3.13	2.39	2.30
470	116-5663●	5.32	4.56	3.82	2.92	2.75
680	116-5664●	6.37	5.48	4.57	3.50	3.34
1000	116-5666●	8.62	7.41	6.18	4.72	4.50
1500	116-5667●	12.67	10.90	9.09	6.94	6.60

400 Volt d.c. µF	Ripple (A) 120Hz @ 85°C	ESR (mΩ 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
100	0.84	930	30	22	2222 157 56101	116-5668
150	1.13	700	35	22	2222 157 36151	116-5669
220	1.54	520	40	25	2222 157 46221	116-5670
330	1.97	320	40	30	2222 157 56331	116-5671
470	2.4	240	50	30	2222 157 46471	116-5672
680	2.79	190	50	35	2222 157 56681	116-5673

400 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
100	116-5668●	3.04	2.60	2.16	1.67	1.64
150	116-5669●	3.76	3.21	2.70	2.06	1.96
220	116-5670●	4.92	4.22	3.52	2.69	2.56
330	116-5671●	7.64	6.56	5.47	4.18	3.99
470	116-5672●	8.48	7.28	6.09	4.64	4.42
680	116-5673●	6.08	5.77	5.49	5.22	4.95

RL Re-reeling available

Farnell

450 Volt d.c. µF	Ripple (A) 120Hz @ 85°C	ESR (mΩ) 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
68	0.8	1230	30	22	2222 157 57689	116-5674
100	1	840	35	22	2222 157 37101	116-5675
150	1.35	570	40	25	2222 157 47151	116-5676
220	1.73	400	50	25	2222 157 47221	116-5678
330	2.19	280	50	30	2222 157 47331	116-5679
470	2.6	210	50	35	2222 157 57471	116-5680

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450 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
68	116-5674●	3.47	3.01	2.50	1.92	1.81
100	116-5675●	4.46	3.84	3.19	2.45	2.33
150	116-5676●	5.11	4.43	3.68	2.81	2.67
220	116-5678●	6.49	5.58	4.66	3.55	3.39
330	116-5679●	8.87	7.66	6.38	4.89	4.63
470	116-5680●	12.34	12.10	8.64	6.61	6.28

2222 056/7 Series – 85°C (PCB Mounting Snap-In)



- General purpose snap-in electrolytic

Operating Temperature	-40°C to +85°C
Useful Life @ 85°C	12000 hrs
Tolerance	±20%
Climatic category (IEC)	40/085/56
Long life grade	**IEC 60384-4**

Lead pitch=10, Mounting hole dia.=2.0

Volt d.c.	µF	Ripple (A) 100Hz @ 85°C	ESR max mΩ @ 20°C 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
16	6800	2.54	57	30	22	2222 056 55682	116-5493
16	10000	3.02	47	30	25	2222 056 55103	116-5568
16	15000	4	34	40	25	2222 056 45153	116-5494
16	22000	4.51	33	40	30	2222 056 55223	116-5569
16	33000	4.75	36	50	30	2222 056 45333	116-5496
16	47000	5.34	34	50	35	2222 056 55473	116-5570
25	4700	2.37	65	30	22	2222 056 56472	116-5571
25	6800	2.81	54	30	25	2222 056 56682	116-5572
25	10000	3.73	39	40	25	2222 056 46103	116-5573
25	15000	4.73	30	40	30	2222 056 56153	116-5575
25	22000	4.96	36	50	30	2222 056 46223	116-5497
25	33000	4.98	39	50	35	2222 056 56333	116-5576
40	3300	2.09	67	30	22	2222 056 57332	116-5577
40	4700	2.28	82	30	25	2222 056 57472	116-5578
40	6800	3.06	58	40	25	2222 056 47682	116-5498
40	10000	4.2	38	40	30	2222 056 57103	116-5579
40	15000	4.45	41	50	30	2222 056 47153	116-5499
40	22000	4.86	40	50	35	2222 056 57223	116-5580
63	1500	1.87	105	30	22	2222 056 58152	116-5581
63	2200	2.32	79	30	25	2222 056 58222	116-5582
63	3300	3.14	55	40	25	2222 056 48332	116-5583
63	4700	3.67	50	40	30	2222 056 58472	116-5584
63	6800	4.75	42	50	30	2222 056 48682	116-5500
63	10000	5.26	35	50	35	2222 056 58103	116-5503
100	1000	1.27	265	30	25	2222 056 59102	116-5585
100	2200	2.27	130	40	30	2222 056 59222	116-5587
100	3300	2.97	92	50	30	2222 056 49332	116-5504
100	4700	3.59	75	50	35	2222 056 59472	116-5505
200	220	1	650	30	22	2222 057 52221	116-5588
200	330	1.36	430	30	25	2222 057 52331	116-5589
200	470	1.8	310	40	25	2222 057 42471	116-5590
250	680	2.6	240	50	35	2222 057 43681	116-5506
250	1000	3.12	160	50	35	2222 057 53102	116-5507
385	68	0.63	2100	30	22	2222 057 58689	116-5591
385	100	0.86	1400	30	25	2222 057 58101	116-5592
385	220	1.57	650	40	30	2222 057 58221	116-5593
385	470	2.76	340	50	35	2222 057 58471	116-5594
400	68	0.63	2100	30	22	2222 057 56689	116-5595
400	100	0.86	1400	30	25	2222 057 56101	116-5596
400	470	2.76	340	50	35	2222 057 56471	116-5597
450	68	0.33	3900	30	22	2222 057 57689	116-5599
450	100	0.46	2600	35	25	2222 057 37101	116-5508
450	330	1.26	700	50	35	2222 057 57331	116-5600

208457

Volt d.c.	µF	Order Code	Price Each 1+	50+	100+
16	6800	116-5493●	2.90	2.01	1.80
16	10000	116-5568●	3.11	2.04	1.89
16	15000	116-5494●	3.76	2.63	2.35
16	22000	116-5569●	5.15	3.38	3.09
16	33000	116-5496●	5.25	3.65	3.23
16	47000	116-5570●	8.49	5.22	4.65
25	4700	116-5571●	2.95	2.01	1.84
25	6800	116-5572●	3.93	2.57	2.37
25	10000	116-5573●	4.11	2.69	2.46
25	15000	116-5575●	5.52	3.74	3.47
25	22000	116-5497●	5.05	3.51	3.12
25	33000	116-5576●	7.66	5.31	5.02
40	3300	116-5577●	3.25	2.15	1.97
40	4700	116-5578●	3.54	2.34	2.14
40	6800	116-5498●	2.89	2.01	1.79
40	10000	116-5579●	5.46	4.39	4.03
40	15000	116-5499●	5.65	3.92	3.50
40	22000	116-5580●	8.29	5.64	5.22
63	1500	116-5581●	2.72	1.84	1.72
63	2200	116-5582●	3.57	2.35	2.16
63	3300	116-5583●	4.57	3.00	2.73
63	4700	116-5584●	5.15	3.38	3.09
63	6800	116-5500●	5.99	4.16	3.71
63	10000	116-5503●	6.99	4.72	4.03
100	1000	116-5585●	3.64	2.39	2.18
100	2200	116-5587●	5.40	3.54	3.24
100	3300	116-5504●	5.77	4.00	3.55
100	4700	116-5505●	7.41	5.13	4.57
200	220	116-5588●	2.74	1.87	1.68
200	330	116-5589●	3.63	2.51	2.23
200	470	116-5590●	4.23	2.90	2.59
250	680	116-5506●	5.69	3.96	3.52
250	1000	116-5507●	7.72	5.38	4.75
385	68	116-5591●	2.31	1.61	1.48
385	100	116-5592●	3.13	2.15	1.90
385	220	116-5593●	4.22	2.87	2.66
385	470	116-5594●	8.12	5.57	4.98
400	68	116-5595●	3.05	2.09	1.85
400	100	116-5596●	3.12	2.14	1.92
400	470	116-5597●	9.15	6.28	5.62
450	68	116-5599●	4.12	2.82	2.51
450	100	116-5508●	4.70	3.28	2.90
450	330	116-5600●	9.50	6.51	5.82

2222 198 Series — 85°C (PCB Mounting Snap-In)



Lead pitch = 10
Mounting hole dia = 2.0

- High performance snap-in electrolytic
- High ripple current capability
- Charge and discharge proof
- Motor control and industrial systems
- Smoothing and filtering
- Standard and switched mode power supplies
- Energy storage in pulse systems

Operating temperature	-25°C to +85°C	Useful life @ 85°C	15000 hrs
Tolerance	±20%	Climatic category	**IEC60 068** 25/085/56

µF	Ripple (A) @ 100Hz 85°C	ESR (mΩ) @ 100Hz 20°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
400 Volt d.c.						
100	0.96	2389	30	22	2222 198 56101	116-5362
150	1.21	1592	35	25	2222 198 36151	116-5363
220	1.59	1086	45	25	2222 198 36221	116-5364
330	2.03	724	45	30	2222 198 36331	116-5365
470	2.51	508	45	35	2222 198 36471	116-5366
680	3.03	351	60	35	2222 198 46681	116-5368
450 Volt d.c.						
68	0.82	3513	30	22	2222 198 57689	116-5369
100	1.02	2389	35	22	2222 198 47101	116-5370
150	1.36	1592	40	25	2222 198 47151	116-5371
220	1.75	1086	40	30	2222 198 57221	116-5372
330	2.22	724	50	30	2222 198 47331	116-5373
470	2.73	508	50	35	2222 198 57471	116-5374
680	3.3	351	60	35	2222 198 57681	116-5375

208588

µF	Order Code	Price Each 1+	10+	50+	100+	250+
400 Volt d.c.						
100	116-5362●	3.34	3.05	2.81	2.41	2.32
150	116-5363●	3.03	2.77	2.54	2.21	2.10
220	116-5364●	5.03	4.61	4.22	3.69	3.52
330	116-5365●	5.22	4.78	4.40	3.81	3.64
470	116-5366●	7.26	6.64	6.10	5.28	5.07
680	116-5368●	10.33	9.45	8.66	7.49	7.18
450 Volt d.c.						
68	116-5369●	2.77	2.52	2.33	2.04	1.94
100	116-5370●	2.81	2.54	2.34	2.03	1.95
150	116-5371●	3.73	3.40	3.10	2.72	2.57
220	116-5372●	6.74	6.15	5.66	4.91	4.68
330	116-5373●	7.61	6.98	6.41	5.54	5.30
470	116-5374●	13.53	12.35	11.37	9.85	9.42
680	116-5375●	12.05	11.00	10.11	8.75	8.37

TSUP Series -85°C (PCB Mounting Snap-In)



- General purpose wide CV range

Lead pitch=10
Mounting hole dia.=2.0

Operating temperature	-40°C to +85°C (16 to 250V d.c.) -25°C to +85°C (400 to 450V d.c.)	Tolerance	±20%
		DC leakage current	3√CV µA

16 Volt d.c. µF	Ripple (A rms) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
4700	1.6	20	22	ECOS1CP472BL	119-8569
10000	3.78	30	22	ECOS1CP103BA	119-8710
15000	3.2	20	35	ECOS1CP153EL	119-8570
22000	6.1	35	25	ECOS1CP223CA	119-8711
47000	7.47	50	30	ECOS1CP473DA	119-8712
68000	9.05	50	35	ECOS1CP683EA	119-8714

16 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
4700	119-8569●	1.94	1.64	1.45	1.29	1.13
10000	119-8710●	2.05	1.74	1.53	1.35	1.18
15000	119-8570●	3.51	3.18	2.76	2.54	2.31
22000	119-8711●	3.12	2.66	2.35	2.06	1.83
47000	119-8712●	5.64	4.07	3.05	2.97	2.89
68000	119-8714●	6.95	5.10	3.96	3.86	3.76

RL Re-reeling available

Aluminium Electrolytic - Snap-In - continued

TSUP Series -85°C (PCB Mounting Snap-In) - continued

35 Volt d.c. µF	Ripple (A rms) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
4700	3.26	30	22	ECOS1VP472BA	119-8715
6800	3.68	30	25	ECOS1VP682CA	119-8716
10000	4.42	40	25	ECOS1VP103CA	119-8717
22000	6.1	50	30	ECOS1VP223DA	119-8718
33000	7.15	50	35	ECOS1VP333EA	119-8719

35 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
4700	119-8715●	2.05	1.74	1.53	1.36	1.19
6800	119-8716●	2.71	2.31	1.60	1.18	1.15
10000	119-8717●	2.86	2.43	2.15	1.90	1.68
22000	119-8718●	5.70	4.11	3.20	3.11	3.03
33000	119-8719●	8.29	7.04	6.21	5.49	4.84

63 Volt d.c. µF	Ripple (A rms) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
1000	1.2	20	22	ECOS1JP102BL	119-8571
1500	1.3	20	25	ECOS1JP152CL	119-8573
2200	2.52	30	22	ECOS1JP222BA	119-8720
3300	4.1	30	25	ECOS1JP332CA	119-8721
4700	4.86	40	25	ECOS1JP472CA	119-8722
6800	5.84	40	30	ECOS1JP682DA	119-8723
10000	6.52	40	35	ECOS1JP103EA	119-8724

63 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
1000	119-8571●	1.90	1.61	1.43	1.27	1.12
1500	119-8573●	2.49	2.12	1.87	1.65	1.46
2200	119-8720●	2.05	1.74	1.53	1.36	1.19
3300	119-8721●	2.69	2.30	2.02	1.79	1.58
4700	119-8722●	3.18	2.71	2.39	2.11	1.85
6800	119-8723●	4.43	3.76	3.33	2.93	2.58
10000	119-8724●	6.43	5.47	4.81	4.24	3.75

100 Volt d.c. µF	Ripple (A rms) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
470	1	20	22	ECOS2AP471BL	119-8574
4700	5.13	50	30	ECOS2AP472DA	119-8728
6800	6.6	50	35	ECOS2AP682EA	119-8729

100 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
470	119-8574●	2.38	2.14	1.88	1.59	1.45
4700	119-8728●	5.74	4.22	3.78	3.68	3.59
6800	119-8729●	7.57	6.43	5.80	5.64	5.50

