

# 151 SERIES **PCB MOUNTING LED**



#### **FEATURES**

- 5mm Tri-Colour PCB
- · Diffused LED
- · Standard Intensity LED
- · Conforms to UL94 V-0 Flammability Rating

### **BENEFITS**

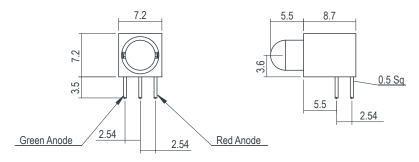
- Red and Green can be operated simultaneously for Amber
- Diffused LED gives wide viewing angle
- · Reduced power consumption
- · Meets industrial requirements
- · Outstanding reliability

Marl Part Number	LED Colour	Typical LED Voltage DC Vf	Typical LED Current DC If	Typical LED Luminous Intensity	Typical LED Wavelength λd	Operating Temp Topr *	Storage Temp Tstg
151-535-04	Red/Green Bi-Colour	2.0/2.2	20	40/60	617/568	-40 to +85	-40 to +85
		Vdc	mA	mcd	nm	°C	°C

### **TECHNICAL DRAWING**

Weight (g): 0.65

Dimensions in mm (typical). Not to scale.



# **NOTES**

Intensities (Iv) may vary between LEDs within a batch. Figures for Bi-Colour LEDs are denoted respectively. All LED components are supplied in anti-static packaging.

\* LED Characteristics stated at Ta=25°C. For operating temperature derating graphs, please refer to sheet 2.











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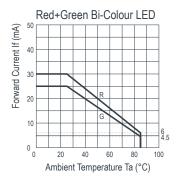
#### HOUSING MATERIAL

#### Nylon66 (A82)

This material offers UL94 V-0 flame retardancy\* and a high impact strength. This material has a melting point of 200-220°C and is suitable for use in the majority of automatic soldering processes.

\*Material test thickness of 1.6mm

#### **DE-RATING GRAPH**



## **DESIGN CONSIDERATIONS**

#### **LED Polarity**

Anode identification is shown in the dimensional diagram. The long lead of a non cropped unit can also be used to help identify the anode. For the 2 pin bi-colour units the standard colour configuration is red anode to the '+' sign

#### 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.

#### Voltage, Current and Temperature

The forward voltage / current value of an LED is dependent 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.

Marl should be contacted if the device is to be operated outside the temperature range specified. Marl accept no liability for any product that is operated outside the stated voltage or temperature range.





