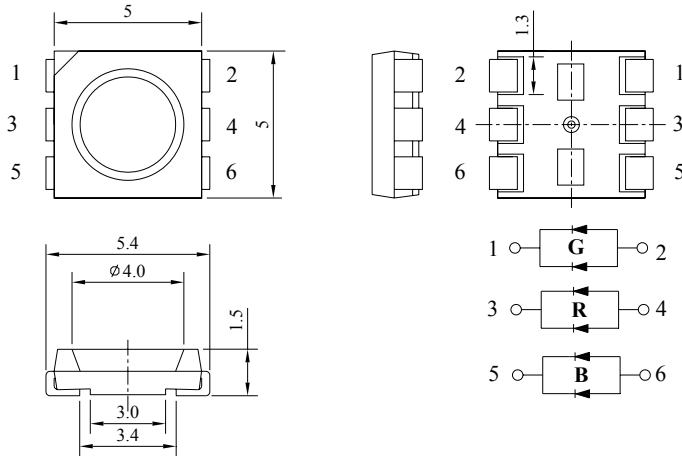


# 5.0 x 5.0 x 1.5mm SMD Type



## Package Dimensions:



\* All dimensions are in mm  
\* Tolerance:  $\pm 0.25\text{mm}$  unless otherwise noted.

Ant Part No.	LED Chip		Lens Colour
	Material	Emitting Colour	
703-1039	AlGaInP / Sapphire	Red	Water Clear
	AlGaInP / Sapphire	True Green	
	AlGaInP / Sapphire	Blue	

## Absolute Maximum Ratings at Ta=25°C:

Parameter	Symbol	Rating			Unit
		R	G	B	
Power Dissipation*	P <sub>D</sub>	75	120	120	mW
Reverse Voltage*	V <sub>R</sub>	5			V
D.C. Forward Current*	I <sub>f</sub>	30			mA
Peak Current (1/10 Duty Cycle, 0.1 ms Pulse Width)*	I <sub>f</sub> (Peak)	100			mA
Operating Temperature Range	T <sub>opr.</sub>	-40 to +100			°C
Storage Temperature Range	T <sub>stg.</sub>	-40 to +100			°C
Soldering Temperature	T <sub>slid.</sub>	Dip Soldering: 260°C for 10sec. Hand Soldering: 350°C for 3sec.			
Electric Static Discharge Threshold (HBM)	ESD	/	300	300	V

\* The values are based on 1 die performance

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# 5.0 x 5.0 x 1.5mm SMD Type



## Electrical & Optical Characteristics:

Parameter	Symbol	Colour	Condition	Value			Unit
				Min.	Typ.	Max.	
Luminous Intensity* <sup>2</sup>	I <sub>v</sub>	R	I <sub>F</sub> = 40 mA	756	1300	-	mcd
		G		1400	2600	-	
		B		370	590	-	
Forward Voltage* <sup>3</sup>	V <sub>F</sub>	R	I <sub>F</sub> = 40 mA	-	1.9	2.6	V
		G & B		-	3.2	4.0	
Peak Wavelength* <sup>2</sup>	λ <sub>p</sub>	R	I <sub>F</sub> = 40 mA	-	632	-	nm
		G & B		-	-	-	
Dominant Wavelength* <sup>1</sup>	λ <sub>d</sub>	R	I <sub>F</sub> = 40 mA	619	-	626	nm
		G		525	-	530	
		B		465	-	470	
Reverse Current* <sup>1</sup>	I <sub>r</sub>	R	V <sub>r</sub> = 5V	-	-	100	μA
		G & B		-	-	50	
View Angle* <sup>2</sup>	2θ <sub>1/2</sub>		I <sub>F</sub> = 40 mA	-	120	-	deg
Spectrum Line Halfwidth* <sup>2</sup>	Δλ	R	I <sub>F</sub> = 40 mA	-	20	-	nm
		G		-	35	-	
		B		-	26	-	

- Notes:** 1. The data is tested by an IS tester.  
 2. Customer's special requirements are also welcome.  
 3. \*<sup>1</sup> for each die.  
 4. \*<sup>2</sup> when all LED dies are operated simultaneously.  
 5. \*<sup>3</sup> for one circuit.

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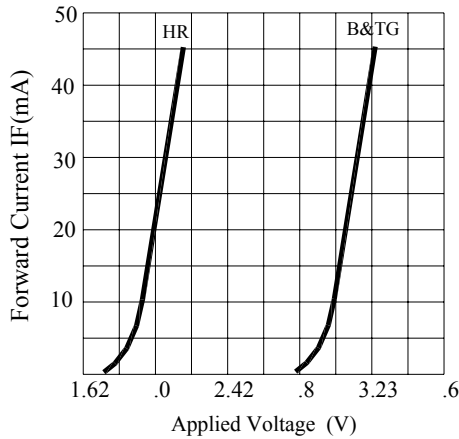