200 Volt d.c. µF	Ripple (A rms) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
220	0.87	20	25	ECOS2DP221CL	119-8575
330	1.56	30	22	ECOS2DP331BA	119-8576
470	1.85	30	25	ECOS2DP471CA	119-8577
680	2.68	35	25	ECOS2DP681CA	119-8578
1000	3.25	40	30	ECOS2DP102DA	119-8581
1500	3.87	40	35	ECOS2DP152EA	119-8582
2200	4.92	50	35	ECOS2DP222EA	119-8583

200 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
220	119-8575●	2.09	1.78	1.57	1.38	1.22
330	119-8576●	2.10	1.78	1.57	1.39	1.22
470	119-8577●	3.18	2.71	2.39	2.11	1.85
680	119-8578●	4.23	3.59	3.17	2.81	2.47
1000	119-8581●	5.68	4.84	4.25	3.75	3.32
1500	119-8582●	6.17	4.45	3.80	3.70	3.61
2200	119-8583●	7.50	6.38	5.63	4.97	4.39

250 Volt d.c. µF	Ripple (A rms) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
220	1.17	30	22	ECOS2EP221BA	119-8730
470	2.11	40	25	ECOS2EP471CA	119-8732

250 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
220	119-8730●	2.47	2.10	1.85	1.63	1.43
470	119-8732●	3.15	2.68	2.36	2.08	1.84

400 Volt d.c. µF	Ripple (A rms) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
47	0.25	20	22	ECOS2GP470BL	119-8585
68	0.76	25	22	ECOS2GP680BA	119-8736
100	0.92	30	22	ECOS2GP101BA	119-8738
150	1.16	30	25	ECOS2GP151CA	119-8586
220	1.49	40	25	ECOS2GP221CA	119-8739
560	2.69	50	35	ECOS2GP561EA	119-8741

400 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
47	119-8585●	2.65	2.24	1.99	1.77	1.55
68	119-8736●	3.19	2.18	1.42	1.05	0.93
100	119-8738●	2.80	2.38	2.09	1.85	1.63
150	119-8586●	3.52	2.99	2.64	2.34	2.06
220	119-8739●	4.69	3.99	3.52	3.10	2.73
560	119-8741●	7.33	5.62	5.47	5.33	5.19

450 Volt d.c. µF	Ripple (A rms) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
47	0.29	20	25	ECOS2WP470CL	119-8588
68	0.76	30	22	ECOS2WP680BA	119-8742
100	0.93	30	25	ECOS2WP101CA	119-8743

450 Volt d.c. µF	Order Code	Price Each 1+	50+	100+	500+	1K+
47	119-8588●	3.17	2.70	2.38	2.09	1.84
68	119-8742●	3.13	2.66	2.35	2.06	1.83
100	119-8743●	3.56	3.03	2.67	2.36	2.08

500 Volt d.c. µF	Ripple (A rms) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
47	0.63	25	22	ECOS2HP470BA	119-8563
100	0.99	35	25	ECOS2HP101CA	119-8565
220	1.5	45	30	ECOS2HP221DA	119-8568

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500 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
47	119-8563●	2.96	2.13	1.94	1.64	1.48
100	119-8565●	4.17	3.01	2.07	1.76	1.72
220	119-8568●	7.05	5.08	4.28	3.32	2.95

B43504 Series - 105°C (PCB Mounting Snap-In)

EPCOS



- High performance snap-in electrolytic
- Temperature rating 105°C
- Low ESR, high capacitance per unit volume
- Aluminum case, fully insulated
- Negative terminal not insulated and marked on case

Operating temperature -40°C to +105°C; -25°C to +105°C (450V)
Useful life @ 105°C 2000 hrs
Climatic category 25/105/56 (450V)
Tolerance ±20%

µF	Ripple Current (A)	Impedance max (mΩ) @10kHz, 20°C	ESR (mΩ) @ 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
250 Volt d.c.							
220	0.89	700	580	30	22	B43504A2227M	121-9073
330	1.2	470	390	30	25	B43504C2337M	121-9085
470	1.6	330	280	30	30	B43504B2477M	121-9084
1000	2.8	160	130	40	35	B43504A2108M	121-9072
400 Volts d.c.							
47	0.39	2310	1870	25	22	B43504A9476M	121-9082
100	0.64	1090	880	35	22	B43504A9107M	121-9077
150	0.82	730	590	40	22	B43504A9157M	121-9079
220	1.2	500	400	30	35	B43504C9227M	121-9087
330	1.5	330	270	45	30	B43504A9337M	121-9081
470	2	240	190	45	35	B43504A9477M	121-9083
450 Volts d.c.							
220	1.2	730	620	30	35	B43504C5227M	121-9086
330	1.6	490	410	50	30	B43504A5337M	121-9075
470	2.1	340	290	50	35	B43504A5477M	121-9076

234197

µF / 250 Volt d.c.	Order Code	Price Each 1+	10+	50+	100+	250+
220	121-9073●	2.83	2.40	2.12	1.87	1.63
330	121-9085●	3.32	2.83	2.53	2.40	2.29
470	121-9084●	3.86	3.27	3.03	2.68	2.09
1000	121-9072●	7.63	6.49	5.72	5.06	4.17
400 Volts d.c.						
47	121-9082●	2.56	2.23	1.73	1.45	1.38
100	121-9077●	3.49	3.02	2.38	1.99	1.86
150	121-9079●	3.09	2.69	2.11	1.77	1.66
220	121-9087●	5.27	4.58	3.59	2.98	2.82
330	121-9081●	5.71	4.94	3.86	3.22	3.06
470	121-9083●	8.61	7.32	6.46	5.70	4.75
450 Volts d.c.						
220	121-9086●	6.93	5.89	5.19	4.58	3.99
330	121-9075●	9.56	8.28	6.50	5.43	5.11
470	121-9076●	12.62	10.91	8.56	7.15	6.75

TSHC Series - 105°C (PCB Mounting Snap-In) Miniature Can Size

Panasonic ideas for life



- High performance snap-in electrolytic
- Temperature rating 105°C
- Highly miniaturised can size
- 2000 hrs life expectancy @ 105°C

Lead pitch=10, Mounting hole dia.=2.0

Operating temperature -40°C to +105°C (160 to 250V d.c.); -40°C to +105°C (400 to 450V d.c.)
Tolerance ±20%
DC leakage current $3\sqrt{CV}$ µA

160 Volt d.c. µF	Ripple (A rms) @ 120Hz 105°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
1000	2.2	35	25	EETHC2C102CA	119-8640
2200	2.9	45	30	EETHC2C222DA	119-8642

160 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	600+
1000	119-8640●	3.24	2.26	1.82	1.54	1.50
2200	119-8642●	4.97	3.58	2.96	2.81	2.74

RL Re-reeling available

Farnell

250 Volt d.c. µF	Ripple (A rms) @ 120Hz 105°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
330	1.2	30	22	EETHC2E331BA	119-8644
470	1.4	30	25	EETHC2E471CA	119-8645
680	1.7	40	25	EETHC2E681CA	119-8647
1000	2.2	40	30	EETHC2E102DA	119-8648
1200	2.3	45	30	EETHC2E122DA	119-8649

250 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	600+
330	119-8644●	2.73	1.90	1.53	1.34	1.31
470	119-8645●	3.25	2.27	1.83	1.48	1.44
680	119-8647●	3.94	2.75	2.21	1.88	1.83
1000	119-8648●	4.78	3.45	2.85	2.77	2.70
1200	119-8649●	5.39	3.88	3.21	3.11	3.04

400 Volt d.c. µF	Ripple (A rms) @ 120Hz 105°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
100	0.7	25	22	EETHC2G101BA	119-8650
150	0.88	30	22	EETHC2G151BA	119-8651
220	1.1	35	25	EETHC2G221CA	119-8652
270	1.22	40	25	EETHC2G271CA	119-8653
330	1.44	35	30	EETHC2G331DA	119-8654
470	1.68	45	30	EETHC2G471DA	119-8655
680	2.12	45	35	EETHC2G681EA	119-8656

400 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	600+
100	119-8650●	2.74	1.92	1.54	1.32	1.29
150	119-8651●	3.35	2.34	1.88	1.59	1.55
220	119-8652●	4.13	2.89	2.32	1.96	1.91
270	119-8653●	4.78	3.34	2.69	2.31	2.25
330	119-8654●	4.95	3.57	2.95	2.87	2.79
470	119-8655●	6.33	4.56	3.77	3.66	3.57
680	119-8656●	7.95	5.84	5.11	4.97	4.85

450 Volt d.c. µF	Ripple (A rms) @ 120Hz 105°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
100	0.64	30	22	EETHC2W101BA	119-8657
150	0.79	30	25	EETHC2W151CA	119-8659
220	1	45	25	EETHC2W221CA	119-8661
270	1.19	40	30	EETHC2W271DA	119-8662
470	1.74	45	35	EETHC2W471EA	119-8663
560	1.9	50	35	EETHC2W561EA	119-8664

311834

450 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	600+
100	119-8657●	3.21	2.25	1.81	1.55	1.51
150	119-8659●	4.05	2.83	2.28	1.92	1.87
220	119-8661●	5.00	3.59	2.89	2.20	2.14
270	119-8662●	5.48	3.95	3.26	3.09	3.01
470	119-8663●	7.93	7.00	6.10	5.50	5.39
560	119-8664●	8.86	6.50	5.68	5.53	5.39

VXG Series

105°C - Long Life

Rubycon



- Snap-in aluminium electrolytic capacitors
- High ripple current endurance
- Small can size

Tolerance ±20%
Leakage current (max) 3√CV
Operating temperature -25°C to +105°C
Ripple current measured at 105°C@ 100kHz

200 Volt d.c. µF	Ripple (mA)	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
270	1.09	25	22	10	200VXG270MEFCMN22X25	128-1827
470	1.54	30	25	10	200VXG470MEFCMN25X30	128-1828
1000	2.06	35	30	10	200VXG1000MEFCMN30X35	128-1825
2200	3.14	50	35	10	200VXG2200MEFCMN35X50	128-1826

200 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	500+
270	128-1827●	2.03	1.83	1.70	1.59	1.47
470	128-1828●	3.40	3.06	2.82	2.65	2.47
1000	128-1825●	6.40	5.76	5.32	4.97	4.65
2200	128-1826●	12.32	11.11	10.25	9.57	8.95

400 Volt d.c. µF	Ripple (mA)	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
220	1.12	35	25	10	400VXG220MEFCMN25X35	128-1829
470	1.78	40	35	10	400VXG470MEFCMN35X40	128-1830
560	1.98	45	35	10	400VXG560MEFCMN35X45	128-1831

400 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	500+
220	128-1829●	5.02	4.52	4.17	3.89	3.64
470	128-1830●	8.09	7.28	6.73	6.27	5.87
560	128-1831●	11.73	10.58	9.76	9.12	8.53

450 Volt d.c. µF	Ripple (mA)	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
150	0.9	25	30	10	450VXG150MEFCMN30X25	128-1832
220	1.1	30	30	10	450VXG220MEFCMN30X30	128-1833
470	1.85	45	35	10	450VXG470MEFCMN35X45	128-1834

451905

450 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	500+
150	128-1832●	5.10	4.59	4.24	3.97	3.72
220	128-1833●	7.15	6.45	5.94	5.55	5.20
470	128-1834●	13.93	12.57	11.59	10.82	10.13

HXC Series – Higher Ripple – 105°C

Rubycon



- Load life: 105°C 2000 hours
- High ripple current endurance

Operating temperature -25°C to 105°C
Tolerance ±20%
Useful life @105°C 2000h
Ripple current measured at 120Hz @ 105°C
Leakage Current (µA) 3√CV

Pin Length = 4mm

µF	Ripple (mA)	Dimensions H	Dia.	Mftrs. List No.	Order Code
400 Volt d.c.					
82	0.81	30	22	400HXC82M22X30	141-5833
330	2.29	35	35	400HXC330M35X35	141-5834
560	3.15	50	35	400HXC560M35X50	141-5835

µF	Order Code	Price Each 1+	10+	50+	200+	500+
400 Volt d.c.						
82	141-5833●	5.77	5.19	4.61	4.03	3.40
330	141-5834●	13.12	11.87	10.98	10.19	9.33
560	141-5835●	19.94	18.44	17.40	16.55	15.33

µF	Ripple (mA)	Dimensions H	Dia.	Mftrs. List No.	Order Code
450 Volt d.c.					
68	0.67	30	22	450HXC68M22X30	141-5836
220	1.92	40	30	450HXC220M30X40	141-5837
470	2.97	50	35	450HXC470M35X50	141-5838

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µF	Order Code	Price Each 1+	10+	50+	200+	500+
450 Volt d.c.						
68	141-5836●	5.77	5.19	4.61	4.03	3.40
220	141-5837●	13.12	11.87	10.98	10.19	9.33
470	141-5838●	19.94	18.44	17.40	16.55	15.33

LGU Series – 105°C (PCB Mounting Snap-In)

nichicon



- Miniature snap-in
- High temperature 105°C
- 4mm long terminals
- 3000 hrs life expectancy at 105°C
- Supersedes GQ series

Lead pitch = 10,
Lead length = 4,
Mounting hole dia = 2.0

Operating temperature -40°C to +85°C (63V to 200V d.c.)
-40°C to +85°C (400V to 450V d.c.)
Tolerance ±20%
DC leakage current ≤3√CV µA
Useful life @ 105°C 3000hrs

µF	Ripple (A) @ 120Hz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
63 Volt d.c.					
4700	2.27	50	25	LGU1J472MELA	881-3434
200 Volt d.c.					
470	1.2	40	22	LGU2D471MELZ	881-3540
400 Volt d.c.					
100	2.3	25	25	LGU2G101MELA	881-3574
220	0.7	40	25	LGU2G221MELA	881-3582
450 Volt d.c.					
47	1.44	25	20	LGU2W470MELY	881-3604
100	2.83	30	25	LGU2W101MELA	881-3450
220	0.69	35	30	LGU2W221MELB	881-3469

