



## SURFACE MOUNT LED

### 1.ELEMENT APPEARANCE

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Model No.	Lighting Color	Resin Color
RT-2121RGB-2-03	Red	White Diffused
	Green	
	Blue	

### 2.ABSOLUTE MAXIMUM RATINGS AT Ta=25°C

Characteristic	Symbol	Rating	Unit	
Forward direct current	IFM	R	30	mA
		G	30	
		B	30	
Reverse voltage	V <sub>RM</sub>	5	V	
Operating temperature	Topr	-40 to +85	°C	
Storage temperature	Tstg	-40 to +85	°C	
Power dissipation	Pd	R	105	mW
		G	125	
		B	120	
Peak forward current (1/10 Duty cycle, 0.1ms pulse width )	IFP	R	115	mA
		G	120	
		B	120	

### 3.ELECTRO-OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit	
Luminous intensity	I <sub>v</sub>	IF=20mA	R	105	~	137	mcd
		IF=15mA	G	350	~	455	
		IF=5mA	B	38	~	50	
Forward voltage	V <sub>F</sub>	IF=20mA	R	1.8	~	2.4	V
		IF=15mA	G	2.8	~	3.4	
		IF=5mA	B	2.8	~	3.4	
Reverse current	I <sub>R</sub>	V <sub>R</sub> =5V			5	μA	
Dominant wavelength	λ <sub>d</sub>	IF=20mA	R	619	~	623	nm
		IF=15mA	G	522	~	526	
		IF=5mA	B	469	~	473	
Viewing angle(X,Y)	2θ 1/2	IF=20mA		120		deg.	

※Measurement Uncertainty of Luminous Intensity : ±15%

※Measurement Uncertainty of Forward Voltage : ±0.05V

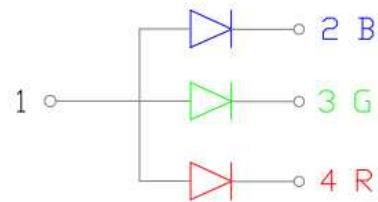
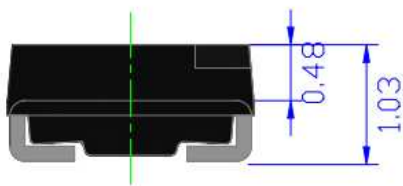
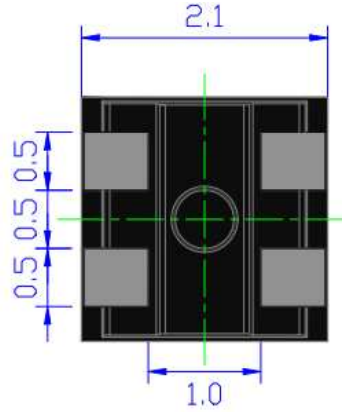
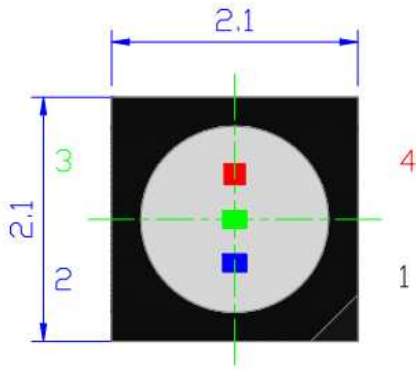
※Peak emission wavelength Measurement allowance is ±1.0nm



