

Operating voltages	12V dc	24V dc	28V dc	48V dc
Operating current:				
Midget Groove	205 series 20mA	20mA	17mA	10mA
Sub-Midget Flange	202 series 17mA	14mA	12mA	—
Midget Flange	206 series 20mA	20mA	17mA	10mA
Telephone Slide T5.5	209 series 20mA	20mA	17mA	10mA
Telephone Slide T6.8	208 series 20mA	20mA	20mA	12mA
BA9s	215 series 20mA	20mA	20mA	12mA
BA15d	225 series —	25mA	17mA	—
MES	211 series 20mA	20mA	17mA	10mA

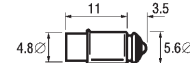
Luminous intensity (typ.): 3000mcd, note 225 series = 3000mcd per LED (6 LED cluster) and 202 series = 2000mcd.
 Operating temp. range: -40°C to +80°C Viewing angle to half intensity: 120° except 225 series = 30°

OPT560

Voltage	Mfrs. List No.	Order Code	Price Each				
			1+	10+	25+	50+	100+
Midget Groove							
12V dc	205-997-21-38	139-117					
24V dc	205-997-22-38	139-129					
28V dc	205-997-23-38	139-130					
48V dc	205-997-24-38	139-142					
Sub-Midget Flange							
12V dc	202-998-21-38	139-154					
24V dc	202-998-22-38	139-166					
28V dc	202-998-23-38	139-178					
Midget Flange							
12V dc	206-997-21-38	139-180					
24V dc	206-997-22-38	139-191					
28V dc	206-997-23-38	139-208					
48V dc	206-997-24-38	139-210					
Telephone Slide T5.5							
12V dc	209-997-21-38	139-221					
24V dc	209-997-22-38	139-233					
48V dc	209-997-24-38	139-257					
Telephone Slide T6.8							
24V dc	208-997-22-38	139-270					
28V dc	208-997-23-38	139-282					
48V dc	208-997-24-38	139-294					
BA9s							
12V dc	215-997-21-38	139-300					
24V dc	215-997-22-38	139-312					
28V dc	215-997-23-38	139-324					
48V dc	215-997-24-38	139-336					
BA 15d							
24V dc	225-997-22	139-385					
28V dc	225-997-23	139-397					
MES							
12V dc	211-997-21-38	139-348					
24V dc	211-997-22-38	139-350					
48V dc	211-997-24-38	139-373					

Colour	Mfrs. List No.	Order Code	Price Each				
			1+	10+	25+	50+	100+
12V dc Red	202-301-21-38	138-794					
12V dc Green	202-324-21-38	138-800					
12V dc Yellow	202-325-21-38	138-812					
12V dc Blue	202-934-21-38	138-824					
24V dc Red	202-301-22-38	138-836					
24V dc Green	202-324-22-38	138-848					
24V dc Yellow	202-325-22-38	138-850					
24V dc Blue	202-934-22-38	138-861					
28V dc Red	202-301-23-38	138-873					
28V dc Green	202-324-23-38	138-885					
28V dc Yellow	202-325-23-38	138-897					
28V dc Blue	202-934-23-38	138-903					

Midget Groove - Sunlight Readable



Centre contact anode (+), Colour by coloured band

These single chip, true sunlight readable LEDs incorporate an ultra-high bright LED which has been flat topped to provide wide angled switch illumination.

Mean Time Between Failure (MTBF) = 100,000 hours

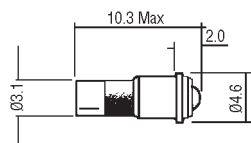
Supply Voltage	12V	24V	28V	Wavelength (nm)
Luminous intensity (typ)				
Red	2750mcd	2750mcd	2750mcd	660
Green	6000mcd	6000mcd	6000mcd	525
Yellow	4500mcd	4500mcd	4500mcd	590
Blue	2000mcd	2000mcd	2000mcd	450
Forward Current	20mA	20mA	20mA	
Viewing angle 85°	Operating Temperature range -20° to +50°C			

OPT441

Colour	Mfrs. List No.	Order Code	Price Each				
			1+	10+	25+	100+	250+
12Vdc Red	205-501-21-38	744-130					
12Vdc Green	205-532-21-38	744-141					
12Vdc Yellow	205-521-21-38	744-153					
12Vdc Blue	205-930-21-38	744-165					
24Vdc Red	205-501-22-38	744-177					
24Vdc Green	205-532-22-38	744-189					
24Vdc Yellow	205-521-22-38	744-190					
24Vdc Blue	205-930-22-38	744-207					
28Vdc Red	205-501-23-38	744-219					
28Vdc Green	205-532-23-38	744-220					
28Vdc Yellow	205-521-23-38	744-232					
28Vdc Blue	205-930-23-38	744-244					

Single Chip LED Bulb Replacements

Sub-Midget Flange (SX4s/4), T1



Centre contact anode (+). Colour identified by a tint in the lens epoxy.

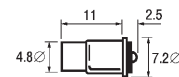
'Fitted into the worlds leading Avionics Switches' the Marl 202 series has been designed to meet the exact requirements of the Aviation and Military market sectors. They have sunlight readability and excellent even diffusion behind standard lenses.

A unique feature of the range is the full potting of the product to protect against vibration and assist in the dissipation of heat. This is the only product in the world to have this critical feature, and has led the product to be identified 'as the best in the world'.

Supply Voltage	12V	24V	28V
Luminous intensity (typ.)			
Red	850mcd	850mcd	850mcd
Green	3400mcd	3400mcd	3400mcd
Yellow	4400mcd	4400mcd	4400mcd
Blue	1000mcd	1000mcd	1000mcd
Forward Current	17mA	14mA	12mA
Wavelength (nm)	Red = 660, Yellow = 590, Green = 525, Blue = 470		
Viewing angle to half intensity	120°		
Operating temp. range	-40°C to +80°C		

OPT566

Midget Flange - Sunlight Readable



Centre contact anode (+), Colour identified by coloured band

Design features and specification are identical to Miget Groove range (see above.)

OPT442

Colour	Mfrs. List No.	Order Code	Price Each				
			1+	10+	25+	100+	250+
12Vdc Red	206-501-21-38	744-256					
12Vdc Green	206-532-21-38	744-268					
12Vdc Yellow	206-521-21-38	744-270					
12Vdc Blue	206-930-21-38	744-281					
24Vdc Red	206-501-22-38	744-293					
24Vdc Green	206-532-22-38	744-300					
24Vdc Yellow	206-521-22-38	744-311					
24Vdc Blue	206-930-22-38	744-323					
28Vdc Red	206-501-23-38	744-335					
28Vdc Green	206-532-23-38	744-347					
28Vdc Yellow	206-521-23-38	744-359					
28Vdc Blue	206-930-23-38	744-360					

continued