RL Re-reeling available

Farnell

Aluminium Electrolytic - Snap-In - continued

LGU Series – 105°C (PCB Mounting Snap-In) - continued

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µF	Order Code	Price Each 1+	10+	50+	100+	250+
63 Volt d.c.						
4700	881-3434●	3.86	3.03	2.74	2.49	2.28
200 Volt d.c.						
470	881-3540●	2.21	1.76	1.53	1.34	1.18
400 Volt d.c.						
100	881-3574●	2.35	1.66	1.15	0.78	0.76
220	881-3582●	3.85	2.72	1.95	1.72	1.52
450 Volt d.c.						
47	881-3604●	2.35	1.51	1.16	1.03	0.90
100	881-3450●	3.72	3.19	2.87	2.62	2.40
220	881-3469●	6.09	4.16	3.15	2.24	2.18

TSED Series - 105°C (PCB Mounting Snap-In)

Panasonic ideas for life



- High performance snap-in electrolytic
- Temperature rating 105°C
- Very high ripple current capability for demanding inverter applications
- Operates cooler to give longer life
- 3000 hrs life expectancy @ 105°C

Lead pitch = 10
Mounting hole dia. = 2.0

Operating temperature -40°C to +105°C (200 to 250V d.c.)
-40°C to +105°C (400 to 450V d.c.)
Tolerance ±20%
DC leakage current 3√CV µA

200 Volt d.c. µF	Ripple (A rms) @ 120Hz 105°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
270	1.42	25	22	EETED2D271BA	119-8608
330	1.56	30	22	EETED2D331BA	119-8611
470	1.85	30	25	EETED2D471CA	119-8612
680	2.42	35	25	EETED2D681CA	119-8613
1000	2.84	45	25	EETED2D102CA	119-8614
1800	3.84	45	35	EETED2D182EA	119-8615
2200	4.12	50	35	EETED2D222EA	119-8616

200 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	600+
270	119-8608●	2.68	2.21	1.81	1.42	1.32
330	119-8611●	2.70	1.89	1.49	1.02	0.99
470	119-8612●	2.85	1.99	1.60	1.38	1.34
680	119-8613●	3.39	2.37	1.90	1.63	1.59
1000	119-8614●	4.31	3.01	2.42	2.13	2.07
1800	119-8615●	6.06	4.38	3.61	2.94	2.87
2200	119-8616●	7.28	5.24	4.33	4.11	4.00

250 Volt d.c. µF	Ripple (A rms) @ 120Hz 105°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
220	1.28	30	22	EETED2E221BA	119-8617
560	2.14	40	25	EETED2E561CA	119-8618
820	2.63	40	30	EETED2E821DA	119-8619
1000	2.84	40	35	EETED2E102EA	119-8620
1200	3.13	45	35	EETED2E122EA	119-8621
1500	3.56	50	35	EETED2E152EA	119-8623

250 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	600+
220	119-8617●	2.94	2.01	1.58	1.24	1.21
560	119-8618●	4.16	2.90	2.33	1.95	1.90
820	119-8619●	5.02	3.62	2.99	2.81	2.74
1000	119-8620●	5.72	4.12	3.41	3.31	3.22
1200	119-8621●	6.67	5.74	4.90	4.41	4.28
1500	119-8623●	6.82	5.15	4.33	3.90	3.80

400 Volt d.c. µF	Ripple (A rms) @ 120Hz 105°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
100	0.91	30	22	EETED2G101BA	119-8624
150	1.07	30	25	EETED2G151CA	119-8625
220	1.42	40	25	EETED2G221CA	119-8626
330	1.71	40	30	EETED2G331DA	119-8627
470	2.01	40	35	EETED2G471EA	119-8628
560	2.35	45	35	EETED2G561EA	119-8629

400 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	600+
100	119-8624●	2.85	2.05	1.65	1.22	1.19
150	119-8625●	3.58	2.50	2.01	1.77	1.72
220	119-8626●	4.48	3.13	2.51	2.21	2.16
330	119-8627●	5.41	3.90	3.22	3.13	3.05
470	119-8628●	7.34	5.29	4.37	4.08	3.98
560	119-8629●	7.45	5.48	4.75	4.63	4.51

450 Volt d.c. µF	Ripple (A rms) @ 120Hz 105°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
56	714	25	22	EETED2W560BA	119-8630
68	0.76	30	22	EETED2W680BA	119-8631
100	0.91	30	25	EETED2W101CA	119-8632
120	1.02	35	25	EETED2W121CA	119-8633
180	1.12	40	25	EETED2W181CA	119-8635
220	1.42	35	30	EETED2W221DA	119-8636
330	1.85	50	30	EETED2W331DA	119-8637
390	1.97	40	35	EETED2W391EA	119-8638
470	2.47	50	35	EETED2W471EA	119-8639

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450 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	200+	600+
56	119-8630●	3.05	2.08	1.63	1.28	1.25
68	119-8631●	2.88	2.01	1.62	1.20	1.17
100	119-8632●	2.89	2.44	2.01	1.72	1.64
120	119-8633●	3.83	2.67	2.15	1.82	1.77
180	119-8635●	4.54	3.83	3.16	2.68	2.42
220	119-8636●	4.97	3.58	2.96	2.94	2.87
330	119-8637●	6.70	4.83	3.99	3.60	3.51
390	119-8638●	7.14	5.24	4.51	4.39	4.28
470	119-8639●	8.32	6.11	5.26	5.12	4.99

2222 159 Series – 105°C (PCB Mounting Snap-In)

BC COMPONENTS



- Miniature snap-in
- General purpose, industrial and audio/video systems
- Smoothing and filtering
- Standard and switched mode power supplies
- Energy storage in pulse systems

Lead pitch = 10, Mounting hole dia. = 2.0

Operating temperature -25°C to +105°C
Tolerance ±20%
Useful life @ 85° C 3000 hrs
Climatic category 25/105/56

200 Volt d.c. µF	Ripple (A) 120Hz @ 105°C	ESR (mΩ) 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
330	1.08	450	30	22	2222 159 52331	116-6635
470	1.37	320	40	22	2222 159 32471	116-6636
680	1.82	230	45	25	2222 159 42681	116-6637
1000	2.23	170	45	30	2222 159 42102	116-6638
1500	2.56	130	45	35	2222 159 52152	116-6639

200 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
330	116-6635●	3.50	3.05	2.53	2.21	2.16
470	116-6636●	3.67	3.15	2.65	2.33	2.28
680	116-6637●	3.52	3.05	2.52	2.22	2.18
1000	116-6638●	6.06	5.29	4.34	3.84	3.76
1500	116-6639●	4.43	4.20	3.99	3.78	3.59

250 Volt d.c. µF	Ripple (A) 120Hz @ 105°C	ESR (mΩ) 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
220	0.9	540	30	22	2222 159 43221	116-6640
470	1.58	270	40	25	2222 159 33471	116-6642
680	1.93	210	40	30	2222 159 43681	116-6643
1000	2.22	170	40	35	2222 159 53102	116-6644

250 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
220	116-6640●	3.19	2.80	2.32	2.02	1.97
470	116-6642●	4.64	4.06	3.34	2.93	2.87
680	116-6643●	6.04	5.26	4.32	3.82	3.74
1000	116-6644●	8.81	7.68	6.36	5.57	5.47

400 Volt d.c. µF	Ripple (A) 120Hz @ 105°C	ESR (mΩ) 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
100	0.69	990	35	22	2222 159 46101	116-6646
150	0.86	820	40	22	2222 159 36151	116-6647
220	1.15	460	45	25	2222 159 46221	116-6648
330	1.47	320	45	30	2222 159 56331	116-6649
470	1.72	240	45	35	2222 159 56471	116-6650

400 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
100	116-6646●	3.12	2.72	2.23	1.98	1.94
150	116-6647●	3.95	3.45	2.84	2.50	2.45
220	116-6648●	4.92	4.32	3.55	3.12	3.06
330	116-6649●	7.94	6.92	5.70	5.03	4.94
470	116-6650●	10.91	9.53	7.85	6.91	6.76

450 Volt d.c. µF	Ripple (A) 120Hz @ 105°C	ESR (mΩ) 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
68	0.56	1280	30	22	2222 159 47689	116-6651
100	0.74	870	40	22	2222 159 37101	116-6652
150	0.95	590	40	25	2222 159 47151	116-6653
220	1.21	420	40	30	2222 159 47221	116-6654
470	1.72	220	50	35	2222 159 57471	116-6656

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450 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
68	116-6651●	3.94	3.45	2.84	2.50	2.45
100	116-6652●	4.66	4.07	3.36	2.97	2.91
150	116-6653●	5.92	5.17	4.26	3.75	3.68
220	116-6654●	3.81	3.61	3.43	3.25	3.07
470	116-6656●	12.19	10.62	8.75	7.69	7.55

2222 058/9 Series – 105°C Long Life PCB Mounting Snap-In

BC COMPONENTS



- High performance snap-in aluminium electrolytic
- Low ESR high ripple current capability
- Useful life up to 10,000 hrs at 105°C

Lead pitch = 10, Mounting hole dia = 2.0

RL Re-reeling available

Farnell

Operating temperature	-40°C to +105°C	Useful life	5000 hrs ≤50V
Tolerance	±20%	@ 105°C	10000 hrs ≥63V
Climatic category **(IEC68)**	40/105/56	Long life grade	**IEC60384-4, CECC30300**
DC leakage current	0.006CV+4µA		

Volt d.c.	µF	Ripple (A) @ 100Hz 105°C	ESR max. mΩ @ 20°C Ripple (A)	Impedance mΩ @ 20°C Ripple (A)	Dimensions H	Dia.	Mftrs. List No.	Order Code
16	10000	3.66	40	30	40	25	2222 058 45103	116-5509
16	33000	6.23	25	21	50	35	2222 058 55333	116-5289
25	4700	2.6	62	42	30	25	2222 058 56472	116-5441
25	10000	4.37	35	25	40	30	2222 058 56103	116-5291
25	22000	6.07	27	21	50	35	2222 058 56223	116-5292
40	3300	2.43	71	45	30	25	2222 058 57332	116-5442
40	4700	2.96	59	40	30	30	2222 058 57472	116-5293
40	6800	3.94	42	29	40	30	2222 058 57682	116-5294
40	10000	4.18	49	29	40	35	2222 058 57103	116-5295
63	2200	2.27	101	70	30	30	2222 058 58222	116-5296
63	3300	3.07	70	50	40	30	2222 058 58332	116-5297
63	4700	3.07	60	50	40	35	2222 058 58472	116-5298
63	6800	4.58	46	35	50	35	2222 058 58682	116-5299
100	330	0.92	370	250	25	22	2222 058 59331	116-5443
100	3300	3.84	64	50	50	35	2222 058 59332	116-5302
385	47	0.41	2710	2100	30	22	2222 059 58479	116-5445
400	47	0.3	4260	3490	30	22	2222 059 56479	116-5447
400	68	0.41	2950	2420	30	25	2222 059 56689	116-5448
400	100	0.55	2020	1660	40	25	2222 059 46101	116-5449
400	150	0.78	1350	1110	50	25	2222 059 46151	116-5450
400	220	0.94	930	760	50	30	2222 059 46221	116-5451
400	330	1.25	620	510	50	35	2222 059 56331	116-5452

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Volt d.c.	µF	Order Code	Price Each 1+	50+	100+
16	10000	**116-5509●**	3.43	2.29	2.04
16	33000	**116-5289●**	6.00	3.94	3.55
25	4700	**116-5441●**	2.95	1.95	1.78
25	10000	**116-5291●**	5.58	3.87	3.32
25	22000	**116-5292●**	8.64	5.65	5.09
40	3300	**116-5442●**	1.74	1.67	1.58
40	4700	**116-5293●**	4.67	3.07	2.75
40	6800	**116-5294●**	4.91	3.20	2.88
40	10000	**116-5295●**	7.29	4.77	4.27
63	2200	**116-5296●**	4.45	2.91	2.60
63	3300	**116-5297●**	5.45	3.56	3.19
63	4700	**116-5298●**	6.53	4.26	3.86
63	6800	**116-5299●**	9.25	5.93	5.13
100	330	**116-5443●**	3.07	2.03	1.83
100	3300	**116-5302●**	9.71	6.36	5.72
385	47	**116-5445●**	3.16	2.09	1.89
400	47	**116-5447●**	2.59	1.73	1.56
400	68	**116-5448●**	3.32	2.17	2.00
400	100	**116-5449●**	3.61	2.39	2.16
400	150	**116-5450●**	4.57	3.04	2.75
400	220	**116-5451●**	5.66	3.75	3.41
400	330	**116-5452●**	7.84	5.21	4.69

TSHA Series – 105°C (PCB Mounting Snap-In)

Panasonic ideas for life



- High temperature snap-in capacitors offering high performance in a compact size

Lead pitch=10
Mounting hole dia.=2.0

Operating temperature	-40°C to +105°C (10 to 200V) -25°C to + 105°C (400V)	DC leakage current	≤3 √CV µA
		Power factor 16V	0.45
Tolerance	±20%	35V	0.30
Operating life @ 105°C	2000 hrs	63V	0.20
		100-400V	0.15

