

RGB LED

5 x 5 x 1.6mm SMD Type

multicomp PRO

Specifications

Dice material : AlGaInP/Si / InGaN/Sapphire / InGaN/Sapphire
 Emmiting Colour : Hyper Red / True Green / Blue
 Lens colour : Water clear
 Dominant Wavelength : 625nm / 525nm / 465nm
 Viewing angle : 120°
 Luminous intensity (IV) : 1400mcd / 1400mcd / 450mcd

**RoHS
Compliant**

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Power Dissipation	PD	R=75 G=108 B=108	mW
Total Power Dissipation		170	
Reverse Voltage	VR	5	V
D.C Forward current	If	30	mA
Peak Current (1/10Duty Cycle, 0.1ms Pulse Width.)	If(Peak)	100	mA
Operating Temperature Range	Topr.	-40 to +100	°C
Storage Temperature Range	Tstg.	-40 to +100	°C
Soldering Temperature	Tsld	Dip Soldering : 260oC for 10 sec. Hand Soldering : 350oC for 3 sec.	

Electrical and Optical Characteristics

Parameter	Symbol	Colour	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	R	If=50mA	909	1400		mcd
		G	If=30mA	909	1400		
		B		270	450		
Forward Voltage	Vf	R	If=50mA		2.2	2.8	V
		G&B	If=30mA		3.1	3.8	
Peak Wavelength	λp	R	If=50mA		632		nm
		G	If=30mA				
		B					
Dominant Wavelength	λd	R	If=50mA		625		nm
		G	If=30mA		525		
		B			465		
Reverse Current	Ir	R	Vr=5V			100	µA
		G&B				50	
Viewing Angle	2θ1/2		If=50mA		120		deg
			If=30mA		120		
Spectrum Line Halfwidth	Δλ	R	If=50mA		20		nm
		G	If=30mA		35		
		B			26		

Notes:

1. Tolerance of Luminous Intensity is ±15%
2. Tolerance of Forward Voltage is ±0.1V
3. Tolerance of Dominant Wavelength is ±1nm

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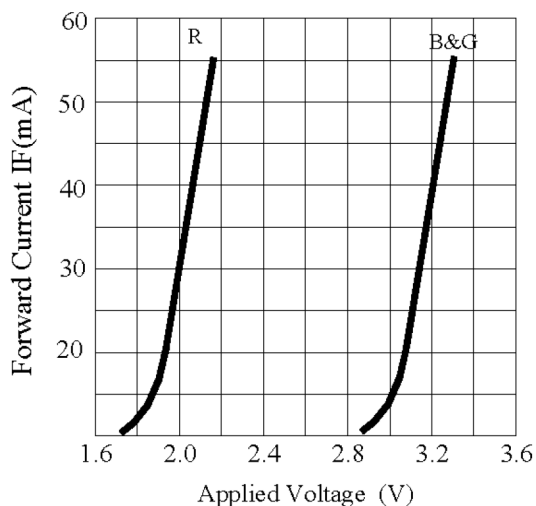
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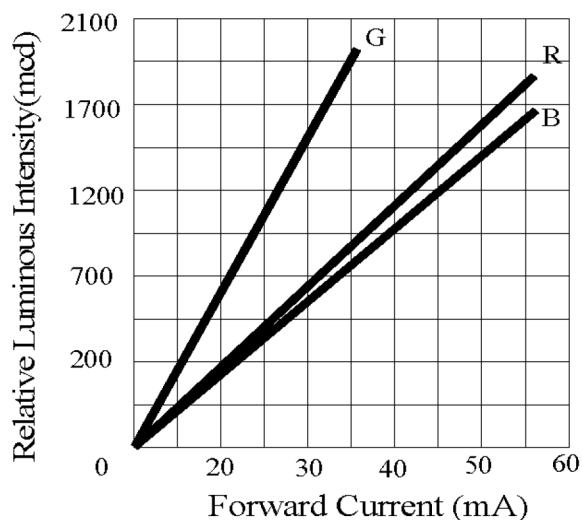
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Typical Electrical/Optical Characteristic Curves

