

SO E

features



- Ø8.1mm mounting
- Black anodised aluminium housing
- Sealed to IP67 Weatherproof
- Wide viewing angle Smoked lens
- Internal potting
- Internal reverse protection diode fitted as standard
- Range of LED colour options
- Range of voltage options

specifications

Typical characteristics (Ta = 25° C)

Part Number	Colour	Voltage Vac/dc	Current DC (mA)	Luminous Intensity (mcd)	Wave Length (nm)	Operating Temp. (°C)	Storage Temp. (°C)	De-rating Graphs
677-501-21	Red	12 Vdc	20	600	630	-40 - +80	-40 - +100	D
677-521-21	Yellow	12 Vdc	20	600	585	-40 - +80	-40 - +100	D
677-532-21	Green	12 Vdc	20	2300	515	-40 - +75	-40 - +100	F
677-930-21	Blue	12 Vdc	20	9870	465	-30 - +85	-40 - +100	U
677-997-21	White	12 Vdc	20	27000	* See below	-30 - +85	-40 - +100	I
677-501-23	Red	28 Vdc	20	600	630	-40 - +80	-40 - +100	D
677-521-23	Yellow	28 Vdc	20	600	585	-40 - +80	-40 - +100	D
677-532-23	Green	28 Vdc	20	2300	515	-40 - +75	-40 - +100	F
677-930-23	Blue	28 Vdc	20	9870	465	-30 - +85	-40 - +100	U
677-997-23	White	28 Vdc	20	27000	* See below	-30 - +85	-40 - +100	I

997F-C	*Typical emission colour White						
x	0.31	-	-	-			
У	0.32	-	-	-			

^ = Voltage for 20mA product is Vf at 20mA, not Vopr

- Products must be de-rated according to the de-rating information. Each de-rating graph refers to specific LEDs. Please refer to graphs on page 3.

- Luminous intensity is measured at 20mA on a discrete LED unless otherwise stated.

- Intensities (Iv) and colour shades of white (x, y co-ordinates) may vary between LEDs within a batch

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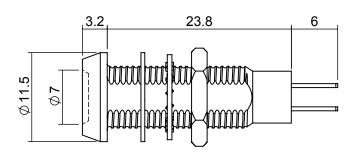
page 1 of 5

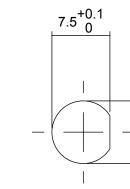
technical data



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Ø8.1





Mounting Hole

Dimensions in mm (typical)

Anode termination denoted by red indicator Mounting hole to be clean and burr free

Not to scale housing material push on connectors Body Black Anodised Aluminium 14.5 Nut Nickel Plated Brass Panel Seal Viton Polycarbonate **Fresnel Lens** 3.7 PC5430 Resin Encapsulation Lock Washer Spring Steel 925-000-00 is brass tin plated - for use Silver Flash Coated Brass with 677 series lamps Termination Dimensions in mm (typical). Not to scale. Header

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2.8

technical characteristics

Series	Max. Power Dissipation	Max. Reverse Voltage	Panel Cutout	Nut Mounting Torque	Min. Mounting Centres	Max. Panel Thickness
677	700	3*/1000^	8.1	0.6	14.5	1.5 - 13.0
units	mW	Vdc	mm	Nm	mm	mm

* = Current Version ^ = Voltage Version

optional flying lead terminations

Order Code	Supply	Wire	Wire	No/Diameter	Diameter	Comments
Suffix	Voltage	Colour	Length	of Conductor	Insulation	
19	DC products	Red-anode/ Black-cathode	1000mm	19/0.15mm	1.2mm	Customised lengths available

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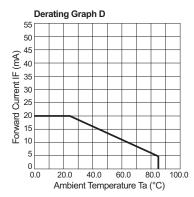
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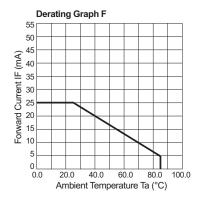


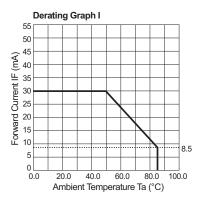
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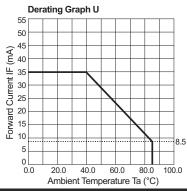
de-rating information











also available

Part numbers also available in the 677 series:

Part	Colour	Voltage	Part	Colour	Voltage	Part	Colour	Voltage	
Number		Vopr	Number		Vopr	Number		Vopr	
677-501-00-50	Red	16-32 Vdc	677-501-75-50	Red	110 Vac 50 Hz	677-521-21-53	Yellow	12 Vdc	
677-501-04	Red	20 mA dc	677-501-76-50	Red	230 Vac 50 Hz	677-521-22	Yellow	24 Vdc	
677-501-04-51	Red	20 mA dc	677-501-86	Red	115 Vac 60 Hz	677-521-22-50	Yellow	24 Vdc	
677-501-20	Red	5/6 Vdc	677-501-86-15	Red	115 Vac 60 Hz	677-521-23-15	Yellow	28 Vdc	
677-501-20-53	Red	5/6 Vdc	677-503-21	Red	12 Vdc	The products listed here illustrate all of			
677-501-21-15	Red	12 Vdc	677-503-23	Red	28 Vdc	the options available to order. These			
677-501-21-19	Red	12 Vdc	677-506-21	Orange	12 Vdc				
677-501-21-53	Red	12 Vdc	677-512-04	Green	20 mA dc	products may have custom modifications			
677-501-22	Red	24 Vdc	677-512-21	Green	12 Vdc	that alter their operation beyond the			
677-501-23-15	Red	28 Vdc	677-512-23	Green	28 Vdc		•	•	
677-501-23-19	Red	28 Vdc	677-512-86	Green	115 Vac 60 Hz	generic inforn	nation contair	ned within this	
677-501-23-53	Red	28 Vdc	677-521-04	Yellow	20 mA dc	datasheet. Pl	ease contact	sales for	
677-501-24	Red	48 Vdc	677-521-04-50	Yellow	20 mA dc				
677-501-46	Red	35 Vdc	677-521-20	Yellow	5/6 Vdc	further information.			
677-501-48-50	Red	60 Vdc	677-521-21-15	Yellow	12 Vdc	* = These products do not contain			
677-501-75-15	Red	110 Vac 50 Hz	677-521-21-19	Yellow	12 Vdc	integral resistors			

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also available continued

M/A/R/L

Voltage Vopr 28 Vdc 110 Vac 50 Hz 110 Vac 50 Hz 110 Vac 50 Hz 115 Vac 60 Hz

Part	Colour	Voltage	Part	Colour	
Number	Colour	Vopr	Number	Colour	
677-521-23-19	Yellow	28 Vdc	677-997-23-55	White	
677-521-23-53	Yellow	28 Vdc	677-997-75-15	White	
677-521-24	Yellow	48 Vdc	677-997-75-19	White	
677-523-22	Red	24 Vdc	677-997-75-50	White	
677-523-23	Red	28 Vdc	677-997-86	White	
677-524-21	Yellow	12 Vdc			
677-524-22	Yellow	24 Vdc			
677-525-22	Green	24 Vdc			
677-525-23	Green	28 Vdc			
677-530-23-50	Red/Green	28 Vdc			
677-532-00-50	Green	100-265 Vac			
677-532-00-51	Green	16-32 Vdc			
677-532-00-52	Green	16-32 Vdc			
677-532-04	Green	20 mA dc			
677-532-20	Green	5/6 Vdc			
677-532-20-19	Green	5/6 Vdc			
677-532-20-53	Green	5/6 Vdc			
677-532-21-15	Green	12 Vdc			
677-532-21-19	Green	12 Vdc			
677-532-21-53	Green	12 Vdc			
677-532-22	Green	24 Vdc			
677-532-22-50	Green	24 Vdc			
677-532-23-05	Green	28 Vdc			
677-532-23-15	Green	28 Vdc			
677-532-23-19	Green	28 Vdc			
677-532-23-50	Green	28 Vdc			
677-532-23-53	Green	28 Vdc			
677-532-23-54	Green	28 Vdc			
677-532-24	Green	48 Vdc			
677-532-46	Green	35 Vdc			
677-532-48	Green	60 Vdc			
677-532-48-50	Green	60 Vdc			
677-532-75-19	Green	110 Vac 50 Hz			
677-532-75-50	Green	110 Vac 50 Hz			
677-532-75-51	Green	110 Vac 50 Hz			
677-532-86	Green	115 Vac 60 Hz			
677-532-86-15	Green	115 Vac 60 Hz			
677-535-04-15	Red/Green	20 mA dc			
677-535-23-50	Red/Green	28 Vdc			
677-540-23	Red	28 Vdc			
677-590-22	Red	24 Vdc			
677-930-20	Blue	5/6 Vdc			
677-930-21-19	Blue	12 Vdc			
677-930-21-53	Blue	12 Vdc			
677-930-22	Blue	24 Vdc	1		
677-930-23-53	Blue	28 Vdc	1		
677-997-20	White	5/6 Vdc	1		
677-997-21-53	White	12 Vdc	1		
677-997-21-55	White	12 Vdc	1		
677-997-22	White	24 Vdc	1		
677-997-23-15	White	28 Vdc	1		
677-997-23-53	White	28 Vdc	1		
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design considerations

Electro-Static Discharge (ESD)

Build up of electro-static discharge occurs in many situations involving people moving and handling products. The range of possible situations is very diverse but voltage levels as high as several thousand volts can and do arise in many individual situations. When an operator charged up to these levels handles a static sensitive device, there is a very probable likelihood that the device will be irreversibly damaged. It is essential that precautions are taken at all stages during manufacture and assembly of these products. Although LEDs were never considered to be static sensitive devices, changes in manufacturing technology and materials used to produce higher intensity products over a large range of the wavelength spectrum have changed this. Marl has an approved system of ESD control from goods in, through production and into final packing and despatch. Marl recommend all users of LED based products follow the guidelines of BS 100015.

Power De-Rating

The forward voltage/ current value of an LED is dependant upon the ambient temperature of the environment in which it is operated. Therefore, care must be taken to operate the LED at the correct voltage/ current values, depending upon the ambient temperature. Consequently, a recommendation regarding operating voltages and currents is given in order to address these temperature effects. This recommendation is termed 'de-rating'. It is usual for forward voltages and currents to be specified for ambient temperature of 25°C. However, because the values of these qualities vary with temperature, please refer to the de-rating graphs for correct operation. Marl accept no liability for any product that is operated higher than the stated voltage.

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