Volt d.c.	µF	Ripple (A) @ 120Hz, 105°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
16	10000	2.6	30	22	ECOS1CA103BA	119-8691
16	15000	3.2	35	25	ECOS1CA153CA	119-8539
16	22000	3.8	45	25	ECOS1CA223CA	119-8692
16	47000	5.5	45	35	ECOS1CA473EA	119-8540
25	10000	3	35	25	ECOS1EA103CA	119-8541
25	15000	3.6	35	30	ECOS1EA153DA	119-8542
25	22000	4.3	35	35	ECOS1EA223EA	119-8544
35	3300	1.9	25	22	ECOS1VA332BA	119-8545
35	4700	2.2	25	25	ECOS1VA472CA	119-8547
35	6800	2.6	40	22	ECOS1VA682BA	119-8693
35	22000	5	50	35	ECOS1VA223EA	119-8548
35	10000	3.2	45	25	ECOS1VA103CA	119-8694
50	2700	1.8	30	22	ECOS1HA272BA	119-8549
50	4700	2.5	30	30	ECOS1HA472DA	119-8550
50	6800	3.3	50	25	ECOS1HA682CA	119-8551
50	10000	4	40	35	ECOS1HA103EA	119-8552
63	2200	2	35	22	ECOS1JA222BA	119-8697
63	3300	2.5	40	25	ECOS1JA332CA	119-8553
63	4700	3	50	25	ECOS1JA472CA	119-8699
63	6800	3.6	40	35	ECOS1JA682EA	119-8554
63	10000	4.4	50	35	ECOS1JA103EA	119-8556
100	560	1.1	25	22	ECOS2AA561BA	119-8557
100	1000	1.7	35	22	ECOS2AA102BA	119-8700
100	1000	1.7	30	25	ECOS2AA102CA	119-8558
100	1500	2.1	45	22	ECOS2AA152BA	119-8559
100	2200	2.6	50	25	ECOS2AA222CA	119-8702
100	4700	3.8	50	35	ECOS2AA472EA	119-8560
160	470	1.4	35	22	ECOS2CA471BA	119-8561
200	330	1.2	30	22	ECOS2DA331BA	119-8704
200	470	1.4	35	25	ECOS2DA471CA	119-8705
200	680	1.7	40	25	ECOS2DA681CA	119-8706
400	68	0.56	30	22	ECOS2GA680BA	119-8707
400	100	0.69	35	22	ECOS2GA101BA	119-8708
400	220	1	50	25	ECOS2GA221CA	119-8709

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Volt d.c.	µF	Order Code	Price Each 1+	10+	50+	100+	250+
16	10000	**119-8691●**	2.00	1.69	1.50	1.33	1.21
16	15000	**119-8539●**	2.46	2.38	2.14	1.78	1.55
16	22000	**119-8692●**	3.21	2.88	2.02	1.41	1.26
16	47000	**119-8540●**	6.49	4.69	3.23	3.04	2.96
25	10000	**119-8541●**	2.39	2.31	2.08	1.72	1.51
25	15000	**119-8542●**	3.30	3.18	2.87	2.38	2.06
25	22000	**119-8544●**	5.13	3.69	2.67	2.38	2.31
35	3300	**119-8545●**	2.55	2.09	1.37	1.07	1.05
35	4700	**119-8547●**	2.67	2.31	1.95	1.59	1.23
35	6800	**119-8693●**	3.05	2.56	1.71	1.19	1.06
35	22000	**119-8548●**	6.89	4.96	3.42	2.80	2.73
35	10000	**119-8694●**	2.86	2.43	2.14	1.49	1.33
50	2700	**119-8549●**	1.90	1.81	1.64	1.35	1.29
50	4700	**119-8550●**	2.76	2.66	2.43	1.99	1.89
50	6800	**119-8551●**	4.24	3.24	2.17	1.91	1.86
50	10000	**119-8552●**	5.72	4.12	2.93	2.69	2.62
63	2200	**119-8697●**	1.63	1.44	1.29	1.16	1.06
63	3300	**119-8553●**	2.65	2.48	2.16	1.85	1.70
63	4700	**119-8699●**	3.36	2.94	2.32	1.51	1.35
63	6800	**119-8554●**	3.81	3.65	3.32	2.71	2.38
63	10000	**119-8556●**	8.84	6.36	4.16	3.11	3.03
100	560	**119-8557●**	2.52	1.77	1.19	1.02	0.99
100	1000	**119-8700●**	2.16	1.84	1.62	1.43	1.27
100	1000	**119-8558●**	3.21	2.24	1.50	1.29	1.26
100	1500	**119-8559●**	4.00	2.79	1.92	1.61	1.57
100	2200	**119-8702●**	3.44	2.90	2.00	1.50	1.34
100	4700	**119-8560●**	7.01	5.15	4.63	4.51	4.39
160	470	**119-8561●**	2.60	2.21	1.95	1.72	1.52
200	220	**119-8703●**	2.86	2.05	1.34	1.18	1.15
200	470	**119-8705●**	2.60	2.26	1.99	1.75	1.52
200	680	**119-8706●**	3.69	2.98	1.99	1.42	1.33
400	68	**119-8707●**	2.02	1.71	1.51	1.33	1.17
400	100	**119-8708●**	2.97	2.45	1.64	1.17	1.14
400	220	**119-8709●**	4.64	3.34	2.93	2.86	2.78

Aluminium Electrolytic - Solder Tag

2222 050 Series – Long Life

BC COMPONENTS



- Long life 85°C
- Solder tags 10mm pitch
- Marked with 1 for positive and 5 for negative

Operating temperature	-40°C to +85°C
Useful life @ 85°C	15000 hrs
Tolerance	10% to +30%
Power factor	0.38 max
Climatic category **(IEC68)**	40/085/56
Long life grade	**IEC 384-4, DIN 41240**
DC leakage current	0.006CV+4µA

Volt d.c.	µF	Ripple (A) @ 20kHz 70°C	100kHz 85°C	Dimensions H	Dia.	Mftrs. List No.	Order Code
25	4700	3.7	3.7	46.3	30.6	2222 050 16472	116-6572
25	6800	4.1	4.1	46.3	35.6	2222 050 16682	116-6573
25	10000	5	5	56.3	35.6	2222 050 16103	116-6574
25	15000	5	5	56.3	40.6	2222 050 16153	116-6575
40	2200	2.7	2.7	46.3	25.6	2222 050 17222	116-6576
40	4700	3.8	3.8	46.3	35.6	2222 050 17472	116-6579
40	6800	4.7	4.7	56.3	35.6	2222 050 17682	116-6581
40	10000	4.9	4.9	56.3	40.6	2222 050 17103	116-6582
40	15000	6.6	6.6	76.3	40.6	2222 050 17153	116-6583
40	22000	9	9	100	40	2222 050 17223	116-6611
63	1000	1.8	1.8	36.3	25.6	2222 050 18102	116-6584
63	1500	2.5	2.5	46.3	25.6	2222 050 18152	116-6585
63	2200	3.1	3.1	46.3	30.6	2222 050 18222	116-6586
63	3300	3.6	3.6	46.3	35.6	2222 050 18332	116-6587
63	4700	4.4	4.4	50	35	2222 050 18472	116-6588
63	6800	4.7	4.7	56.3	40.6	2222 050 18682	116-6589
63	10000	6.2	6.2	76.3	40.6	2222 050 18103	116-6590
100	470	1.4	1.4	36.3	25.6	2222 050 19471	116-6592
100	1000	2.5	2.5	46.3	30.6	2222 050 19102	116-6593
100	2200	3.9	3.9	56.3	35.6	2222 050 19222	116-6594

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Volt d.c.	µF	Order Code	Price Each 1+	50+	100+
25	4700	**116-6572●**	4.90	3.20	2.88
25	6800	**116-6573●**	4.83	3.15	2.85
25	10000	**116-6574●**	6.59	4.30	3.88
25	15000	**116-6575●**	6.83	4.47	4.03
40	2200	**116-6576●**	4.49	2.92	2.67
40	4700	**116-6579●**	6.06	3.97	3.59
40	6800	**116-6581●**	5.88	3.85	3.46
40	10000	**116-6582●**	8.03	5.27	4.74
40	15000	**116-6583●**	8.59	5.63	5.07
40	22000	**116-6611●**	10.91	7.20	6.47
63	1000	**116-6584●**	4.19	2.74	2.48
63	1500	**116-6585●**	3.49	2.28	2.05
63	2200	**116-6586●**	4.49	2.94	2.65
63	3300	**116-6587●**	5.20	3.40	3.04
63	4700	**116-6588●**	6.57	4.28	3.88
63	6800	**116-6589●**	7.15	4.68	4.22
63	10000	**116-6590●**	10.19	6.66	6.02
100	470	**116-6592●**	4.38	2.85	2.57
100	1000	**116-6593●**	5.03	3.28	2.98
100	2200	**116-6594●**	7.35	4.83	4.33

RL Re-reeling available

Farnell

Aluminium Electrolytic - Solder Tag - continued

ALT 22 Series – Long Life

BHC COMPONENTS A KEMET Company



- Long life grade aluminium electrolytic
- Low ESR and impedance
- Solder tag termination

Operating temperature	-40°C to +85°C
Tolerance	±20%
DC leakage current	0.006 CV+4µA
Operating life @ 85°C	Life is dependent on case size:
	dia
	25 12000hrs
	30 15000hrs
	35 18000hrs
	40 26000hrs

Solder tag length 10mm

Volt d.c.	µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Mftrs. List No.	Order Code
40	4700	3.21	4.46	57	45	25	ALT22A472AB040	934-8310
40	10000	4.23	5.88	50	45	35	ALT22A103CB040	934-8247
40	22000	5.60	7.78	39	55	40	ALT22A223DD040	934-8298
63	4700	3.65	5.07	55	45	30	ALT22A472BB063	934-8328
63	10000	4.97	6.91	42	55	35	ALT22A103CD063	934-8255
63	15000	7.19	9.99	30	75	40	ALT22A153DE063	934-8263
200	1000	4.19	7.92	104	55	40	ALT22A102DD200	934-8220
200	2200	7.95	15.02	48	105	40	ALT22A222DF200	934-8280
385	1000	4.49	8.48	151	105	40	ALT22A102DF385	934-8239

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Volt d.c.	µF	Order Code	Price Each 1+	10+	50+	100+	250+
40	4700	934-8310●	4.84	4.11	3.63	3.21	2.83
40	10000	934-8247●	7.03	5.98	5.27	4.64	4.09
40	22000	934-8298●	12.35	10.50	9.26	8.17	7.20
63	4700	934-8328●	6.57	5.58	4.93	4.36	3.85
63	10000	934-8255●	10.99	9.34	8.24	7.27	6.41
63	15000	934-8263●	15.60	13.26	11.70	10.32	9.11
200	1000	934-8220●	7.35	6.25	5.51	4.87	4.29
200	2200	934-8280●	17.03	14.48	12.77	11.26	9.93
385	1000	934-8239●	21.90	18.61	16.42	14.49	12.78

Aluminium Electrolytic - Screw Terminal

PEH200 Series

EVOX RIFA A KEMET Company



New

- PEH 200 series has a polarized, all-welded design, heavy duty screw terminals, extended cathode construction, safety vent and plastic insulation
- The sealing systems designed for electrolyte leakage free operation and a very low gas-diffusion rate of electrolyte
- Mechanical contact between the winding and the aluminium case allows excellent heat transfer from the winding hot spot to the ambient, which means cooler operation and very high current ratings

Operating Temperature -40°C to +85°C

µF	Voltage	Dimensions H	Dia	Lead Pitch	Tolerance	Mftrs. LIst No.	Order Code
25 Volt							
15000	25V	51	35	13	±20%	PEH200HA5150MU2	167-9503
47000	25V	75	50	22	±20%	PEH200HH5470MU2	167-9504
220000	25V	105	75	32	±20%	PEH200HT6220MU2	167-9505
40 Volt							
6800	40V	51	35	13	±20%	PEH200KA4680MU2	167-9506
10000	40V	60	35	13	±20%	PEH200KB5100MB2	167-9507
10000	40V	60	35	13	±20%	PEH200KB5100MU2	167-9509
15000	40V	75	35	13	±20%	PEH200KC5150MB2	167-9511
22000	40V	95	35	13	±20%	PEH200KD5220MB2	167-9512
47000	40V	95	50	22	±20%	PEH200KJ5470MB2	167-9513
47000	40V	95	50	22	±20%	PEH200KJ5470MU2	167-9514
100000	40V	105	65	28.5	±20%	PEH200KO6100MU2	167-9515
63 Volt							
4700	63V	51	35	13	±20%	PEH200MA4470MU2	167-9476
22000	63V	95	50	22	±20%	PEH200MJ5220MB2	167-9477
47000	63V	105	65	28.5	±20%	PEH200MO5470MB2	167-9479
4700	63V	51	35	13	±20%	PEH200MA4470MB2	167-9516
10000	63V	95	35	13	±20%	PEH200MD5100MB2	167-9517
10000	63V	95	35	13	±20%	PEH200MD5100MU2	167-9518
22000	63V	95	50	22	±20%	PEH200MJ5220MU2	167-9519
100 Volt							
4700	100V	95	35	13	±20%	PEH200PD4470MU2	167-9481
10000	100V	95	50	22	±20%	PEH200PJ5100MU2	167-9482
22000	100V	105	65	28.5	±20%	PEH200PO5220MU2	167-9483
2200	100V	60	35	13	±20%	PEH200PB4220MU2	167-9520
4700	100V	95	35	13	±20%	PEH200PD4470MB2	167-9522
6800	100V	75	50	22	±20%	PEH200PH4680MU2	167-9523
15000	100V	105	50	22	±20%	PEH200PK5150MU2	167-9524
47000	100V	145	75	32	±20%	PEH200PV5470MU2	167-9525
250 Volt							
4700	250V	105	65	28.5	±20%	PEH200SO4470MU2	167-9484
250 Volt							
10000	250V	145	75	32	±20%	PEH200SV5100MU2	167-9485
15000	250V	220	75	32	±20%	PEH200SX5150MU2	167-9486
350 Volt							
1000	350V	75	50	22	±20%	PEH200UH4100MU2	167-9526
2200	350V	105	65	28.5	±20%	PEH200UO4220MU2	167-9527
385 Volt							
2200	385V	105	65	28.5	±20%	PEH200XO4220MU2	167-9487
6800	385V	220	75	32	±20%	PEH200XX4680MU2	167-9488
400 Volt							
1000	400V	95	50	22	±20%	PEH200VJ4100MU2	167-9528
450 Volt							
220	450V	75	35	13	±20%	PEH200YC3220MU2	167-9529
470	450V	75	50	22	±20%	PEH200YH3470MB2	167-9530
1000	450V	105	50	22	±20%	PEH200YK4100MB2	167-9531
1000	450V	105	50	22	±20%	PEH200YK4100MU2	167-9489
2200	450V	105	75	32	±20%	PEH200YT4220MU2	167-9490
4700	450V	220	75	32	±20%	PEH200YX4470MU2	167-9492
4700	450V	145	90	32	±20%	PEH200YY4470MB2	167-9532
6000	450V	220	75	32	+30%, -10%	PEH200YX460BQU2	167-9493
500 Volt							
3300	500V	220	75	32	±20%	PEH200ZX4330MB2	167-9494
470	500V	75	50	22	±20%	PEH200ZH3470MU2	167-9534