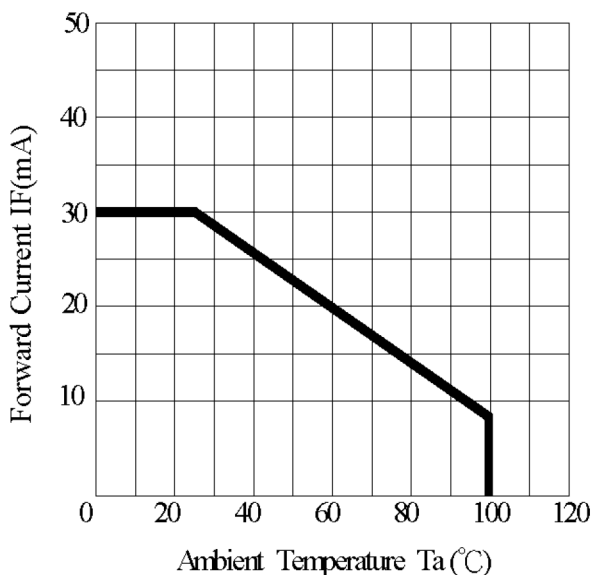
(25°C Ambient Temperature Unless Otherwise Noted)



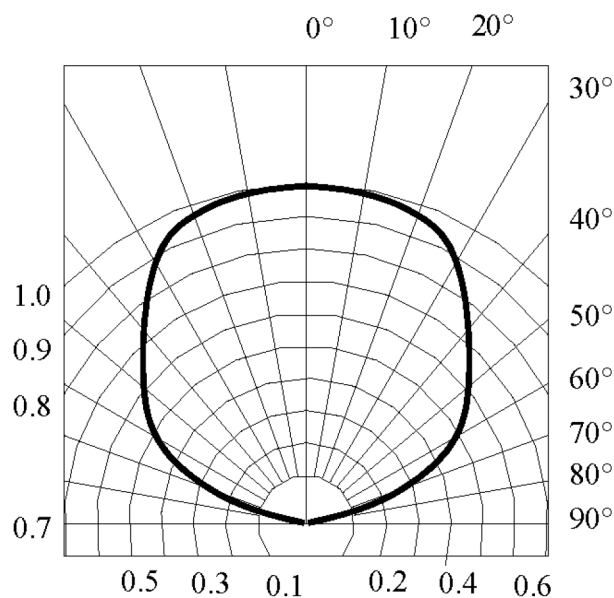
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Intensity