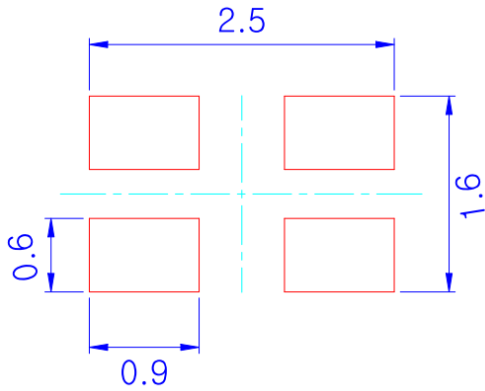
**Model : RT-2121RGB-2-03**

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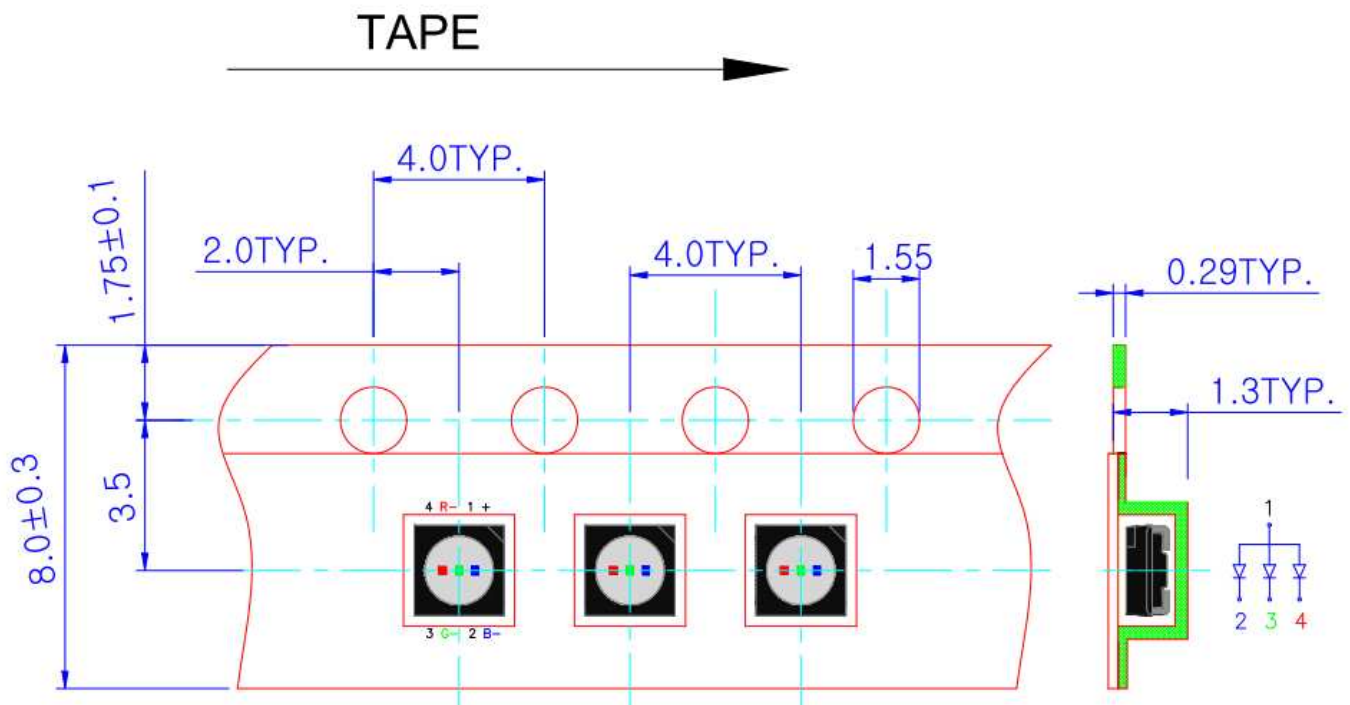
**4.DIMENSIONS** UNIT : m/m TOLERANCE :  $\pm 0.25$ m/m