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µF	Order Code	Order Multiple=5 Price Each 1+	10+	25+	50+	100+
25 Volt						
15000	167-9503●	7.61	6.85	5.29	4.50	3.75
47000	167-9504●	12.98	11.85	9.70	8.60	7.60
220000	167-9505●	40.67	37.40	30.69	24.95	23.95
40 Volt						
6800	167-9506●	7.61	6.85	5.29	4.50	3.75
10000	167-9507●	7.80	7.04	5.49	4.70	3.95
10000	167-9509●	7.80	7.04	5.49	4.70	3.95
15000	167-9511●	11.94	10.81	8.57	7.55	6.55
22000	167-9512●	11.94	10.81	8.57	7.55	6.55
47000	167-9513●	19.00	18.25	14.96	12.65	11.65
47000	167-9514●	19.00	18.25	14.96	12.65	11.65
100000	167-9515●	32.67	29.40	22.69	18.95	15.95
63 Volt						
4700	167-9476●	7.61	6.85	5.29	4.50	3.75
22000	167-9477●	17.70	15.93	12.29	9.95	8.50
47000	167-9479●	31.32	28.19	21.75	17.50	14.95
4700	167-9516●	7.80	7.04	5.49	4.70	3.95
10000	167-9517●	11.34	10.21	7.87	6.95	5.95
10000	167-9518●	11.34	10.21	7.87	6.95	5.95
22000	167-9519●	19.00	18.25	14.96	12.65	11.65
100 Volt						
4700	167-9481●	11.34	10.21	7.87	6.95	5.95
10000	167-9482●	16.84	15.15	12.29	9.95	8.95
22000	167-9483●	30.62	27.56	21.26	18.95	14.95
2200	167-9520●	8.20	6.98	5.89	5.10	4.35
4700	167-9522●	11.94	10.81	8.57	7.55	6.55
6800	167-9523●	17.70	15.93	12.29	9.95	8.50
15000	167-9524●	25.80	22.43	18.40	15.75	13.70
47000	167-9525●	61.50	56.30	44.30	39.95	33.95
250 Volt						
4700	167-9484●	31.00	27.90	21.52	18.95	15.25
10000	167-9485●	57.58	52.00	40.12	35.95	29.95
15000	167-9486●	82.07	73.86	56.99	49.95	42.95
350 Volt						
1000	167-9526●	17.70	15.93	12.29	9.95	8.50
2200	167-9527●	30.62	27.56	21.26	18.95	14.95
385 Volt						
2200	167-9487●	32.67	29.40	22.69	18.95	15.95
6800	167-9488●	83.15	74.83	57.74	49.95	42.50
400 Volt						
1000	167-9528●	19.00	18.25	14.96	12.65	11.65
450 Volt						
220	167-9529●	11.94	10.81	8.57	7.55	6.55
470	167-9530●	18.30	16.45	13.60	11.25	10.25
1000	167-9531●	30.62	27.56	21.26	18.95	14.95
1000	167-9489●	24.03	21.63	16.69	13.95	11.95
2200	167-9490●	48.59	43.73	33.74	29.95	24.95
4700	167-9492●	92.34	83.11	64.12	59.95	49.95
4700	167-9532●	98.40	89.10	69.97	66.65	55.90
6000	167-9493●	109.08	98.17	75.75	66.95	57.95
500 Volt						
3300	167-9494●	86.39	77.75	59.99	47.95	39.95
470	167-9534●	19.00	18.25	14.96	12.65	11.65

B41456/43456 Series - 12000 hrs @ 85°C

EPCOS



- High performance long life

Operating temperature	-40°C to +85°C
	-25°C to +85°C (450V)
Tolerance	±20%
Useful life @ 85°C	12000 hrs
Climatic category	40/085/56
	25/085/56 (450V)

RL Re-reeling available

Farnell

µF	Ripple Current (A)	Impedance (mΩ) @10kHz, 20°C	ESR max(mΩ) @ 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
16 Volt d.c.							
22000	7.1	23	28	55.7	35.7	B41456B4229M	470-4617
47000	11	13	16	80.7	35.7	B41456B4479M	470-4629
100000	14	8.2	10	80.7	51.6	B41456B4100M	470-4630
25 Volt d.c.							
68000	13	9.3	12	80.7	51.6	B41456B5689M	470-4654
470000	31	4.8	6	220.7	76.9	B41456B5470M	470-4666
40 Volt d.c.							
10000	6.3	34	37	55.7	35.7	B41456B7109M	470-4678
22000	9.6	18	20	80.7	35.7	B41456B7229M	470-4680
47000	13	10	12	80.7	51.6	B41456B7479M.	387-8090
100000	19	7	8.2	105.7	64.3	B41456B7100M	470-4708
220000	25	5.4	6.5	143.2	76.9	B41456B7220M	470-4710
63 Volt d.c.							
4700	4.9	58	60	55.7	35.7	B41456B8478M	470-4721
10000	7.7	30	31	80.7	35.7	B41456B8109M	470-4733
22000	11	16	16	80.7	51.6	B41456B8229M	387-8107
68000	20	7.8	7.9	105.7	76.9	B41456B8689M.	387-8119
150000	31	5.7	5.8	220.7	76.9	B41456B8150M	470-4769
100 Volt d.c.							
2200	4.3	70	80	55.7	35.7	B41456B9228M.	387-8120
4700	6.7	35	40	80.7	35.7	B41456B9478M.	387-8132
10000	10	18	22	80.7	51.6	B41456B9109M.	387-8144
22000	17	11	13	105.7	64.3	B41456B9229M	470-4800
47000	24	7.1	8.5	143.2	76.9	B41456B9479M.	387-8156
350 Volt d.c.							
8200	20	20	20	143.2	76.9	B43456A4828M	470-4824
400 Volt d.c.							
1500	13*	93	110	80.7	51.6	B43456A9158M	387-8168
3300	20*	44	49	105.7	64.3	B43456A9338M	470-4836
4700	29*	32	34	105.7	76.9	B43456A9478M	387-8170
6800	33*	24	24	143.2	76.9	B43456A9688M	387-8181
10000	48*	16	16	144.5	91	B43456A9109M	470-4848
15000	54*	11	11	221	91	B43456A9159M	470-4850
450 Volt d.c.							
1000	9.6*	190	220	80.7	51.6	B43456A5108M	387-8200
1500	12*	130	150	105.7	51.6	B43456A5158M	470-4861
2200	15*	85	100	105.7	64.3	B43456A5228M	387-8211
5600	31*	35	38	143.2	76.9	B43456-A5568M	387-8235
12000	51*	18	18	221	91	B43456A5129M	470-4897

*With base cooling

234198

µF	Order Code	Price Each 1+	10+	50+	100+	250+
16 Volt d.c.						
22000	470-4617●	8.56	7.27	6.42	5.66	5.05
47000	470-4629●	9.23	7.93	7.00	6.18	5.05
100000	470-4630●	18.45	15.68	14.40	12.85	11.17
25 Volt d.c.						
68000	470-4654●	14.49	12.32	11.88	11.47	10.15
470000	470-4666●	69.48	64.83	59.34	52.33	39.73
40 Volt d.c.						
10000	470-4678●	8.36	7.10	6.27	5.74	5.05
22000	470-4680●	12.29	10.44	9.22	8.27	7.24
47000	387-8090●	18.39	15.64	13.79	12.17	11.17
100000	470-4708●	37.30	31.70	29.85	28.09	26.47
220000	470-4710●	77.96	70.47	65.61	54.15	39.73
63 Volt d.c.						
4700	470-4721●	7.52	6.72	5.94	5.23	4.59
10000	470-4733●	10.50	8.93	7.87	6.96	5.61
22000	387-8107●	18.28	15.55	15.24	14.93	11.32
68000	387-8119●	48.78	43.90	41.46	39.16	35.65
150000	470-4769●	82.58	75.97	72.67	69.51	66.75
100 Volt d.c.						
2200	387-8120●	7.76	6.60	5.82	5.14	4.59
4700	387-8132●	10.62	9.03	7.97	7.04	6.07
10000	387-8144●	18.83	16.01	14.13	12.45	11.17
22000	470-4800●	33.80	30.43	29.08	27.79	25.45
47000	387-8156●	65.95	56.06	51.44	47.21	43.81
350 Volt d.c.						
8200	470-4824●	70.52	65.90	61.66	60.45	53.79
400 Volt d.c.						
1500	387-8168●	24.48	20.81	19.33	17.07	15.25
3300	470-4836●	60.23	56.71	52.60	50.08	48.49
4700	387-8170●	67.74	57.58	48.94	41.60	36.63
6800	387-8181●	101.82	89.98	80.57	73.96	69.24
10000	470-4848●	131.20	110.32	93.99	84.83	79.19
15000	470-4850●	180.89	161.45	145.73	134.97	127.38
450 Volt d.c.						
1000	387-8200●	22.61	19.22	17.76	15.75	13.21
1500	470-4861●	32.15	29.83	28.33	26.82	25.57
2200	387-8211●	45.57	40.28	36.06	33.11	31.01
5600	387-8235●	81.70	72.21	64.66	59.35	55.58
12000	470-4897●	185.95	165.96	149.81	138.75	130.95

ALS30 Series – Long Life



- High performance
- Long life ripple current capabilities

Terminations = M5

Operating temperature	-40°C to +85°C	Life is dependent on case size:	
Tolerance	±20%	36 dia	11000hrs
Climatic category (IEC68)	40/085/56	51 dia	18000hrs
DC leakage current	0.006CV or 10mA whichever is less	66 dia	19000hrs
		77 dia	20000hrs

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
10 Volt d.c.								
47000	10.2	10.7	15	62	36	12.7	ALS30A473DB010	471-410
150000	16.0	18.0	8	82	51	22.2	ALS30A154KE010	471-422

µF	10 Volt d.c. Order Code	Price Each 1+	10+	50+	100+	250+
47000	471-410●	7.22	6.84	6.53	6.07	5.44
150000	471-422●	14.38	13.63	13.05	12.10	10.83

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
25 Volt d.c.								
22000	9.9	10.4	17	62	36	12.7	ALS30A223DB025	157-2894
47000	16.6	17.4	9	105	36	12.7	ALS30A473DF025	157-2902

µF	25 Volt d.c. Order Code	Price Each 1+	10+	50+	100+	250+
22000	157-2894●	8.75	7.20	6.56	6.05	5.40
47000	157-2902●	12.79	11.19	9.59	8.18	7.26

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
40 Volt d.c.								
15000	9.5	10.0	17	62	36	12.7	ALS30A153DB040	471-446
22000	12.7	13.3	11	82	36	12.7	ALS30A223DE040	157-2897
33000	14.2	16.7	12	82	51	22.2	ALS30A333KE040	157-2890
47000	14.2	16.7	12	82	51	22.2	ALS30A473KE040	471-458
150000	26.8	30.2	8	105	77	31.7	ALS30A154NF040	471-460

µF	40 Volt d.c. Order Code	Price Each 1+	10+	50+	100+	250+
15000	471-446●	8.69	7.39	6.52	5.75	5.23
22000	NEW 157-2897●	11.75	10.28	8.81	7.94	7.10
33000	NEW 157-2890●	15.19	13.80	12.38	11.45	10.98
47000	471-458●	18.95	16.11	14.21	12.53	11.35
150000	471-460●	44.42	41.09	37.86	35.99	31.48

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
63 Volt d.c.								
4700	6.7	7.4	36	52	36	12.7	ALS30A472DA063	157-2892
10000	10.8	11.9	17	82	36	12.7	ALS30A103DE063	157-2893
22000	13.9	14.4	12	82	51	22.2	ALS30A223KE063	157-2895
47000	26.7	26.5	8	105	66	28.5	ALS30A473MF063	157-2899

µF	63 Volt d.c. Order Code	Price Each 1+	10+	50+	100+	250+
4700	NEW 157-2892●	6.45	5.82	5.35	4.98	4.70
10000	NEW 157-2893●	9.25	8.10	6.94	6.45	5.99
22000	NEW 157-2895●	16.75	14.65	12.56	11.25	10.37
47000	NEW 157-2899●	30.85	26.99	23.14	21.85	19.89

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
100 Volt d.c.								
10000	10.1	10.5	28	82	51	22.2	ALS30A103KE100	471-471
22000	18.4	19.1	13	105	66	28.5	ALS30A223MF100	157-2901

µF	100 Volt d.c. Order Code	Price Each 1+	10+	50+	100+	250+
10000	471-471●	17.20	14.62	12.90	11.38	10.04
22000	NEW 157-2901●	29.85	26.10	22.39	21.90	21.05

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
200 Volt d.c.								
1500	6.7	9.1	90	105	36	12.7	ALS30A152DF200	471-483
4700	15.9	19.1	33	105	66	28.5	ALS30A472MF200	471-495
6800	15.7	17.7	27	105	66	28.5	ALS30A682MF200	471-501
10000	14.9	15.9	28	105	77	31.7	ALS30A103NF200	471-513

µF	200 Volt d.c. Order Code	Price Each 1+	10+	50+	100+	250+
1500	471-483●	10.67	10.11	9.69	8.97	8.03
4700	471-495●	26.55	25.17	24.06	22.34	19.99
6800	471-501●	35.07	32.44	29.89	28.41	24.85
10000	471-513●	49.24	45.54	41.95	39.88	34.89

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
250 Volt d.c.								
2200	7.7	9.1	69	82	51	22.2	ALS30A222KE250	157-2898
4700	15	18.2	31	105	66	28.5	ALS30A472MF250	157-2889
10000	21.6	24	19	146	77	31.7	ALS30A103NP250	157-2896

RL Re-reeling available

Aluminium Electrolytic - Screw Terminal - continued

ALS30 Series – Long Life - continued

250 Volt d.c. µF	Order Code	1+	10+	50+	100+	250+
2200	NEW 157-2898●	18.25	16.45	13.69	12.10	10.80
4700	NEW 157-2899●	34.50	29.95	25.87	24.25	22.50
10000	NEW 157-2896●	65.50	57.31	49.12	46.35	41.80

