

5.0mm Round LED Lamp multicomp^{PRO}

RoHS
Compliant

Specifications

Dice material	: GaAsP/GaP
Emmiting Colour	: Hi-effect Red
Lens colour	: Red Diffused
Peak wavelength	: 642nm
Viewing angle	: 45°
Luminous intensity (IV)	: 4mcd

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Power Dissipation	PD	72	mW
Reverse Voltage	VR	5	V
D.C. Forward Current	If	30	mA
Reverse (Leakage) Current	Ir	100	µA
Peak Current (1/10Duty Cycle,0.1ms Pulse Width.)	If (Peak)	100	mA
Operating Temperature Range	Topr.	-25 to +85	°C
Storage Temperature Range	Tstg.	-40 to +100	°C
Soldering Temperature (1.6mm from body)	Tsol	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	

Electrical and Optical Characteristics

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=2mA	2	4		mcd
Forward Voltage	Vf	If=2mA		1.9	2.4	V
Peak Wavelength	λp	If=2mA		642		nm
Dominant Wavelength	λd	If=2mA		629		nm
Reverse (Leakage) Current	Ir	Vr=5V			100	µA
Viewing Angle	2θ1/2	If=2mA		45		deg
Spectrum Line Halfwidth	Δλ	If=2mA		35		nm

Notes

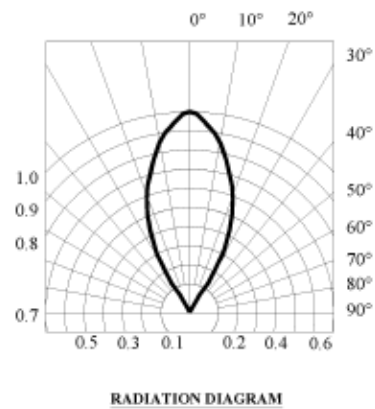
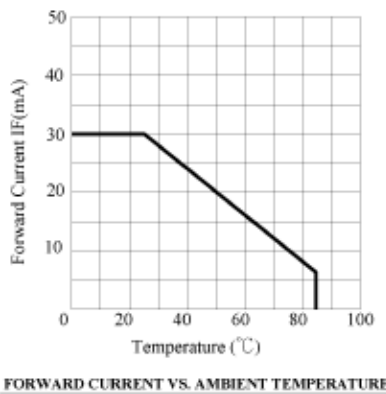
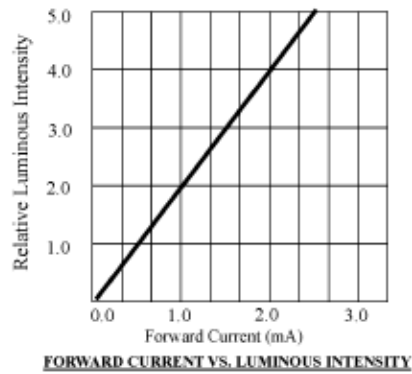
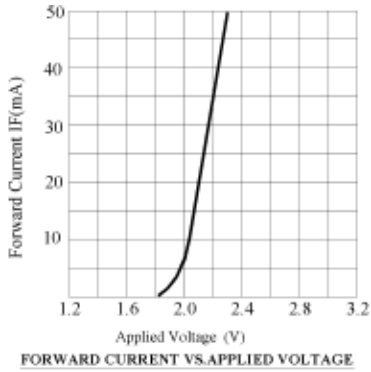
1. Tolerance of Luminous Intensity is ±15%
2. Tolerance of Forward Voltage is ±0.1V
3. Tolerance of Dominant Wavelength is ±1nm
4. The specifications, characteristics and technical data described in the datasheet are subject to change without notice.

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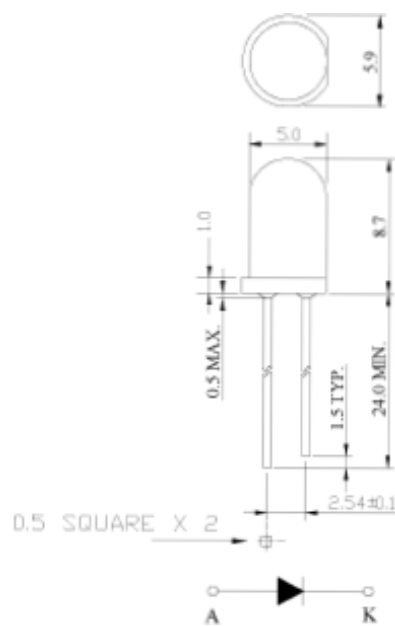
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Absolute Maximum Ratings at Ta=25°C



Dimensions



Tolerance is ±0.25mm unless otherwise noted.

Dimensions : Millimetres

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Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120° to 130°C. At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened. If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products cool (normal temperature).

(1) Soldering measurements: Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering : Pre-heat: 90°C max. (Underside of PCB), Within 60 seconds.

Solder bath: 260 ±5°C (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350°C max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120°C max.

Baking time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.

Part Number Table

Description	Part Number
Round LED, Hi-effect Red, 642nm, 45°, 4mcd, Through hole	MP008247

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