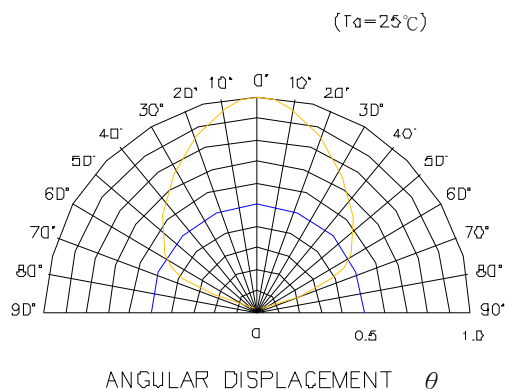
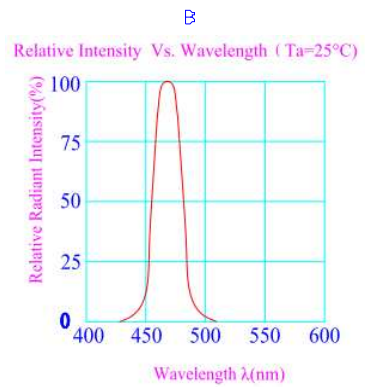
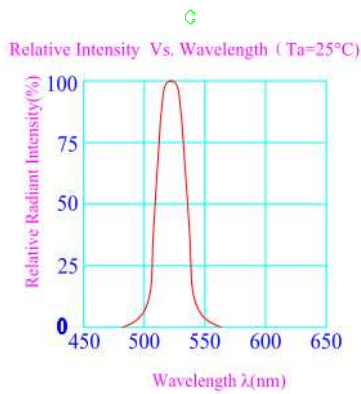
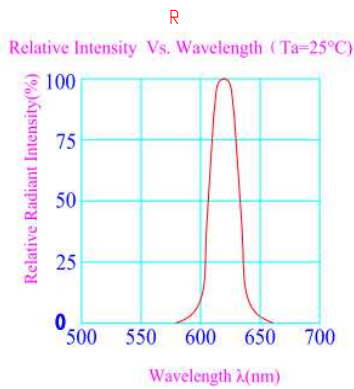
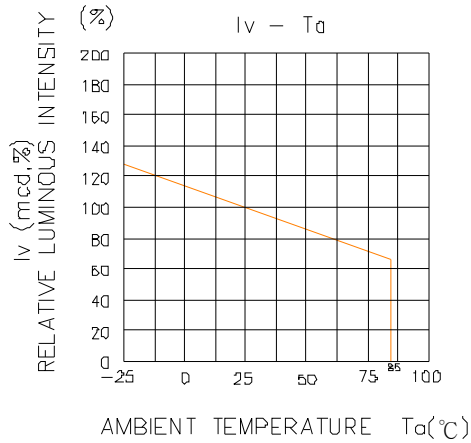
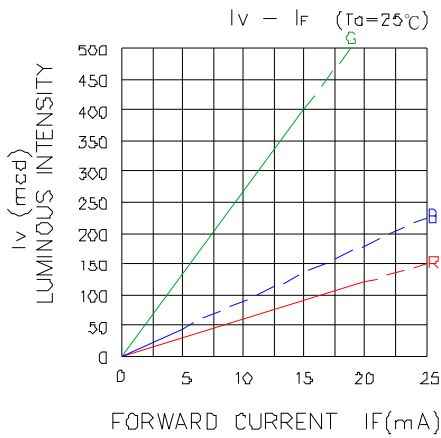
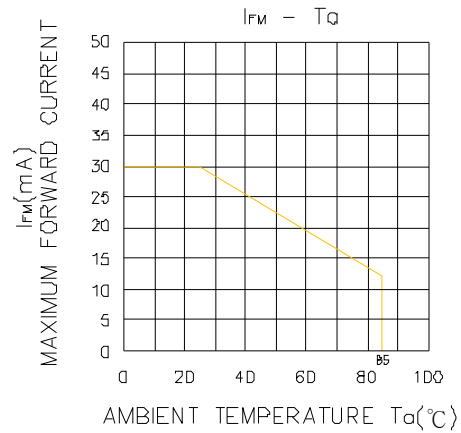
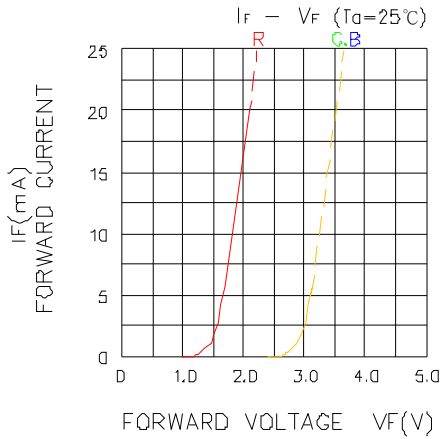


