

Surface Mount RGB LED

5mm × 5mm

multicomp^{PRO}

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 TA = 25°C

Parameter	Symbol	Blue	Red	Green	Unit
Power Dissipation	PD	100	62	100	mW
Forward Current	IF	25	25	25	mA
Peak Forward Current*	IFP	100	100	100	mA
Reverse Voltage	VR	5	5	5	V
Operating Temperature	Topr	-40 to +85			°C
Storage Temperature	Tstg	-40 to +85			°C

Note:

*Pulse width ≤0.1ms, Duty cycle ≤1/10

Electrical / Optical Characteristics at TA = 25°C

Parameter	Symbol	Device	Min.	Typ.	Max.	Unit	Test Conditions
Forward Voltage	VF	Blue	2.8	-	3.6	V	IF = 20mA
		Red	1.8	-	2.6		
		Green	2.8	-	3.6		
Reverse Current	IR	Blue Red Green	-	-	10	µA	VR = 5V

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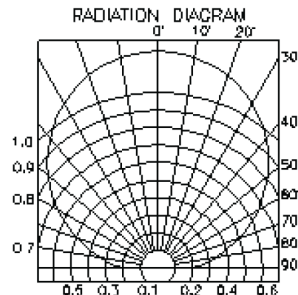
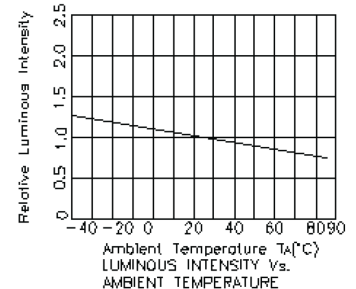
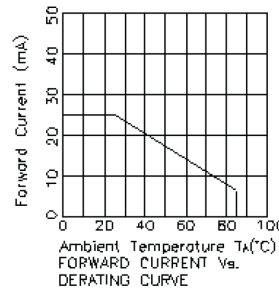
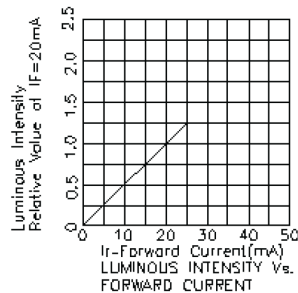
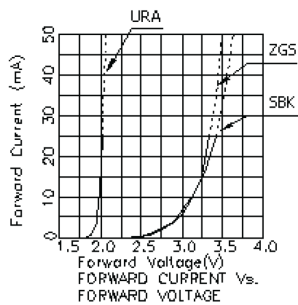
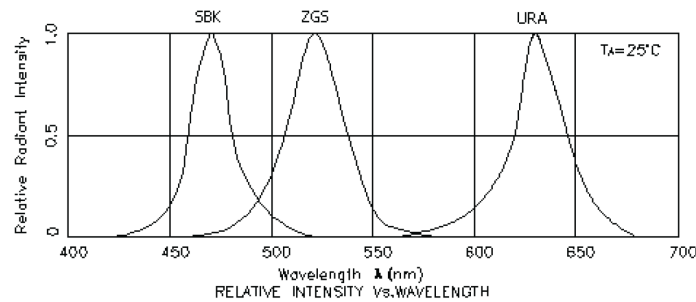
Parameter	Symbol	Device	Min.	Typ.	Max.	Unit	Test Conditions
Dominant Wavelength	λ_D	Blue Red Green	464 617 518	-	473 629 530	nm	$I_F = 20\text{mA}$
Luminous Intensity	I_v	Blue Red Green	385 225 845	-	845 385 1800	mcd	$I_F = 20\text{mA}$
Viewing Angle	$2\theta_{1/2}$	Blue Red Green	-	120 120 120	-	Deg.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

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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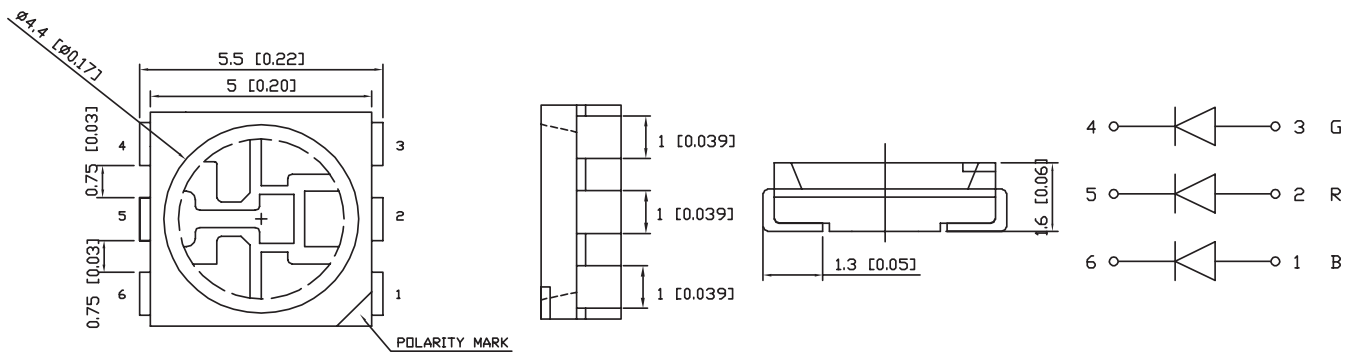
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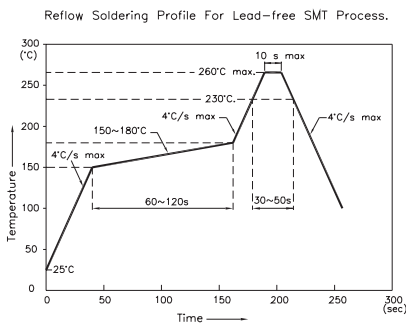
Diagram



Dimensions : Millimetres (Inches)

Tolerance is ±0.25mm

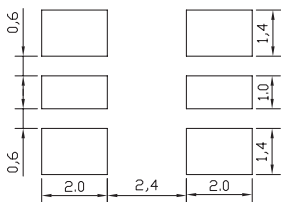
Soldering Profile



Notes

1. We recommend the reflow temperature 245°C. (±5°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	MP006243

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