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
350 Volt d.c.								
1500	8.2	12.5	77	105	51	22.2	ALS30A152KF350	157-2904

350 Volt d.c. µF	Order Code	1+	10+	50+	100+	250+
1500	NEW 157-2904●	17.99	15.74	13.49	12.70	11.55

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
400 Volt d.c.								
220	1.9	3.8	570	52	36	12.7	ALS30A221DA400	471-525
470	3.2	6.2	267	82	36	12.7	ALS30A471DE400	471-537
1000	5.8	6.2	139	82	51	22.2	ALS30A102KE400	471-549
2200	11.2	17.4	62	105	66	28.5	ALS30A222MF400	471-550
3300	12.7	16.5	49	105	77	31.7	ALS30A332NF400	776-889
4700	18.0	24.2	33	146	77	31.7	ALS30A472NP400	776-890

400 Volt d.c. µF	Order Code	1+	10+	50+	100+	250+
220	471-525●	7.50	6.37	5.62	4.96	4.70
470	471-537●	10.69	9.09	8.02	7.08	6.24
1000	471-549●	21.19	18.01	15.89	14.02	12.37
2200	471-550●	35.25	29.96	26.44	23.33	21.80
3300	776-889●	44.06	40.70	37.54	36.79	36.06
4700	776-890●	57.89	49.21	43.42	38.31	33.80

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
450 Volt d.c.								
220	2	4.4	502	62	36	12.7	ALS30A221DB450	157-2903
470	2.8	5.2	161	105	36	12.7	ALS30A471DF450	536-477
1000	5.4	8.9	118	105	51	22.2	ALS30A102KF450	471-562
2200	9.6	14.3	42	105	77	31.7	ALS30A222NF450	536-489
3300	16.1	25.1	39	146	77	31.7	ALS30A332NP450	776-907
4700	21.0	31.8	29	146	91	31.7	ALS30A472QP450	776-919

450 Volt d.c. µF	Order Code	1+	10+	50+	100+	250+
220	NEW 157-2903●	8.09	7.08	6.07	5.65	5.05
470	536-477●	12.91	10.97	9.68	8.54	7.55
1000	471-562●	24.50	20.82	18.37	16.21	14.30
2200	536-489●	52.75	44.84	39.56	34.90	30.79
3300	776-907●	69.50	59.07	52.12	45.99	40.58
4700	776-919●	88.43	81.77	75.36	71.62	62.68

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Mftrs. List No.	Order Code
500 Volt d.c.								
470	3.4	5.5	194	82	51	22	ALS30A471KE500	536-490
2200	11.0	16.4	62	146	77	31.7	ALS30A222NP500	536-519

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500 Volt d.c. µF	Order Code	1+	10+	50+	100+	250+
470	536-490●	19.75	16.79	14.81	13.06	11.52
2200	536-519●	69.99	59.49	52.49	46.31	41.75

101/102 Series – Computer Grade



- Long life grade
- Low ESR and high ripple current capabilities
- Polarized aluminum electrolytic capacitors,non-solid electrolyte

Operating temperature	-40°C to +85°C	DC leakage current	0.006CV + 4µA
Tolerance	±20%	Useful life @ 85°C	10000hrs
Climatic category **(IEC68)**	40/085/86	Long life grade	**IEC 60 384-4/EN130300**

µF	Ripple (A) @ 20Hz 85°C	ESR max. mΩ @ 20°C 100kHz	Dia.	Length	Case	Mftrs. List No.	Order Code
25 Volt d.c.							
33000	23	31	35	80	ST	222210116333	882-0660
68000	13	15	50	80	ST	222210116683	882-0678
100000	11	12	50	105	ST	222210116104	882-0686
40 Volt d.c.							
10000	23	31	35	60	ST	222210117103	882-0694
15000	17	22	35	80	ST	222210127153	882-0708
22000	17	20	35	80	ST	222210117223	882-0716
33000	10	13	50	80	ST	222210127333	882-0724
33000	13	15	35	105	ST	222210117333	882-0732
47000	10	12	50	80	ST	222210117473	882-0740
100000	6	7	65	105	ST	222210117104	882-0759
150000	6	7	76	105	ST	222210117154	882-0767
220000	5	5	76	146	ST	222210127224	882-0775
63 Volt d.c.							
4700	25	42	35	60	ST	222210118472	882-0783
6800	25	38	35	60	ST	222210118682	882-0791
10000	19	27	35	80	ST	222210118103	882-0805
15000	14	19	50	80	ST	222210128153	882-0813
15000	11	16	35	105	ST	222210118153	882-0821
33000	12	14	50	105	ST	222210118333	882-0830
47000	8	10	65	105	ST	222210118473	882-0848
68000	6	7	76	105	ST	222210118683	882-0856
100000	5	5	76	146	ST	222210128104	882-0864
100 Volt d.c.							
2200	29	50	35	60	ST	222210119222	882-0872
3300	27	42	35	60	ST	222210119332	882-0880
4700	20	32	35	80	ST	222210119472	882-0899
6800	12	19	50	80	ST	222210129682	882-0902
6800	15	23	35	105	ST	222210119682	882-0910
10000	15	21	50	80	ST	222210119103	882-0929
15000	12	16	50	105	ST	222210119153	882-0937
22000	8	11	65	105	ST	222210119223	882-0945
200 Volt d.c.							
1500	67	100	50	80	ST	222210222152	882-0953
1500	74	106	35	100	ST	222210212152	882-0961
4700	74	106	65	105	ST	222210222472	882-0970
4700	26	37	65	105	SBT	222210262472	882-0988
6800	18	25	65	105	ST	222210212682	882-0996
10000	13	18	76	105	ST	222210212103	882-1003
250 Volt d.c.							
1000	82	128	35	80	ST	222210213102	882-1011

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µF	Order Code	Price Each 1+	10+	50+	100+
25 Volt d.c.					
33000	882-0660●	11.14	10.27	9.59	8.88
68000	882-0678●	17.26	15.92	14.87	13.82
100000	882-0686●	23.22	21.41	19.98	18.56
40 Volt d.c.					
10000	882-0694●	9.02	8.33	7.77	7.23
15000	882-0708●	10.55	9.72	9.07	8.44
22000	882-0716●	11.76	10.86	10.14	9.43
33000	882-0724●	15.70	14.47	13.52	12.56
33000	882-0732●	14.53	13.39	12.50	11.61
47000	882-0740●	18.52	17.07	15.93	14.79
100000	882-0759●	32.09	29.62	27.62	25.66
150000	882-0767●	44.93	41.46	38.69	35.92
220000	882-0775●	62.77	57.91	54.04	50.18
63 Volt d.c.					
4700	882-0783●	8.26	7.62	7.11	6.60
6800	882-0791●	9.53	8.79	8.19	7.63
10000	882-0805●	11.11	10.24	9.55	8.86
15000	882-0813●	14.23	13.11	12.24	11.37
15000	882-0821●	13.18	12.15	11.34	10.54
33000	882-0830●	22.28	20.53	19.17	17.81
47000	882-0848●	29.28	27.02	25.21	23.41
68000	882-0856●	38.43	35.44	33.09	30.73
100000	882-0864●	53.64	49.49	46.20	42.90
100 Volt d.c.					
2200	882-0872●	8.69	8.02	7.47	6.96
3300	882-0880●	9.93	9.16	8.54	7.95
4700	882-0899●	11.20	10.33	9.64	8.97
6800	882-0902●	14.19	13.08	12.22	11.34
6800	882-0910●	13.53	12.48	11.64	10.82
10000	882-0929●	17.07	15.73	14.70	13.64
15000	882-0937●	23.26	21.47	20.03	18.61
22000	882-0945●	31.09	28.67	26.77	24.85
200 Volt d.c.					
1500	882-0953●	9.77	9.01	8.42	7.82
1500	882-0961●	11.63	10.73	10.02	9.30
4700	882-0970●	22.63	20.89	19.49	18.11
4700	882-0988●	22.63	20.89	19.49	18.11
6800	882-0996●	30.69	28.30	26.44	24.54
10000	882-1003●	42.11	38.86	36.26	33.66
250 Volt d.c.					
1000	882-1011●	11.43	10.56	9.85	9.14

106 Series – Computer Grade



- Long life grade
- Charge and discharge proof
- High resistance to shock and vibration
- Extremely low ESR and ESL allowing very high ripple current load

Application includes: Smoothing and filtering; Energy storage in pulse systems.

Operating temperature	-40°C to +85°C	Useful life @ 85°C	20000hrs
Tolerance	±30%	Long life grade	IEC 60384-4/EN130300
Climatic category (IEC68)	40/085/56		

RL Re-reeling available

µF	Ripple (A) @ 20Hz 85°C	ESR max. mΩ @ 20°C 100kHz	Dia.	Length	Mftrs. List No.	Order Code
25 Volt d.c.						
10000	22	32	35	80	222210616103	882-1054
22000	15	11	50	80	222210616223	882-1062
33000	12	9	50	105	222210616333	882-1070
68000	8	6	65	105	222210616683	882-1089
40 Volt d.c.						
15000	17	12	50	80	222210617153	882-1097
22000	13	10	50	105	222210617223	882-1100
33000	9	7	65	105	222210617333	882-1119
47000	7	5	65	105	222210617473	882-1127
63 Volt d.c.						
4700	24	13	35	80	222210618472	882-1135
6800	18	10	35	105	222210618682	882-1143
10000	13	8	50	80	222210618103	882-1151
15000	10	7	50	105	222210618153	882-1160
33000	7	5	65	105	222210618333	882-1178
100 Volt d.c.						
1000	96	48	35	60	222210619102	882-1186
1500	59	27	35	60	222210619152	882-1194
2200	42	20	35	80	222210619222	882-1208
3300	29	15	35	105	222210619332	882-1216
4700	22	12	50	80	222210619472	882-1224
6800	16	9	50	105	222210619682	882-1232
10000	11	7	65	105	222210619103	882-1240
15000	10	6	65	105	222210619153	882-1259

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µF	Order Code	Price Each 1+	10+	50+	100+
25 Volt d.c.					
10000	**882-1054●**	13.16	12.53	11.57	10.27
22000	**882-1062●**	18.44	17.54	16.19	14.39
33000	**882-1070●**	18.65	17.74	16.37	14.55
68000	**882-1089●**	38.79	36.93	34.07	30.29
40 Volt d.c.					
15000	**882-1097●**	18.73	17.82	16.44	14.63
22000	**882-1100●**	23.25	22.13	20.42	18.16
33000	**882-1119●**	30.37	28.90	26.67	23.70
47000	**882-1127●**	40.62	38.66	35.69	31.71
63 Volt d.c.					
4700	**882-1135●**	13.50	12.83	11.85	10.55
6800	**882-1143●**	15.59	14.83	13.70	12.18
10000	**882-1151●**	18.78	17.87	16.47	14.66
15000	**882-1160●**	24.39	23.22	21.44	19.04
33000	**882-1178●**	28.06	26.69	24.64	21.91
100 Volt d.c.					
1000	**882-1186●**	11.18	10.65	9.83	8.72
1500	**882-1194●**	12.33	11.74	10.84	9.64
2200	**882-1208●**	14.01	13.32	12.29	10.93
3300	**882-1216●**	16.57	15.77	14.57	12.95
4700	**882-1224●**	20.40	19.41	17.94	15.93
6800	**882-1232●**	24.82	23.61	21.81	19.38
10000	**882-1240●**	33.19	31.59	29.16	25.93
15000	**882-1259●**	43.03	41.96	38.74	34.43

B41560 Series - 105°C

EPCOS



- High performance long life
- Temperature rating 105°C
- Compact size, high capacitance per unit volume
- High ripple current capability

Operating temperature -40°C to +105°C
Tolerance ±20%
Useful life @ 105°C 3000 hrs
Climatic category 40/105/56

µF	Ripple Current (A)	Impedance (mΩ) @10kHz, 20°C	ESR max(mΩ) @ 100Hz	Dimensions H	Dia.	Mftrs. List No.	Order Code
40 Volt d.c.							
47000	14	10	12	105.7	51.6	B41560A7479M	470-4903
100000	18	7	8.2	105.7	64.3	B41560A7100M	470-4915
63 Volt d.c.							
10000	8.1	33	30	105.7	35.7	B41560A8109M	470-4939
22000	12	16	16	105.7	51.6	B41560A8229M	470-4940
47000	17	9.4	10	105.7	64.3	B41560A8479M	470-4952
100000	23	6.6	6.6	143.2	76.9	B41560A8100M	470-4964
100 Volt d.c.							
2200	4.7	77	70	80.7	35.7	B41560A9228M	470-4976
4700	7.5	39	35	105.7	35.7	B41560A9478M	470-4988
10000	11	18	17	105.7	51.6	B41560A9109M	470-4990
22000	17	11	10	105.7	76.9	B41560A9229M	470-5002

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µF	Order Code	Price Each 1+	10+	50+	100+	250+
40 Volt d.c.						
47000	**470-4903●**	29.47	27.38	25.93	25.08	24.59
100000	**470-4915●**	60.58	56.31	53.32	51.58	50.55
63 Volt d.c.						
10000	**470-4939●**	18.43	17.00	16.03	15.44	15.13
22000	**470-4940●**	17.25	14.66	12.94	11.42	9.69
47000	**470-4952●**	27.73	25.88	24.58	23.86	23.37
100000	**470-4964●**	55.36	54.18	52.28	51.22	50.19

µF	Order Code	Price Each 1+	10+	50+	100+	250+
100 Volt d.c.						
2200	**470-4976●**	12.64	10.74	9.48	7.95	6.73
4700	**470-4988●**	15.87	13.50	11.90	9.98	8.67
10000	**470-4990●**	19.40	16.63	14.71	12.83	11.17
22000	**470-5002●**	44.72	41.20	38.33	37.25	36.51

LSG / LSW Series – Standard – 105°C

Rubycon



- 105°C Standard, Screw-terminal Type Capacitors

Operating temperature -25°C to 105°C
Tolerance ±20%
Useful life @105°C 5000h
Ripple current measured at 120Hz @ 105°C
Maximum screw tightening torque 33kg·cm or less
Leakage Current (µA) 3√CV or 5mA, whichever is smaller