# 5.0 x 5.0 x 1.5mm SMD Type

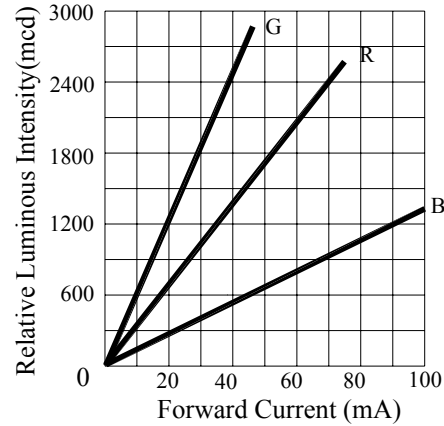


## Typical Electrical / Optical Characteristic Curves:

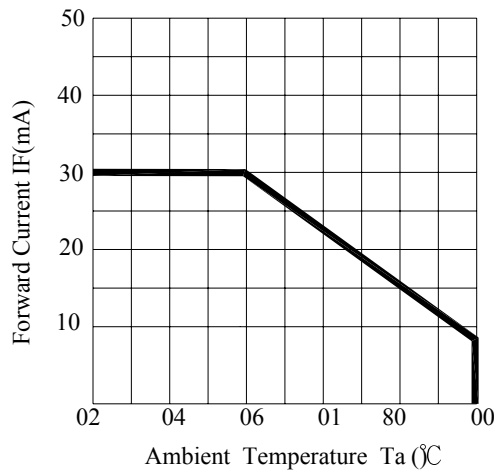
(25°C Ambient Temperature unless otherwise noted)



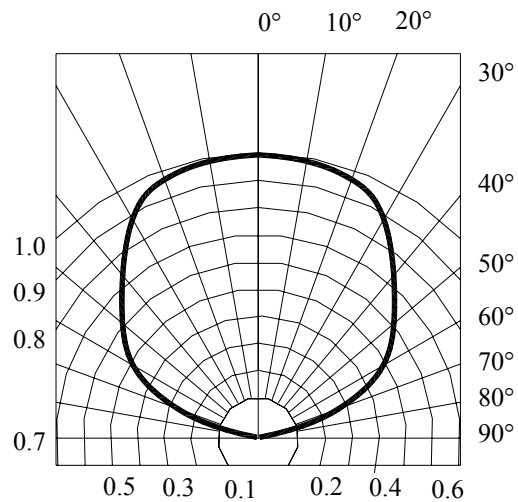
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Intensity



Ambient Temperature VS. Forward Current



radiation Diagram

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# 5.0 x 5.0 x 1.5mm SMD Type



## Storage:

Recommended storage environment:

- Temperature: 5°C ~ 30°C (41°F ~ 86°F)
- Humidity: 60% RH Max.
- 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 a sealed container with packages of moisture absorbant material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal it again (fold the open bag firmly shut and keep in a dry environment).

## Soldering:

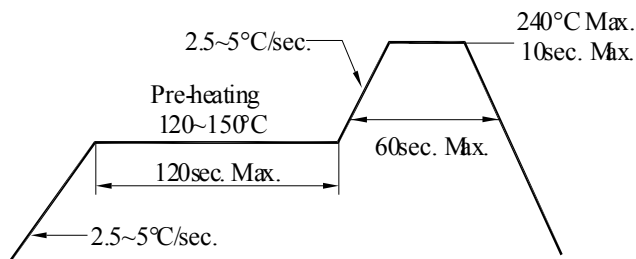
Reflow Soldering			Hand Soldering	
	Lead Solder	Lead-free Solder		
Pre-heat	120 ~ 150°C	180 ~ 200°C	Temperature	350°C Max.
Pre-heat Time	120sec. Max.	120sec. Max.	Soldering Time	3sec. Max. (one time only)
Peak Temperature	240°C Max.	260°C Max.		
Soldering Time	10sec. max.	10sec. Max.		
Condition	Refer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

\* After reflow soldering rapid cooling should be avoided.

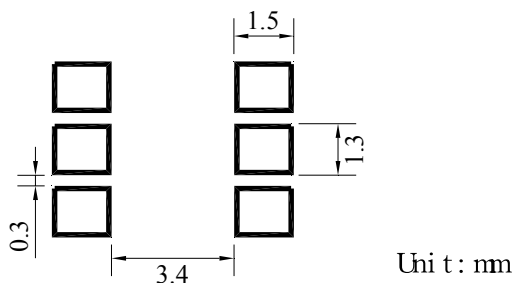
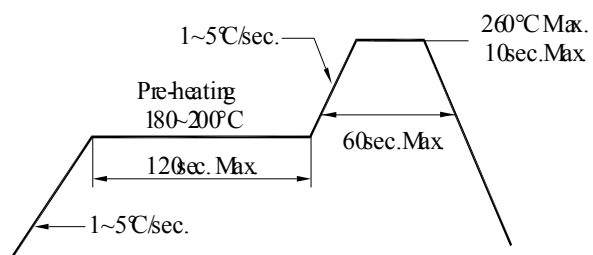
## Temperature-profile (Surface of circuit board):

Use the following conditions shown in the figure.

### <1 : Lead Solder>



### <2 : Lead-free Solder>



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