

#### features



- Ø12.7mm mounting
- Product will operate over a wide voltage range
- Black anodised aluminium housing
- Colour diffused lens with an 180° viewing angle
- · Fully internally potted to resist shock and vibration
- Sealed to IP67
- True bi-polar product; AC and DC operation
- Pack Quantity = 10 Pieces

#### specifications

Typical characteristics (Ta = 25°C)

RS Part Number	Marl Part Number	Colour	Voltage Vac/dc	Current DC (mA)	Luminous Intensity (mcd)	Wave Length (nm)	Operating Temp. (°C)	Storage Temp. (°C)	De-rating Graphs
6667227	652-102-63	Red	12-28	6-16	500	660	-40 - +85	-40 - +85	В
6667236	652-102-75	Red	110	7	500	660	-40 - +85	-40 - +85	В
6667218	652-105-63	Red	12-28	6-16	95	625	-40 - +85	-40 - +85	В
6667233	652-105-75	Red	110	7	95	625	-40 - +85	-40 - +85	В
6667220	652-111-63	Yellow	12-28	6-16	45	590	-40 - +85	-40 - +85	В
6667230	652-111-75	Yellow	110	7	45	590	-40 - +85	-40 - +85	В
6667224	652-114-63	Green	12-28	6-16	45	565	-40 - +85	-40 - +85	С
6667249	652-114-75	Green	110	7	45	565	-40 - +85	-40 - +85	С

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<sup>-</sup> 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.

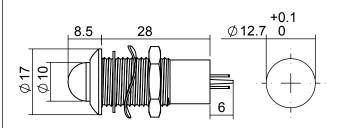
<sup>-</sup> Luminous intensity measured at 20mA



#### technical data

### Below 50Vac/dc +0.1 11.3 8.5 23 5 0 $\infty$ 0 **Mounting Hole**

#### Above 50Vac/dc



**Mounting Hole** 

Dimensions in mm (typical)

Not to scale

**Body** 

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

#### housing material

Aluminium Grade 6063 balck anodised

Nut Stainless Steel Grade 303

**Panel Seal** Viton

Polycarbonate Fresnel Lens PC5430 Resin **Encapsulation** Lock Washer Zinc Plated Steel

Copper with silver flash finish **Termination Tags** 

Header Nylon6 A82 push on connectors

925-000-00 is brass tin plated - for use with 652 series

lamp
Dimensions in mm (typical). Not to scale.

#### technical characteristics

Series	Max. Power Dissipation	Max. Reverse Voltage	Panel Cutout	Nut Mounting Torque	Min. Mounting Centres	Max. Panel Thickness
652	825	-	12.7	1.0	19.5	1.5 - 8.0
units	mW	Vdc	mm	Nm	mm	mm

<sup>\* =</sup> Current Version ^ = Voltage Version

#### optional flying lead terminations

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

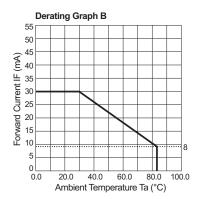
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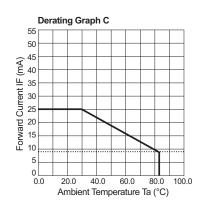






#### de-rating information





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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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