

LED

Hi-Eff Red, 5mm



RoHS
Compliant



Specifications:

Dice material	: GaAsP on GaP
Emitted colour	: Hi-eff Red
Lens colour	: Red Transparent
Peak wavelength	: 635nm
Viewing angle	: 16°
Luminous intensity (IV)	: 120mcd

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Reverse Voltage	5V
Reverse Current	10 μ A ($V_R = 5V$)
Operating Temperature Range	-40°C to 85°C
Storage Temperature Range	-40°C to 100°C
Lead Soldering Temperature Range 1.6mm (1/16 inch) from body	260°C for 5 Seconds

Electrical/Optical Characteristics at $T_a = 25^\circ\text{C}$

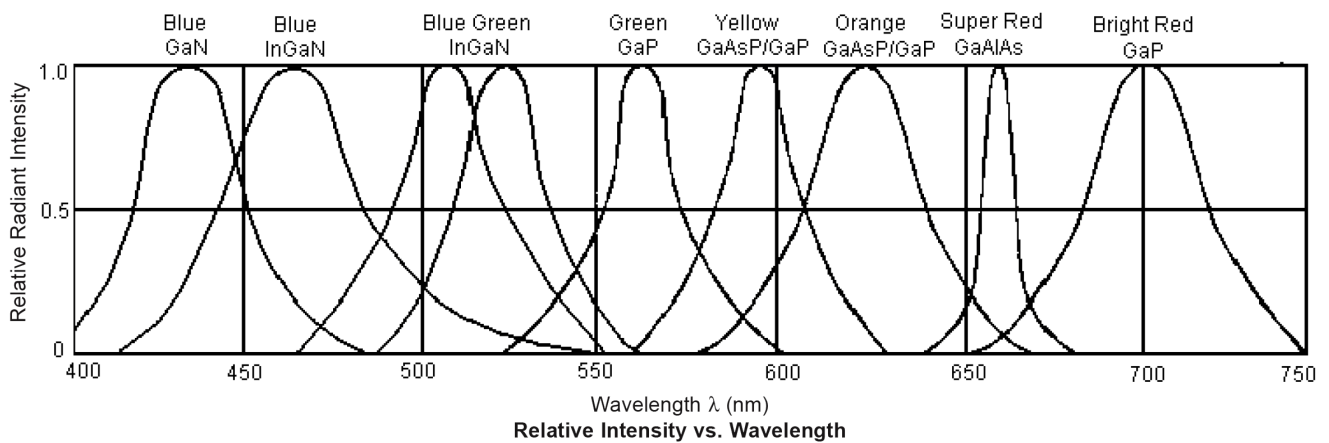
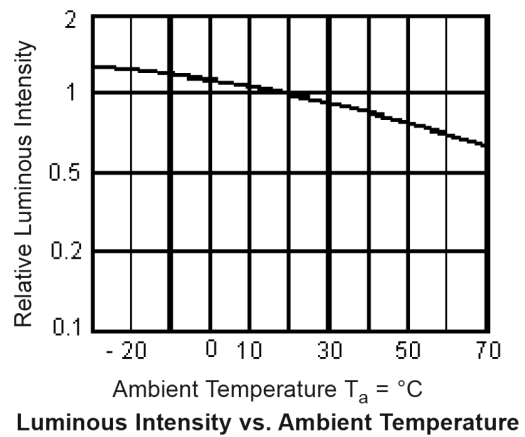
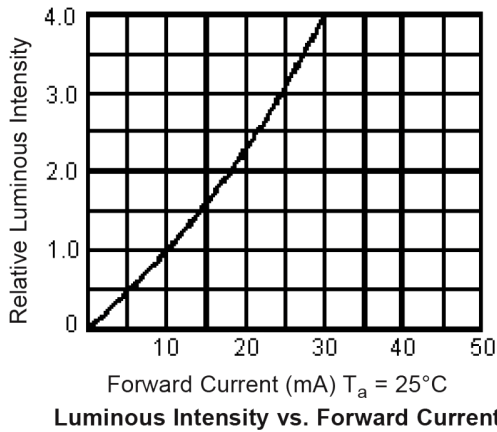
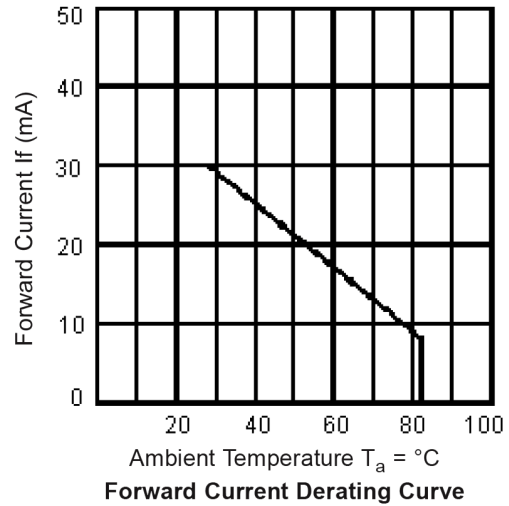
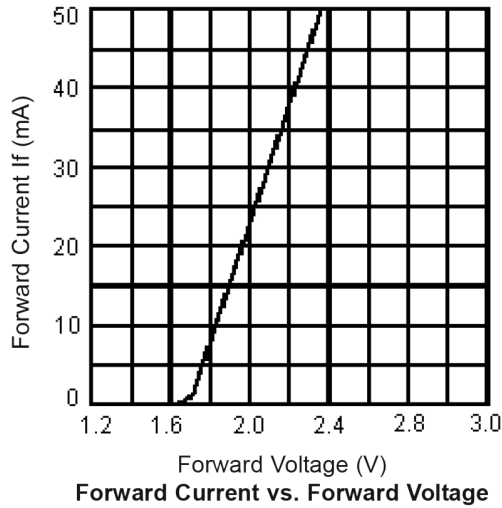
Parameter	Symbol	Minimum	Typical	Maximum	Unit	Test
Luminous Intensity	IV	85	120	150	mcd	IF = 20mA
Viewing Angle	2 θ 1/2	-	16	-	degrees	
Peak Emission Wavelength	λ_P	-	635	-	nm	
Dominant Wavelength	λ_D	-	625	-		
Spectral Line Half-Width	$\Delta\lambda$	-	45	-		
Forward Voltage	VF	1.8	2	2.6	V	-
Power Dissipation	Pd	-	-	85	-	
Peak Forward Current (Duty 1/10 at 1KHz)	IF (Peak)	-	-	100	-	
Recommended Operating Current	IF (Rec)	-	20	-	mA	