Ambient Temperature VS. Forward Current



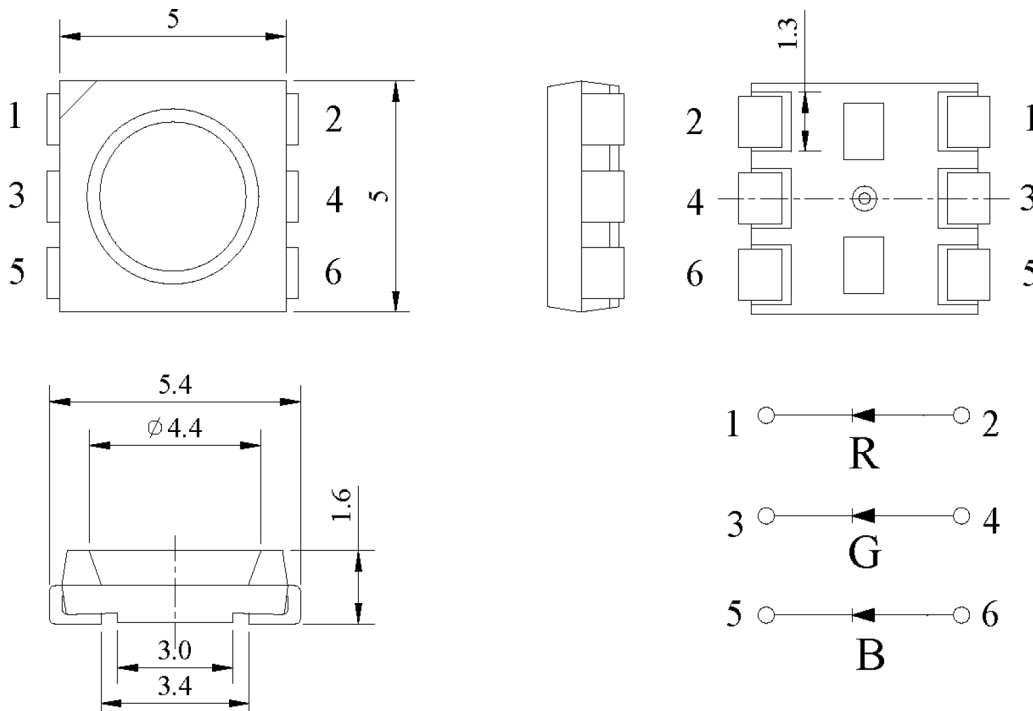
Radiation Diagram

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Dimensions



Tolerance is ± 0.1 mm unless otherwise noted.

Dimensions : Millimetres

Precautions in use:

Storage

Recommend storage environment:

Temperature: 5°C to 30°C (41°F to 86°F)

Moisture measures: Please refer to Moisture-sensitive label on reels package bags.

If unused LEDs remain, they should be stored in moisture proof packages, such as sealed container with packages of moisture absorbent material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again. Fold the opened bag firmly and keep in dry environment.

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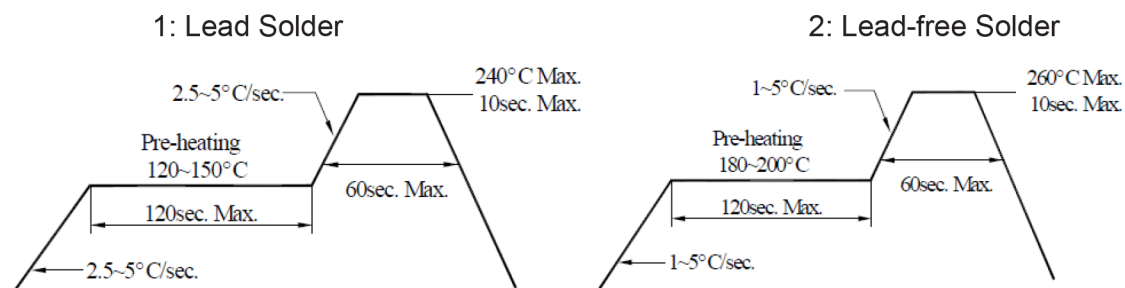
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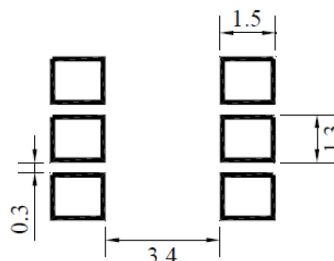
Soldering

Reflow Soldering			Hand Soldering	
	Lead Solder	Lead-Free Solder		
Pre-heat	120°C to 150°C	180° to 200°C	Temperature	350°C Max.
Pre-heat time	120sec. Max.	120sec. Max.	Soldering time	3sec. Max. (one time only)
Peak temperature	240°C Max.	260°C Max.		
Soldering time	10sec. Max.	10sec. Max.		
Condition	refer to temperature - profile 1	refer to temperature - profile 2		

*After reflow soldering rapid cooling should be avoided
 [Temperature-profile (Surface of circuit board)]
 Use the conditions shown to the under figure.



[Recommended soldering pad design]
 Use the following conditions shown in the figure.
 Unit: mm



Part Number Table

Description	Part Number
Chip LED, RGB, 5mm x 5mm, 120°, 6-Pin, Surface Mount	MP008253

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