

**RoHS
Compliant**

Features

- Choice of various viewing angles
- Available on tape and reel
- Reliable and robust
- Lead Free

Applications

- TV set
- Monitor
- Telephone
- Computer

Selection Guide

| Part Number | Dice | Lens Type | Luminous intensity(mcd) @ 20mA | | |
|-------------|------------|----------------|--------------------------------|------|-----|
| | | | Min | Typ | Max |
| MP008266 | (R)AlGaInP | White Diffused | 400 | 1000 | - |
| | (B)InGaN | | 900 | 500 | - |
| | (G)InGaN | | 300 | 1700 | - |

Note: 1.1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2.The above luminous intensity measurement allowance tolerance $\pm 15\%$

Electrical and Optical Characteristics

| Parameter | Device | Min. | Typ | Max | Units | Test conditions |
|---------------------|--------|------|-----|-----|-------|-----------------|
| Forward voltage | R | 1.7 | 2 | 2.4 | V | IF=20mA |
| | G | 2.7 | 3 | 3.6 | | |
| | B | 2.7 | 3 | 3.6 | | |
| Reverse Current | IR | - | - | 10 | uA | VR=5V |
| Dominant wavelength | R | 618 | - | 630 | nm | IF=20mA |
| | G | 510 | - | 520 | | |
| | B | 460 | - | 470 | | |

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Rating | Units |
|---|--------|---------------------|-------|
| Power Dissipation | R | 60 | mW |
| | G | 90 | |
| | B | 90 | |
| DC Forward Current | IF | 30 | mA |
| Peak Forward Current [1] | IFP | 60 | |
| Reverse Voltage | VR | 5 | V |
| Electrostatic Discharge (HBM) | ESD | 2000 | V |
| Operating Temperature | Topr | -40 to +85 | °C |
| Storage Temperature | Tstg | -40 to +100 | |
| Lead Soldering Temperature [1.6mm(.063") From Body] | | 260°C for 5 seconds | |

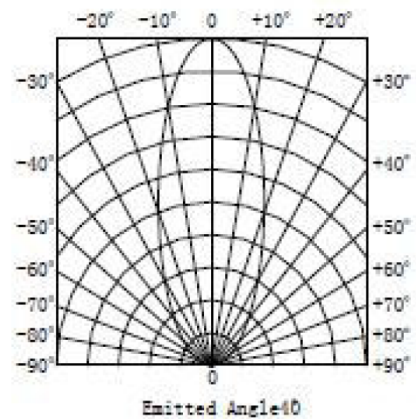
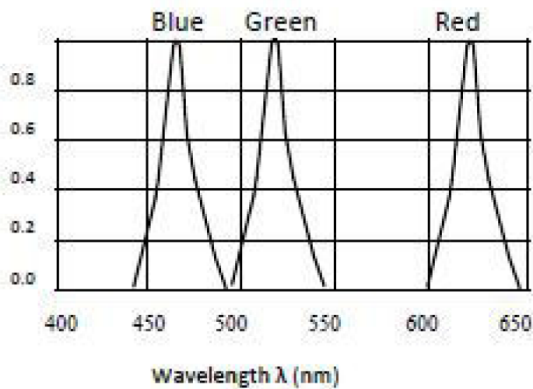
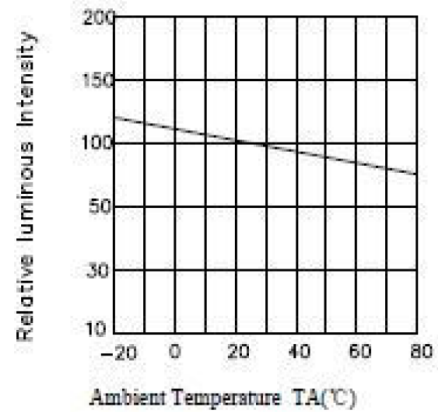
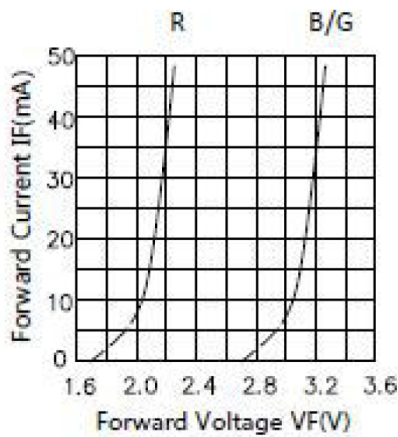
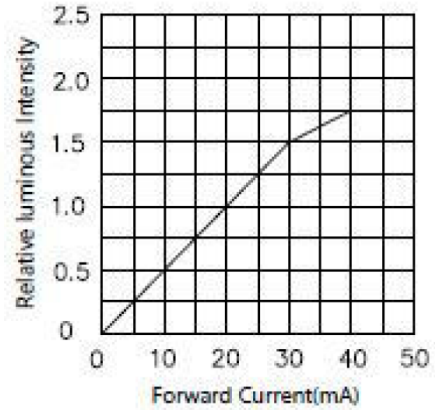
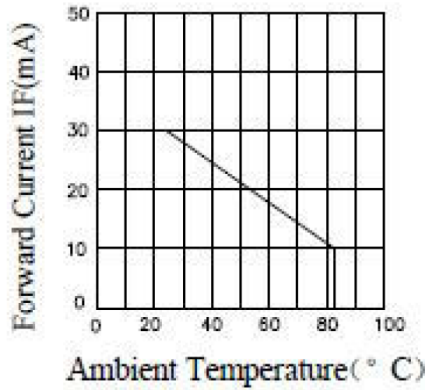
Notes: 1. 1/10 Duty cycle,0.1ms pulse width.

