5mm Round RGB LED

multicomp PRO

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 ±15%

Electrical and Optical Characteristics

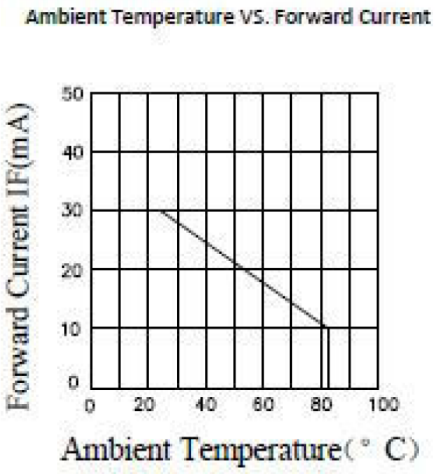
Parameter	Device	Min.	Typ	Max	Units	Test conditions
Forward voltage	R	1.7	2	2.4	V	IF=20mA
	G	2.7	3	3.6		
	B	2.7	3	3.6		
Reverse Current	IR	-	-	10	uA	VR=5V
Dominant wavelength	R	618	-	630	nm	IF=20mA
	G	510	-	520		
	B	460	-	470		

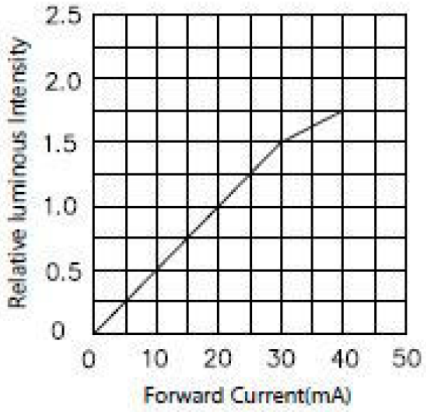
Absolute Maximum Ratings at Ta=25°C

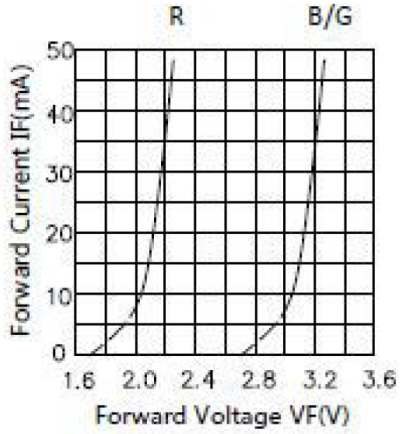
Parameter	Symbol	Rating	Units
Power Dissipation	R	60	mW
	G	90	
	B	90	
DC Forward Current	IF	30	mA
Peak Forward Current [1]	IFP	60	
Reverse Voltage	VR	5	V
Electrostatic Discharge (HBM)	ESD	2000	V
Operating Temperature	Topr	-40 to +85	°C
Storage Temperature	Tstg	-40 to +100	
Lead Soldering Temperature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

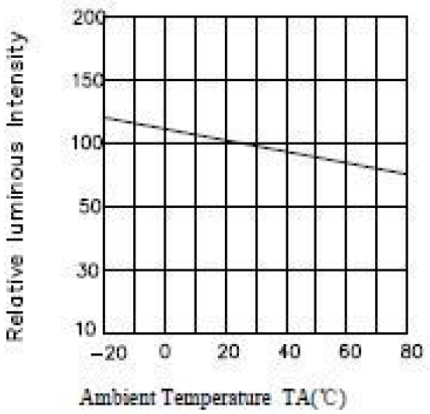
Notes: 1. 1/10 Duty cycle,0.1ms pulse width.
2. Measurement Errors:Forward Voltage:±0.1V,Luminous Intensity:±10%mcd,Wavelength(x,y)±1nm/±0.01

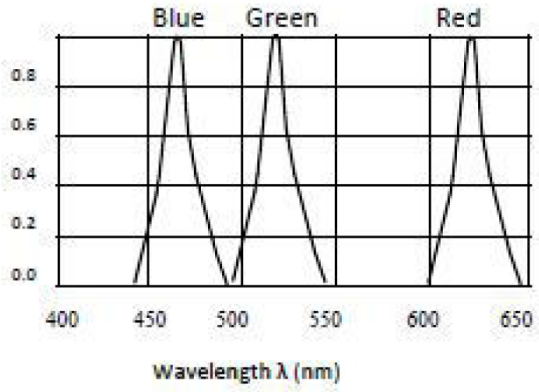
Typical optical characteristics curves

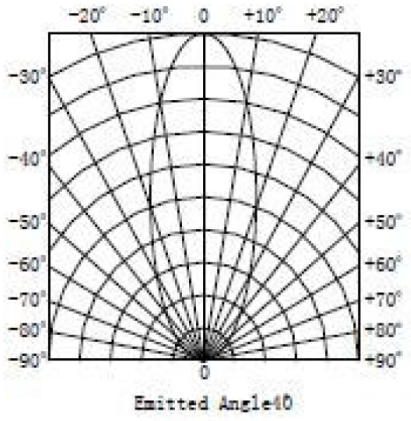




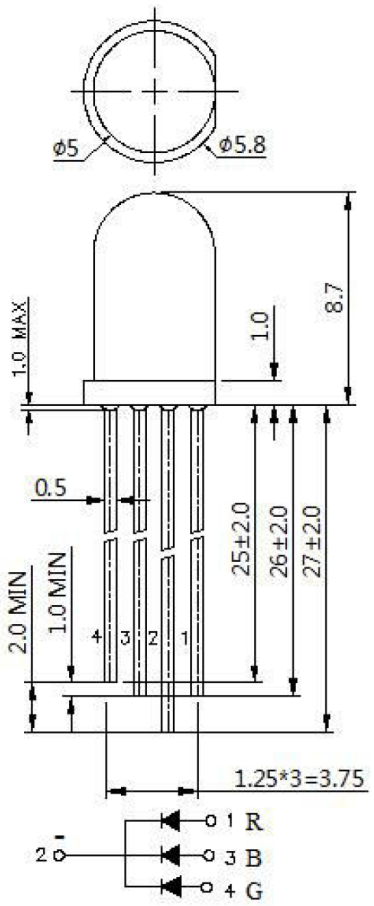








Dimensions



Tolerance is ±0.25mm 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.

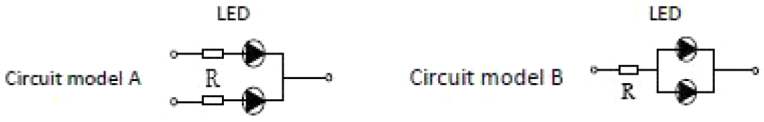
Recommended soldering conditions:

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.

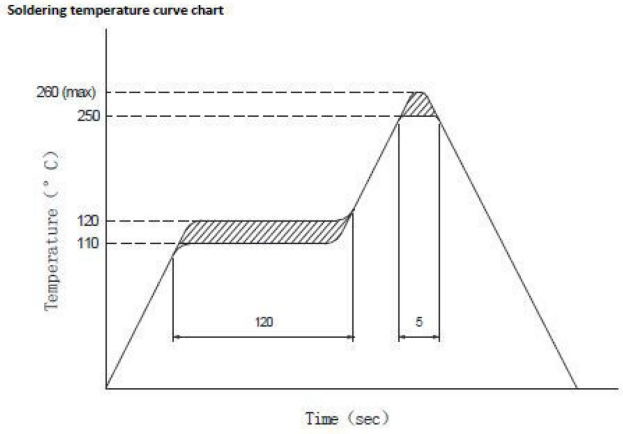
4. Drive Method

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.



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