**Recommended Soldering Pattern (Units:mm)**



**Tape Specifications (Units:mm)**

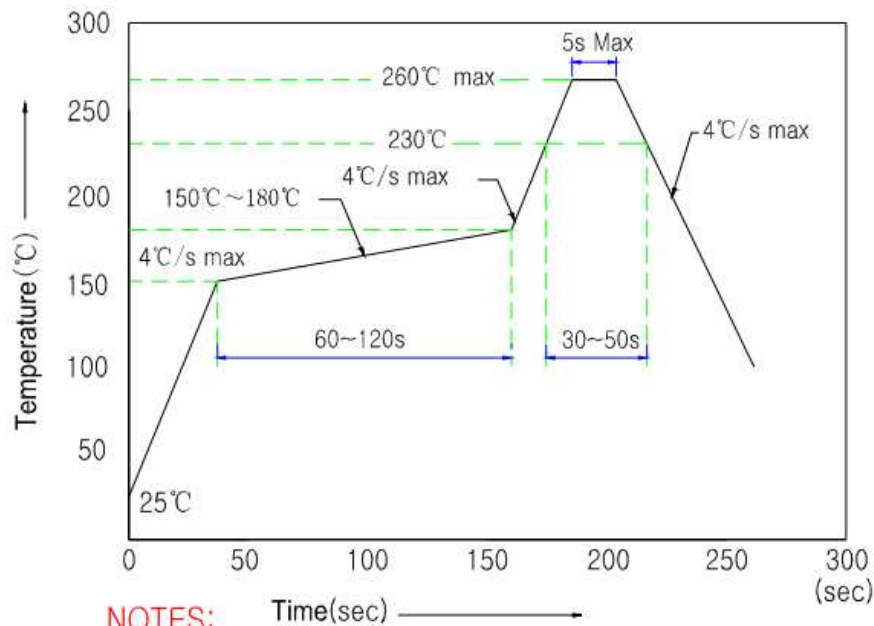




## Reliability Test

Classification	Test Item	Test Conditions	Duration	Units Tested	Number of Damaged
Life Test	Operating Life Test	Ta =25°C ± 5°C, RH=55 ± 20%RH, IF=30mA	1000hrs	22	0/22
Environment Test	High Temperature Storage	Ta =100°C ± 10°C	1000hrs	22	0/22
	Low Temperature Storage	Ta = - 40°C <sup>+3</sup> / <sub>-5</sub> °C	1000hrs	22	0/22
	Temp & Humidity Storage	Ta =85°C <sup>+5</sup> / <sub>-3</sub> °C RH=85 <sup>+5</sup> / <sub>-10</sub> %RH	1000hrs	22	0/22
	Thermal Shock Test	Ta= - 40°C <sup>+5</sup> / <sub>-3</sub> °C ~ 100°C <sup>+3</sup> / <sub>-5</sub> °C T=5min - 5min	100 Cycles	22	0/22
	Temperature Cycling Test	Ta= - 40 <sup>+3</sup> / <sub>-5</sub> °C ~ 25°C ~ 100 <sup>+5</sup> / <sub>-3</sub> °C ~ 25°C T=30min-5min-30min- 5min	10Cycles	22	0/22

### Reflow Soldering Profile For Lead-free SMT Process.



#### 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 the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.