

# Surface Mount RGB LED

## 5mm × 5mm

multicomp<sup>PRO</sup>

RoHS  
Compliant



### Features

- 5mm × 5mm SMT LED, 1.6mm Thickness
- Wide Viewing Angle
- Ideal for Backlight and Indicator

### Applications

- Automotive: backlighting in dashboard and switch
- Telecommunication: indicator and backlighting in telephone and fax
- Flat backlight for LCD switch and symbol

### Device Selection

Chip		Lens Colour
Material	Emitted Colour	
InGaN	Blue	Water Clear
InGaAlP	Red	
InGaN	Green	

### Absolute Maximum Ratings at T<sub>A</sub> = 25°C

Parameter	Symbol	Blue	Red	Green	Unit
Power Dissipation	P <sub>D</sub>	100	62	100	mW
Forward Current	I <sub>F</sub>	25	25	25	mA
Peak Forward Current*	I <sub>FP</sub>	100	100	100	mA
Reverse Voltage	V <sub>R</sub>	5	5	5	V
Operating Temperature	T <sub>opr</sub>	-40 to +85			°C
Storage Temperature	T <sub>stg</sub>	-40 to +85			°C

#### Note:

\*Pulse width ≤ 0.1ms, Duty cycle ≤ 1/10

### Electrical / Optical Characteristics at T<sub>A</sub> = 25°C

Parameter	Symbol	Device	Min.	Typ.	Max.	Unit	Test Conditions
Forward Voltage	V <sub>F</sub>	Blue	2.8	-	3.6	V	I <sub>F</sub> = 20mA
		Red	1.8		2.6		
		Green	2.8		3.6		
Reverse Current	I <sub>R</sub>	Blue Red Green	-	-	10	μA	V <sub>R</sub> = 5V

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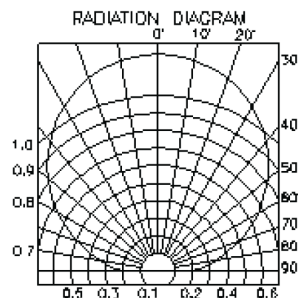
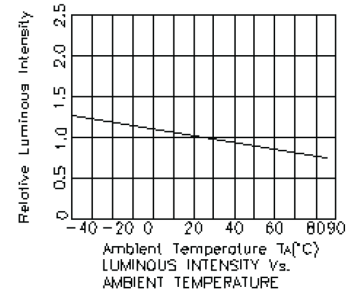
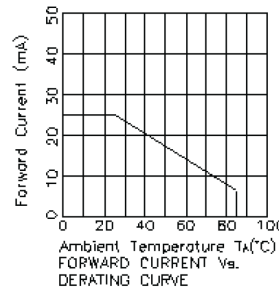
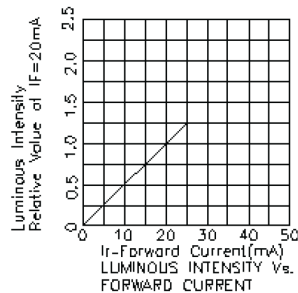
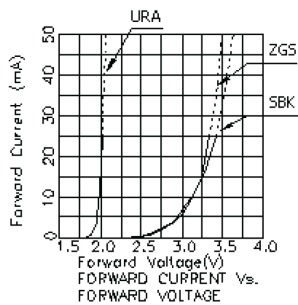
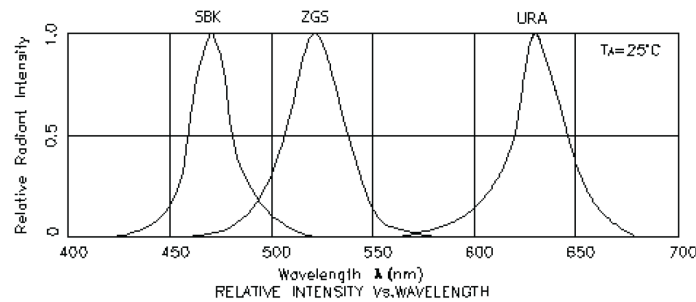
Parameter	Symbol	Device	Min.	Typ.	Max.	Unit	Test Conditions
Dominate Wavelength	$\lambda_D$	Blue Red Green	464 617 518	-	473 629 530	nm	$I_F = 20\text{mA}$
Luminous Intensity	$I_v$	Blue Red Green	295 225 845	-	500 385 1800	mcd	$I_F = 20\text{mA}$
Viewing Angle	$2\theta_{1/2}$	Blue Red Green	-	120 120 120	-	Deg.	$I_F = 20\text{mA}$

### Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or chromaticity), the typical accuracy of the sorting process is as follows:

1. Wavelength:  $\pm 1\text{nm}$
2. Luminous Intensity:  $\pm 15\%$
3. Forward Voltage:  $\pm 0.1\text{V}$

### Typical Electrical / Optical Characteristics Curves



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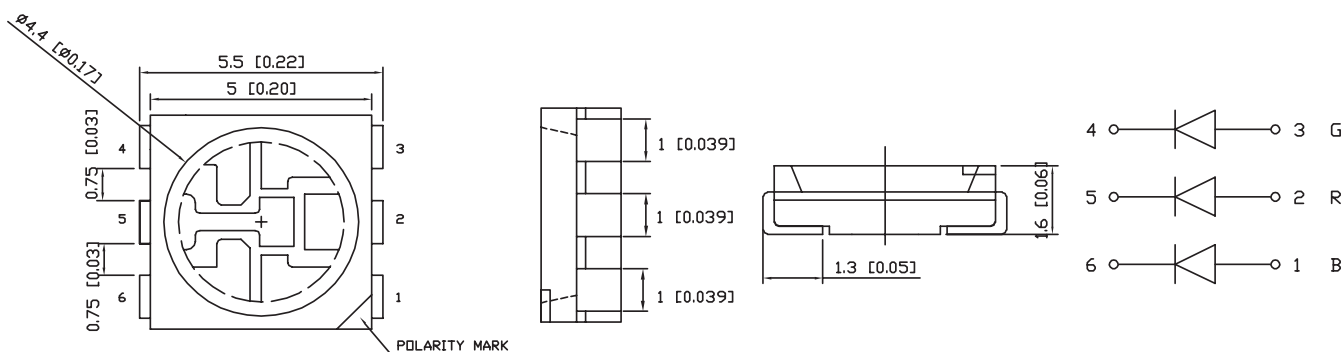
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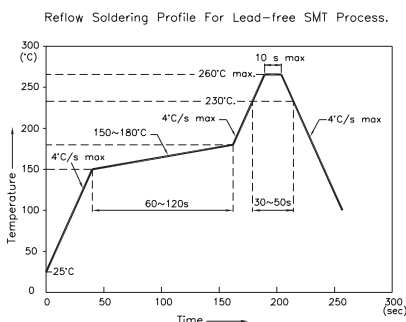
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### Diagram



Dimensions : Millimetres (Inches)  
Tolerance is  $\pm 0.25\text{mm}$

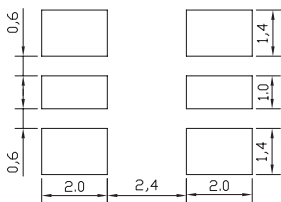
### Soldering Profile



### Notes

1. We recommend the reflow temperature 245°C. ( $\pm 5^\circ\text{C}$ ) The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

### Recommended soldering pattern



Dimensions : Millimetres

### Part Number Table

Description	Part Number
Surface Mount LED, RGB	MP001245

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