µF	Ripple (mA)	Dimensions H	Dia.	Lead Pitch	Mftrs. List No.	Order Code
25 Volt d.c.						
68000	10.7	98	51	21.8	25LSW68000M51X98	141-5843

µF	Order Code	Price Each 1+	10+	50+	100+	250+
25 Volt d.c.						
68000	**141-5843●**	28.75	27.47	25.68	25.04	24.25

µF	Ripple (mA)	Dimensions H	Dia.	Lead Pitch	Mftrs. List No.	Order Code
35 Volt d.c.						
22000	6.6	98	36	12.7	35LSW22000M36X98	141-5844
47000	9.9	98	51	21.8	35LSW47000M51X98	141-5845

µF	Order Code	Price Each 1+	10+	50+	100+	250+
10 Volt d.c.						
22000	**141-5844●**	21.94	20.90	19.52	18.46	17.51
47000	**141-5845●**	30.80	28.75	26.20	25.45	24.67

µF	Ripple (mA)	Dimensions H	Dia.	Lead Pitch	Mftrs. List No.	Order Code
63 Volt d.c.						
4700	3.2	50	36	12.7	63LSW4700M36X50	141-5846
15000	6.4	118	36	12.7	63LSW15000M36X118	141-5847
33000	10.3	118	51	21.8	63LSW33000M51X118	141-5848

µF	Order Code	Price Each 1+	10+	50+	100+	250+
63 Volt d.c.						
4700	**141-5846●**	23.03	21.27	20.08	18.31	17.87
15000	**141-5847●**	29.35	28.75	26.44	22.56	22.06
33000	**141-5848●**	39.34	36.87	34.79	31.78	29.97

µF	Ripple (mA)	Dimensions H	Dia.	Lead Pitch	Mftrs. List No.	Order Code
100 Volt d.c.						
2200	2.9	50	36	12.7	100LSW2200M36X50	141-5849
4700	4.6	83	36	12.7	100LSW4700M36X83	141-5850
22000	10.3	119	64	28.2	100LSW22000M64X119	141-5851

µF	Order Code	Price Each 1+	10+	50+	100+	250+
100 Volt d.c.						
2200	**141-5849●**	18.74	17.69	16.34	15.28	14.33
4700	**141-5850●**	21.94	20.90	19.52	18.46	17.51
22000	**141-5851●**	48.52	45.43	42.22	41.06	40.16

µF	Ripple (mA)	Dimensions H	Dia.	Lead Pitch	Mftrs. List No.	Order Code
100 Volt d.c.						
1000	4.3	98	51	21.8	450LSG1000M51X98	141-5841

477741

µF	Order Code	Price Each 1+	10+	50+	100+	250+
450 Volt d.c.						
1000	**141-5841●**	47.89	42.65	40.85	36.61	34.22

Aluminium Electrolytic - Stud Mounting

ALS31 Series – Stud Mounting

BHC COMPONENTS A KEMET Company KEMET



- High perfomance long life capacitors
- High ripple current capability
- Small case size stud mounting

RL Re-reeling available

Farnell

Aluminium Electrolytic - Stud Mounting - continued

ALS31 Series – Stud Mounting - continued

Operating Temperature	-40°C to +80°C	Life is dependent on case size:
Tolerance	±20%	36dia 11000hrs
Climate category (IEC68)	40/085/56	51dia 18000hrs
DC leakage current	0.006CV or 10mA whichever is less	66dia 19000hrs 77dia 20000hrs

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Stud Thread	Mftrs. List No.	Order Code
40 Volt d.c.									
15000	9.5	10.0	17	62	36	12.7	M8	ALS31A153DB040	776-920
47000	14.2	16.7	12	82	51	22.2	M12	ALS31A473KE040	776-932
150000	26.8	30.2	8	105	77	31.7	M12	ALS31A154NF040	776-944

40 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
15000	776-920●	9.95	8.46	7.46	6.58	5.80
47000	776-932●	19.30	16.40	14.47	12.77	10.95
150000	776-944●	48.95	41.61	36.71	32.39	28.57

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Stud Thread	Mftrs. List No.	Order Code
63 Volt d.c.									
47000	26.7	26.5	8	105	66	28.5	M12	ALS31A473MF063	157-2905

63 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
47000	NEW 157-2905●	32.45	27.89	23.34	21.77	20.35

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Stud Thread	Mftrs. List No.	Order Code
100 Volt d.c.									
2200	4.9	5.4	69	52	36	12.7	M8	ALS31A222DA100	157-2906
10000	10.1	10.5	28	82	51	22.2	M12	ALS31A103KE100	776-956

100 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
2200	NEW 157-2906●	7.45	6.52	5.59	5.05	4.75
10000	776-956●	18.30	15.55	13.72	12.11	10.68

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Stud Thread	Mftrs. List No.	Order Code
200 Volt d.c.									
4700	15.9	19.1	33	105	66	12.7	M12	ALS31A472MF200	776-970
6800	15.7	17.7	27	105	66	28.5	M12	ALS31A682MF200	776-981
10000	14.9	15.9	28	105	77	31.7	M12	ALS31A103NF200	776-993

200 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
4700	776-970●	26.50	22.52	19.87	17.53	16.10
6800	776-981●	32.06	27.26	24.05	21.21	19.54
10000	776-993●	47.95	40.76	35.96	31.73	27.99

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Stud Thread	Mftrs. List No.	Order Code
400 Volt d.c.									
470	3.2	6.2	267	82	36	12.7	M12	ALS31A471DE400	777-006
1000	5.8	8.9	139	82	51	22.2	M12	ALS31A102KE400	777-018
2200	11.2	17.4	62	105	66	28.5	M12	ALS31A222MF400	777-020
3300	12.7	16.5	49	105	77	31.7	M12	ALS31A332NF400	777-031
4700	18	24.2	33	146	77	31.7	M12	ALS31A472NP400	777-043

400 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
470	777-006●	9.36	8.86	8.48	7.89	7.06
1000	777-018●	19.07	18.08	17.29	16.07	14.76
2200	777-020●	34.70	29.49	26.02	22.96	20.26
3300	777-031●	49.50	42.07	37.12	32.75	28.90
4700	777-043●	58.75	49.94	44.06	38.87	34.30

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Stud Thread	Mftrs. List No.	Order Code
450 Volt d.c.									
470	3.4	7.4	235	105	36	12.7	M8	ALS31A471DF450	777-055
1000	6.5	12.0	118	105	51	22.2	M12	ALS31A102KF450	777-067
2200	11.4	17.5	59	105	77	31.7	M12	ALS31A222NF450	777-079
3300	16.1	25.1	39	146	77	31.7	M12	ALS31A332NP450	777-080

450 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
470	777-055●	13.63	11.59	10.22	9.02	8.50
1000	777-067●	25.12	23.22	21.40	20.37	17.83
2200	777-079●	52.95	45.01	39.71	35.03	30.91
3300	777-080●	71.68	66.28	61.09	58.06	50.80

µF	Ripple (A) @ 100Hz 85°C	Ripple (A) @ 10kHz 85°C	ESR max. mΩ @ 20°C 100kHz	Dimensions H	Dia.	Pitch	Stud Thread	Mftrs. List No.	Order Code
500 Volt d.c.									
1000	6.7	13.0	137	105	66	28.5	M12	ALS31A102MF500	777-109
2200	11.9	20.6	62	146	77	31.7	M12	ALS31A222NP500	777-110

500 Volt d.c. µF	Order Code	Price Each 1+	10+	50+	100+	250+
1000	777-109●	43.13	40.60	36.13	35.41	31.48
2200	777-110●	90.80	77.18	68.10	60.09	53.02

208504

Mounting Accessories	Order Code	Price Per Kit 1+	10+	50+	100+
M8 Nylon Nut Kit	777-146●	0.62	0.58	0.55	0.47
M12 Nylon Nut Kit	777-158●	0.66	0.62	0.58	0.51

Memory Back-Up

Wet type double layer electrolytic construction featuring a very high capacitance, in a small case size. Excellent charge/discharge characteristics and very low leakage current give superior performance to nickel cadmium batteries in memory retention circuits for CMOS and other circuitry where memory back-up is required.

208423

EN Series - Gold

3.3 Volt d.c.

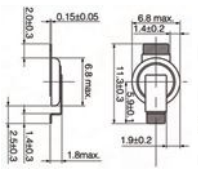
Panasonic ideas for life



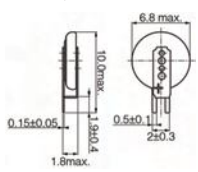
- Surface mount memory back-up capacitors
- Applications include memory cards, mobile phones, palmtop computers, digital cameras

SMD

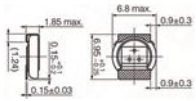
H=1.8, Dia.=6.8



Type AK



Type RK



Type JK

Operating temperature	-25°C to +70°C	Internal resistance @ 1kHz	100Ω
Working voltage	3.3V d.c.	Tolerance	±80%
Capacitance	0.2F		

451873

Mftrs. List No.	Order Code	Price Each 1+	50+	100+	500+	1K+
EECEN0F204A	SMD 969-6598●	1.96	1.42	1.07	0.91	0.84
EECEN0F204AK	SMD 130-5070●	2.72	2.53	2.29	1.78	1.67
EECEN0F204RK	SMD 130-5071●	2.65	2.46	2.21	1.72	1.63
EECEN0F204JK	SMD 130-5072●	2.65	2.46	2.21	1.72	1.63

SD Series — Gold

5.5 Volt d.c.

Panasonic ideas for life



Horizontal Vertical

- 30% smaller than SG series
- Ideally suited for use in CMOS memory back-up
- Longer life than a secondary battery
- Vertical or horizontal mounting

Operating temperature	-25°C to +70°C
Working voltage	5.5V d.c.
Tolerance @ 20°C	-20% to +80%

Farads	H	Dimensions Dia.	Lead Size	Lead Pitch	Mftrs. List No.	Order Code
0.022	11.5	10.5	3 x 0.8	5	EECS0HD223V	130-5055
0.022	5.5	10.5	3 x 0.8	10	EECS0HD223H	130-5054
0.047	11.5	10.5	3 x 0.8	5	EECS0HD473V	130-5057
0.047	5.5	10.5	3 x 0.8	10	EECS0HD473H	130-5056
0.1	11.5	10.5	3 x 0.8	5	EECS0HD104V	969-2665
0.1	5.5	10.5	3 x 0.8	10	EECS0HD104H	969-2673
0.22	11.5	10.5	3 x 0.8	5	EECS0HD224V	969-2681
0.22	6	10.5	3 x 0.8	10	EECS0HD224H	969-2690
0.33	11.5	10.5	3 x 0.8	5	EECS0HD334V	130-5058

451875

Farads	Mounting	Order Code	Price Each 1+	10+	50+	100+	250+
0.022	Vertical	130-5055●	1.55	0.94	0.70	0.49	0.46
0.022	Horizontal	130-5054●	0.94	0.88	0.80	0.61	0.57
0.047	Vertical	130-5057●	1.66	0.97	0.73	0.52	0.49
0.047	Horizontal	130-5056●	1.00	0.93	0.84	0.65	0.61
0.1	Vertical	969-2665●	1.59	1.01	0.75	0.51	0.50
0.1	Horizontal	969-2673●	1.66	1.01	0.75	0.52	0.50
0.22	Vertical	969-2681●	1.80	1.04	0.78	0.55	0.54
0.22	Horizontal	969-2690●	1.80	1.04	0.78	0.54	0.53
0.33	Vertical	130-5058●	1.65	1.07	0.90	0.70	0.66

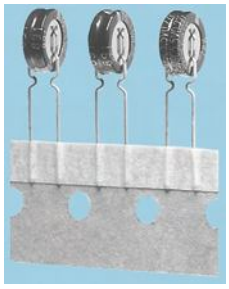
RL Re-reeling available

Farnell

SE Series

5.5 Volt d.c.

Panasonic ideas for life



- Electric double layer capacitors
- Memory back-up for video and audio equipment, cameras, telephones, printers, data terminals and intelligent remote controls
- Automatic insertion available

Operating temperature -25°C to +70°C
Working voltage 5.5V d.c.
Tolerance @ 20°C -20% to +80%

Farads	H	Dia.	Lead Size	Lead Pitch	Mftrs. List No.	Order Code
	Dimensions					
0.022	13	10.5	18 x 0.55	5	EECSE0H223	130-5066
0.047	13	10.5	18 x 0.55	5	EECSE0H473	130-5067
0.1	13	10.5	18 x 0.55	5	EECSE0H104	130-5068
0.22	13	10.5	18 x 0.55	5	EECSE0H224	130-5069

452180

Farads	Order Code	Price Each 1+	10+	50+	100+	250+
0.022	130-5066●	1.34	1.24	1.12	0.88	0.83
0.047	130-5067●	1.45	1.35	1.21	0.94	0.89
0.1	130-5068●	1.96	1.81	1.64	1.28	1.19
0.22	130-5069●	1.67	1.56	1.41	1.08	1.03

SG Series – Gold Capacitor

5.5 Volt d.c.

Panasonic ideas for life



Horizontal Vertical

- Ideally suited for use in CMOS memory back-up
- Can also be used for real time clock backup
- Vertical or horizontal mounting

Operating temperature -25°C to +70°C
Working voltage 5.5V d.c.
Tolerance @ 20°C 20% to +80%

Farads	H	Dia.	Lead Size	Lead Pitch	Mftrs. List No.	OrderCode
	Dimensions					
0.47	20	19	1 x 0.2	5	EECS5R5V474	969-6717
0.47	6	19	1 x 0.2	20	EECS5R5H474	969-6725
1	20	19	1 x 0.2	5	EECS5R5V105	969-7489
1	6	19	1 x 0.2	20	EECS5R5H105	969-7497
1.5	20	19	1 x 0.2	5	EECS5R5V155	969-6733
1.5	6	19	1 x 0.2	20	EECS5R5H155	969-6741

208479

Farads	Mounting	Order Code	Price Each 1+	10+	50+
0.47	Vertical	969-6717●	3.79	2.81	2.11
0.47	Horizontal	969-6725●	3.59	2.81	2.11
1	Vertical	969-7489●	4.00	2.91	2.18
1	Horizontal	969-7497●	4.00	2.91	2.18
1.5	Vertical	969-6733●	4.55	3.35	2.51
1.5	Horizontal	969-6741●	4.51	3.35	2.51