LED

Hi-Eff Red, 5mm



Orange Red (GaAsP on GaP $\lambda_P = 635\text{nm}$)



LED

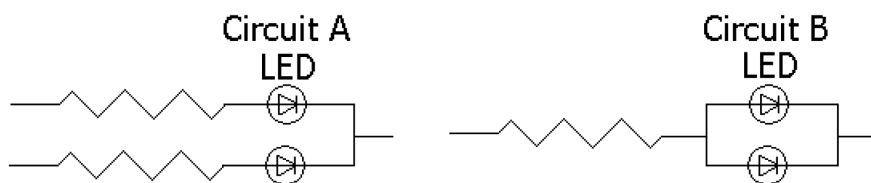
Hi-Eff Red, 5mm



Precautions For Use LED

1. Drive Method

LED is current-operated device. In order to ensure intensity uniformity on multiple LEDs connected in parallel in a application, it is recommended that a current limiting resistor be incorporated in the drive circuit.



(a) Circuit A it is recommended circuit.

(b) Circuit B the brightness of each LED might appear different due to the differences in the I-V characteristics of those LEDs.

2. Over-current-proof

Customer must apply resistors for protection , otherwise slight voltage shift will cause big current change (Burn out will happen).

3. Storage

The Storage Temperature and RH are: 5°C ~ 30°C, RH 60% or less.

Once the package is opened, the products should be used within a week. Otherwise, they should be kept in moisture proof package with moisture absorbent material (silica gel).

We suggest our customers to use our products within a year.

If the moisture absorbent material (silica gel) has faded away or the LEDs exceeded the storage time , baking treatment should be performed using the following conditions.

Baking treatment: more than 24 hours at 60°C ±5°C.

4. Electrostatic Discharge (ESD)

Static electricity or surge voltage will damage the LEDs

Suggestions to prevent ESD damage:

Use of a conductive wrist band or ante-electrostatic glove when handling these LEDs. All devices, equipment, and machinery must be properly grounded. Work tables storage racks, etc. should be properly grounded.

In the events of manual working in process, make sure the devices are well protected from ESD at any time

5. Others

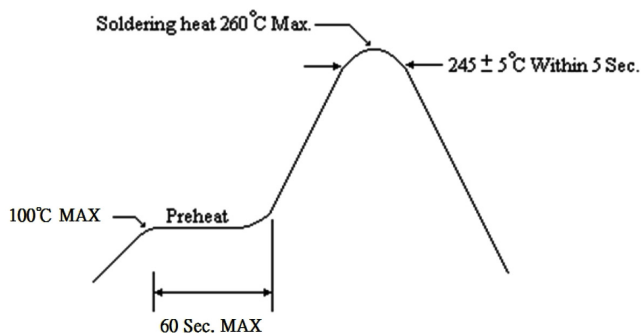
(a) If want to have the uniform luminance and color, please use the same binning number, and avoid using intermix to cause the differences of luminance and color.

(b) The appearance and specifications of the product may be modified for improvement without prior notice.

6 Soldering

Recommended soldering condition as shown below:

Soldering heat (DIP)



LED

Hi-Eff Red, 5mm



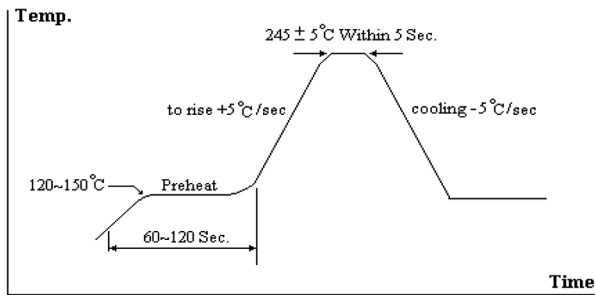
Soldering Iron

Temperature at tip of iron : 350°C Max.

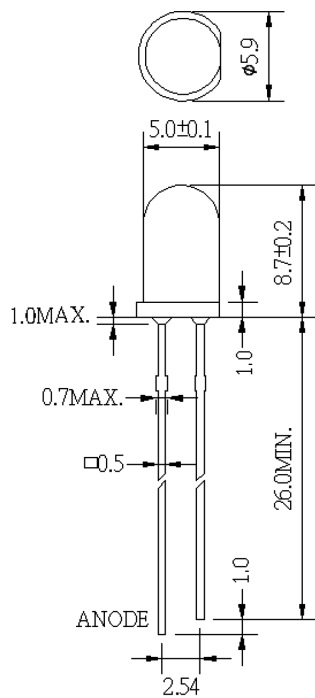
Soldering Time: 3 sec. ± 1 sec. (one time only)

If temperature is higher, time should be shorter

Reflow Temp./Time(SMD)



Dimension



Dimensions : Millimetres

Part Number Table

Description	Part Number
LED, 5mm, 16°, Hi-Eff Red	MCL053MT

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