2. Measurement Errors:Forward Voltage: $\pm 0.1V$,Luminous Intensity: $\pm 10\%$ mcd,Wavelength(x,y) $\pm 1nm/\pm 0.01$

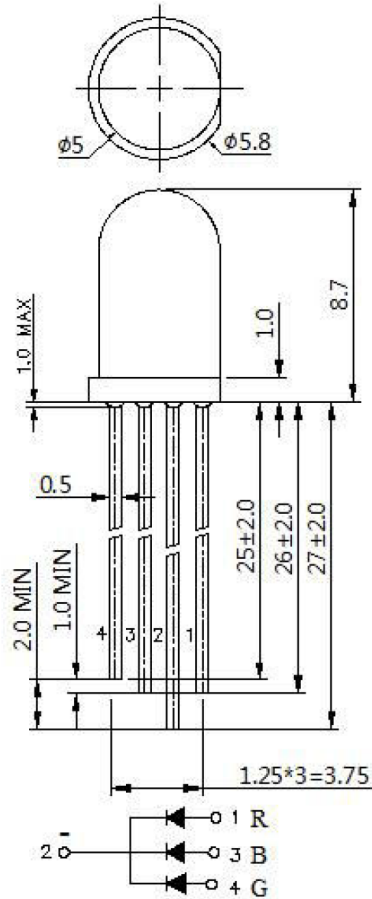
5mm Round RGB LED

Typical optical characteristics curves

Ambient Temperature VS. Forward Current



Dimensions



Tolerance is ± 0.25 mm unless otherwise noted.

Dimensions : Millimetres

1.Soldering

- When soldering leave a minimum of 2mm clearance from the base of the lens to the soldering point.
- Dipping the lens into the solder must be avoided.
- Do not apply any external stress to the lead frame during soldering while the LED is at high temperature.

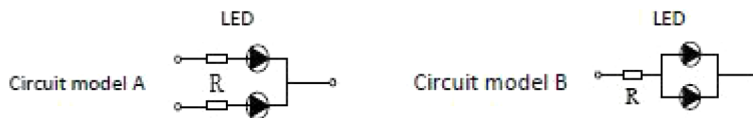
Recommended soldering conditions:

| Soldering iron | | Wave soldering | |
|----------------|---------------------------|----------------------------|-----------------------|
| Temperature | 320°C Max | Pre-heat Pre-heat time | 120°C Max 120 sec.Max |
| Soldering time | 3 sec.Max (one time only) | Solder wave Soldering time | 260°C Max 5 sec.Max |

Note: Excessive soldering temperature and/or time might result in deformation of the LED lens or catastrophic failure of the LED.

4. Drive Method

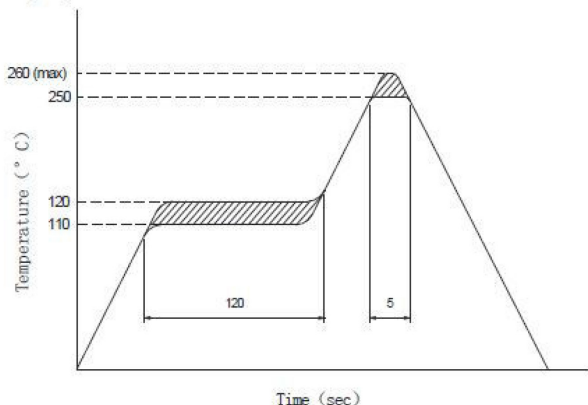
An LED is a current-operated device, In order to ensure intensity uniformity on multiple LEDs connected in parallel in an application, it is recommended that a current limiting resistor be incorporated in the drive circuit, in series with each LED as shown in Circuit A below.



(A) Recommended circuit

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

Soldering temperature curve chart



NOTES

After soldering the LEDs, the epoxy bulb should be protected from mechanical shock or vibration until the LEDs return to room temperature. A rapid-rate process is not recommended for cooling the LEDs down from the peak temperature.

Part Number Table

| Description | Part Number |
|---|-------------|
| Round LED, Red/Geen/Blue, 630/520/470nm, 1000/1700/500mcd, Through hole | MP008266 |

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