RF/RG Series - Gold Capacitors

Stacked Coin Type

Panasonic ideas for life

New



RG Series



RF Series

- Ideally suited for use in CMOS memory back-up
- 2000h endurance
- Radial, vertical or horizontal case styles

Operating temperature -25°C to +85°C Tolerance @ 20°C +80%, -20%

Farads	Voltage d.c.	H	Dia.	Lead Size	Lead Pitch	Mftrs. List No.	OrderCode
		Dimensions					
0.68	3.6	9.5	21.5	6 x 1.2	5	EECRF0V684	155-0075
0.68	5.5	9.5	21.5	6 x 1.2	5	EECRF0H684	155-0076
1	3.6	5	21	5 x 1	5	EECRG0V105H	155-0077
1	3.6	6	19	3.5 x 1	20	EECRG0V105V	155-0078

527083

Farads	Mounting	Order Code	Price Each 1+	10+	50+	100+	250+
0.68	Radial	155-0075●	6.27	5.54	5.17	4.15	3.57
0.68	Radial	155-0076●	6.27	5.54	5.17	4.15	3.57
1	Vertical	155-0077●	5.20	4.61	4.18	3.42	2.93
1	Horizontal	155-0078●	5.20	4.61	4.18	3.42	2.93

NF & F Series – Gold

5.5 Volt d.c.

Panasonic ideas for life



- Ideally suited for use in CMOS memory back-up
- Large capacitance for long time back-up
- Low profile horizontal mounting

Operating temperature NF Series -25°C to +70°C
Operating temperature F Series -25°C to +80°C
Working voltage 5.5V d.c.
Tolerance @ 20°C -20% to +80%

Farads	H	Dia.	Lead Size	Lead Pitch	Mftrs. List No.	Order Code
	Dimensions					
NF Series						
0.1	7.5	13.5	6 x 1.2	5	EECF5R5U104	969-2703
0.22	7.5	13.5	6 x 1.2	5	EECF5R5U224	130-5064
0.47	8	21.5	6 x 1.2	5	EECF5R5U474	969-2711
1	8	21.5	6 x 1.2	5	EECF5R5U105	969-2720
1.5	8	21.5	6 x 1.2	5	EECF5R5U155	130-5065
F Series						
0.1	7.5	13.5	6 x 1.2	5	EECF5R5H104	130-5059
0.47	8	21.5	6 x 1.2	5	EECF5R5H474	130-5060
0.68	8	21.5	6 x 1.2	5	EECF5R5H684	130-5061
1	8	21.5	6 x 1.2	5	EECF5R5H105	130-5063

451876

Farads	Order Code	Price Each 1+	10+	50+	100+	250+
NF Series						
0.1	969-2703●	2.08	1.26	0.99	0.88	0.77
0.22	130-5064●	4.68	4.35	3.93	3.05	2.88
0.47	969-2711●	4.21	3.59	3.15	2.77	2.45
1	969-2720●	4.82	3.08	2.38	2.09	1.85
1.5	130-5065●	5.91	3.65	2.74	1.94	1.83
F Series						
0.1	130-5059●	3.20	2.18	1.84	1.42	1.35
0.47	130-5060●	5.95	5.53	5.00	3.88	3.65
0.68	130-5061●	5.64	5.24	4.74	3.68	3.47
1	130-5063●	8.01	5.46	4.28	3.33	3.14

HW Series – Gold

Panasonic ideas for life



- Miniature radial leaded memory back-up capacitors
- High capacitance rating - up to 50 Farads
- Low internal resistance
- Longer life than secondary batteries
- Applications include solar battery circuits, quick charge motor drives, UPS power supplies

Operating temperature -25°C to +70°C (70 F = 2.1 V d.c.) Tolerance @ 20°C -20% to +40%
Working voltage 2.3V d.c.

Farads	Max. Internal Res. (Ω) @ 1kHz	Dimensions H	Dia.	Lead Dia.	Lead Pitch	Mftrs. List No.	Order Code
1	1	22	8	0.7	3.5	EECHW0D105	130-5073
3.3	0.3	23	12.5	0.8	5	EECHW0D335	130-5075
4.7	0.3	23	12.5	0.8	5	EECHW0D475	969-6679
10	0.1	35	12.5	0.8	5	EECHW0D106	969-6695
22	0.1	35	18	0.8	7.5	EECHW0D226	119-8519
30	0.1	35	18	0.8	7.5	EECHW0D306	130-5076
50	0.3	40	18	0.8	7.5	EECHW0D506	969-6709
70	0.1	50	18	0.8	7.5	EECHW0D706	130-5077

451874

Farads	Order Code	Price Each 1+	10+	50+	100+	250+
1	130-5073●	2.99	2.76	2.50	1.94	1.84
3.3	130-5075●	2.70	2.16	1.95	1.52	1.43
4.7	969-6679●	2.79	2.52	2.22	1.75	1.59
10	969-6695●	3.61	2.72	2.46	1.84	1.79
22	119-8519●	6.20	4.13	2.98	2.90	2.83
30	130-5076●	7.17	4.78	3.69	3.42	3.33
50	969-6709●	7.83	5.23	3.90	3.70	3.61
70	130-5077●	13.19	9.07	8.20	6.34	6.00

HZ Series – Gold

Panasonic ideas for life



New

- High withstand voltage
- Low internal resistance
- Longer life than secondary batteries
- Applications include solar battery circuits and UPS power supplies

Operating temperature -25°C to +60°C Tolerance @ 20°C +40%, -20%
Working voltage 2.5V dc

Farads	Max. Internal Res. (Ω) @ 1kHz	Dimensions H	Dia.	Lead Pitch	Mftrs. List No.	Order Code
3.3	0.3	20	8	3.5	EECHZ0E335	167-3325
4.7	0.3	20	10	5	EECHZ0E475	167-3322
10	0.2	30	10	5	EECHZ0E106	167-3323

527433

Farads	Order Code	Price Each 1+	10+	50+	100+	250+
3.3	167-3325●	2.46	2.35	2.23	2.03	1.86
4.7	167-3322●	3.34	3.17	3.03	2.77	2.66
10	167-3323●	3.34	3.17	3.03	2.77	2.66

RL Re-reeling available

Farnell

Memory Back-Up - continued

SuperCap Series



- Double-layer capacitors with very high capacitances in the Farad range
- Maintenance-free
- Applications include battery support in automotive, railway technology, wind power systems, uninterruptable power systems (UPS) and equipment in remote locations

Operating temperature	-30°C to +65°C
Voltage rating	2.5V
Tolerance	±20%

Capacitance F	Dimensions H	W	D	Mftrs. List No.	Order Code
100	36	48	16.5	SUPERCAP 100F/20/2.5	151-9314
200	59	48	16.5	SUPERCAP 200F/20/2.5	151-9315
300	59	48	26.5	SUPERCAP 300F/20/2.5	151-9316
400	59	48	26.5	SUPERCAP 400F/20/2.5	151-9317

494438

Order Multiple=1 F	Order Code	Price Each 1+	5+	10+
100	151-9314●	25.85	21.54	15.60
200	151-9315●	49.59	41.33	29.92
300	151-9316●	73.34	61.12	44.25
400	151-9317●	91.55	78.70	56.98

BestCap®
Pulse Supercapacitors



AVX's BestCap® technology provides excellent high power pulse characteristics based upon the combination of very high capacitance and ultra-low ESR, together with extremely low leakage current.
Based on a unique patented aqueous chemistry and an innovative design, this series offers high capacitance, even with short pulse applications such as in GSM, GPRS, Edge and PCS based systems.
While BestCap® technology offers more efficient energy savings in battery circuits than conventional supercapacitors, its Low ESR results in a high current handling capability, making this an ideal solution for any portable or wireless devicerequiring high power availability.

BZ1 Case Size

pF	Mftrs. List No.	Order Code	Price Each 1+	30+	90+	240+
4.5 Volt d.c.						
22	BZ054B223ZSBBQ	130-2044●	16.21	12.94	9.73	8.07
12 Volt d.c.						
10	BZ05CA103ZSB	130-2045●	19.95	15.94	11.99	9.94

BZ2 Case Size

pF	Mftrs. List No.	Order Code	Price Each 1+	30+	90+	240+
3.6 Volt d.c.						
50	BZ013B503ZSBAJ	130-2028●	10.90	8.73	6.55	5.41
70	BZ013A703ZLB	130-2027●	8.23	6.59	4.95	4.09
100	BZ113B104ZSB	130-2046●	19.95	15.96	11.98	9.90
140	BZ013A144ZLB	130-2026●	9.81	7.85	5.88	4.87
4.5 Volt d.c.						
33	BZ014B333ZSB	130-2029●	16.01	12.83	9.62	7.96
45	BZ014C453ZSB88	130-2030●	14.75	11.80	8.83	7.31
220	BZ114A224ZSBBN	130-2047●	22.36	17.87	13.42	11.10
5.5 Volt d.c.						
30	BZ015B303ZSB	130-2033●	16.01	12.83	9.62	7.96
50	BZ015A503ZSB	130-2032●	12.93	10.36	7.77	6.42
60	BZ015B603ZLB	130-2034●	18.44	14.75	11.07	9.15
100	BZ015A104ZSB	130-2031●	34.15	25.89	20.62	13.23
9 Volt d.c.						
33	BZ019A333ZSB	130-2037●	22.63	18.10	13.56	11.23
12 Volt d.c.						
22	BZ01CA223ZSB	130-2038●	35.34	28.24	21.19	16.64

BZ5 Case Size

452076

pF	Mftrs. List No.	Order Code	Price Each 1+	30+	90+	240+
3.6 Volt d.c.						
280	BZ023A284ZAB	130-2039●	18.14	14.51	10.89	9.00
560	BZ023A564ZAB	130-2040●	22.31	17.84	13.39	11.08
5.5 Volt d.c.						
200	BZ025A204ZAB	130-2041●	36.32	29.04	21.82	18.02
400	BZ025A404ZAB	130-2042●	51.18	40.95	30.72	25.42
1000	BZ125A105ZLB	130-2051●	81.69	65.31	48.99	40.80
12 Volt d.c.						
90	BZ02CA903ZLB	130-2043●	61.49	49.20	36.91	30.53

Decade Box

Capacitance Decade Box
72-7265



Ideal for service, prototype and experimental use, this useful tool may be set at any non-polarised capacitor value from 100pFto 11,111μF, in 100pF increments. twenty individual slide switches allow the user to quickly and easily select capacitor values. Wave soldered, two layer PC board utilises high quality 5% tolerance mylar capacitors.

- Maximum internal residual capacitance is 50pF
- Colour coded binding posts provide capacitor and ground connections
- Passive device requires no power source

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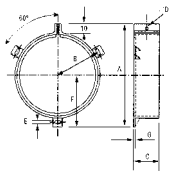
Mfrs. List No.	Order Code	Price Each 1+	5+
72-7265	490-8442	71.64	67.36

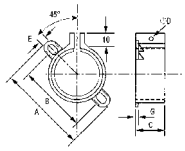
Mounting Accessories

Plastic Mounting Clamps



- Nylon mounting clamps for can type electrolytic capacitors.
- Fully insulated two or three lug mounting.
- Available with or without flange





* The diameter is approximate as it is possible for the clip to expand or compress slightly to allow for small variations in can size.

208468

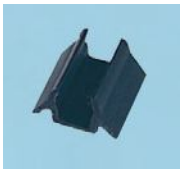
Order Multiple=5 Can Dia.*	Mounting	Order Code	Price Each 5+	50+	100+	500+
With flange						
25	2 lug	653-470	0.26	0.25	0.23	0.18
30	2 lug	388-5379	0.28	0.27	0.25	0.24
35	2 lug	653-482	0.31	0.30	0.27	0.24
40	2 lug	653-494	0.34	0.33	0.32	0.26
45	2 lug	653-500	0.36	0.35	0.34	0.28
50	3 lug	653-512	0.39	0.38	0.37	0.31
63.5	3 lug	653-524	0.41	0.40	0.39	0.33
76	3 lug	653-536	0.44	0.43	0.42	0.35
Without flange						
25	2 lug	388-5290	0.27	0.26	0.25	0.24
30	2 lug	388-5306	0.30	0.29	0.27	0.26
35	2 lug	388-5318	0.33	0.32	0.31	0.28
40	2 lug	388-5320	0.37	0.36	0.35	0.31
50	3 lug	388-5343	0.41	0.40	0.38	0.35
63.5	3 lug	388-5355	0.43	0.42	0.40	0.38
76	3 lug	388-5367	0.46	0.45	0.43	0.40



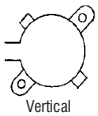
Horizontal Metal Clamps



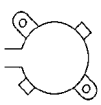
Vertical Metal Clamps



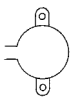
Plastic Clips



Vertical Style A



Vertical Style B



Vertical Style C

*The diameter is approximate as it possible for the clip to expand or compress slightly to allow for small variations in can size

227216

Dia.*	H	FC (Style)	Order Code	Price Each 1+	50+	100+	500+	1K+
Horizontal Metal Clamps								
25	22	13	306-484●	0.470	0.440	0.400	0.380	0.360
35	22	13	306-496●	0.570	0.520	0.480	0.450	0.420
Vertical Metal Clamps								
25	19	35 (C)	306-514●	0.540	0.480	0.440	0.410	0.380
35	18	54 (A)	118-7275●	1.010	0.960	0.920	0.820	0.810
35	19	48 (C)	306-526●	0.530	0.500	0.460	0.440	0.410
40	14	57 (A)	118-7276●	1.270	1.220	1.150	1.040	1.020
51	26	65 (B)	306-551●	0.900	0.780	0.690	0.630	0.570

Dia.*	Mtg. Hole Dia.		Order Code	Price Each 1+	100+	1K+
Plastic Clips						
5-6.3	7.54	2.5	146-091●	0.188	0.139	0.097
18	17.07	3.7	146-096●	0.270	0.200	0.140

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