



SURFACE MOUNT LED

審查	審查	作成
沈夢榮	蔡尙麟	沈子檸

1.ELEMENT APPEARANCE

PAGE: 1/5

DATE: 2016.06.16

Model No.	Lighting Color	Resin Color
RT-1010RGB-1-03-YCT	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 _{RM}	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

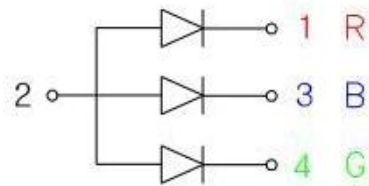
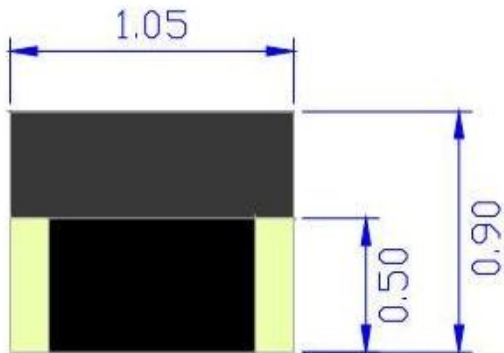
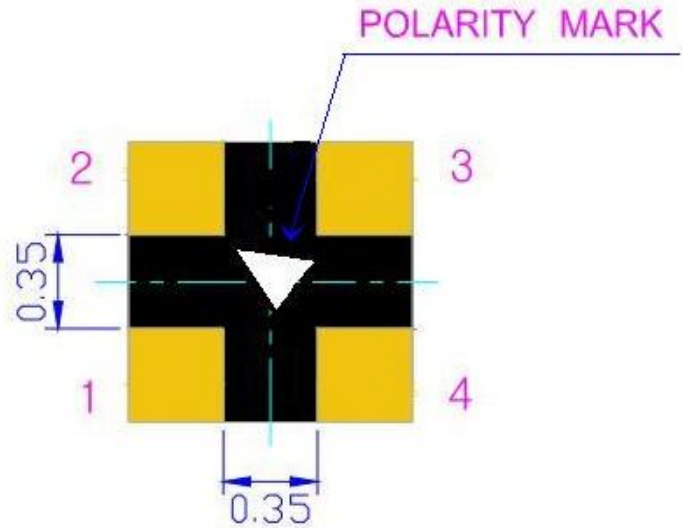
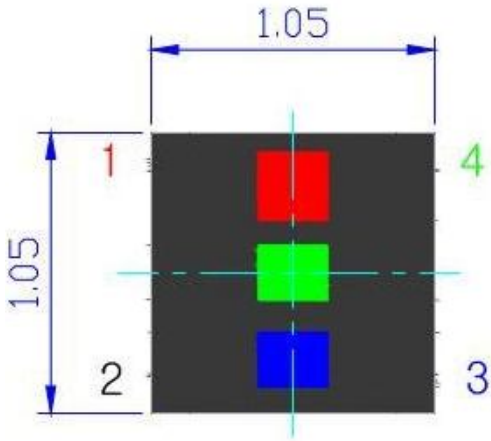
Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit	
Luminous intensity	I _v	IF=10mA	R	30	~	60	mcd
		IF=5mA	G	55	~	90	
			B	15	~	25	
Forward voltage	V _F	IF=10mA	R	1.8	~	2.4	V
		IF=10mA	G	2.8	~	3.4	
		IF=5mA		2.6	~	3.0	
		IF=10mA	B	2.8	~	3.4	
		IF=5mA		2.6	~	3.0	
Reverse current	I _R	V _R =5V			5	μA	
Dominant wavelength	λ _d	IF=10mA	R	615	~	625	nm
		IF=5mA	G	520	~	530	
			B	465	~	475	
Viewing angle(X,Y)	2θ 1/2	IF=20mA		120		deg.	

※Measurement Uncertainty of Luminous Intensity : ±15%

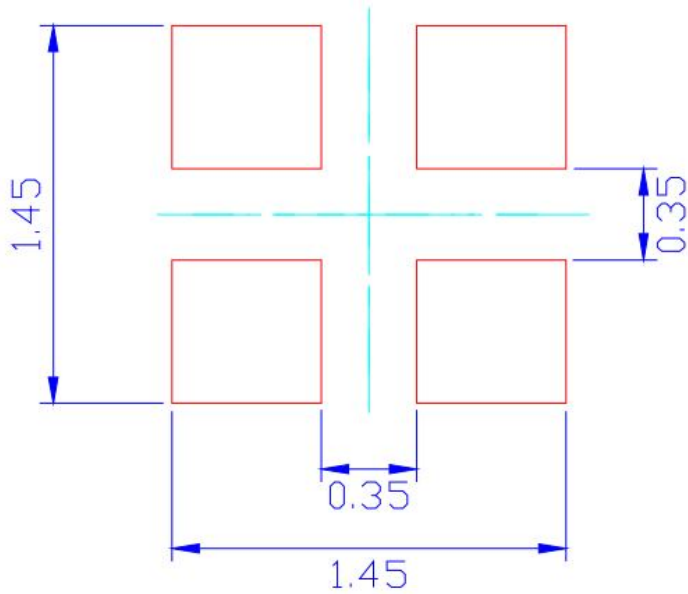
※Measurement Uncertainty of Forward Voltage : ±0.05V

※Peak emission wavelength Measurement allowance is ±1.0nm

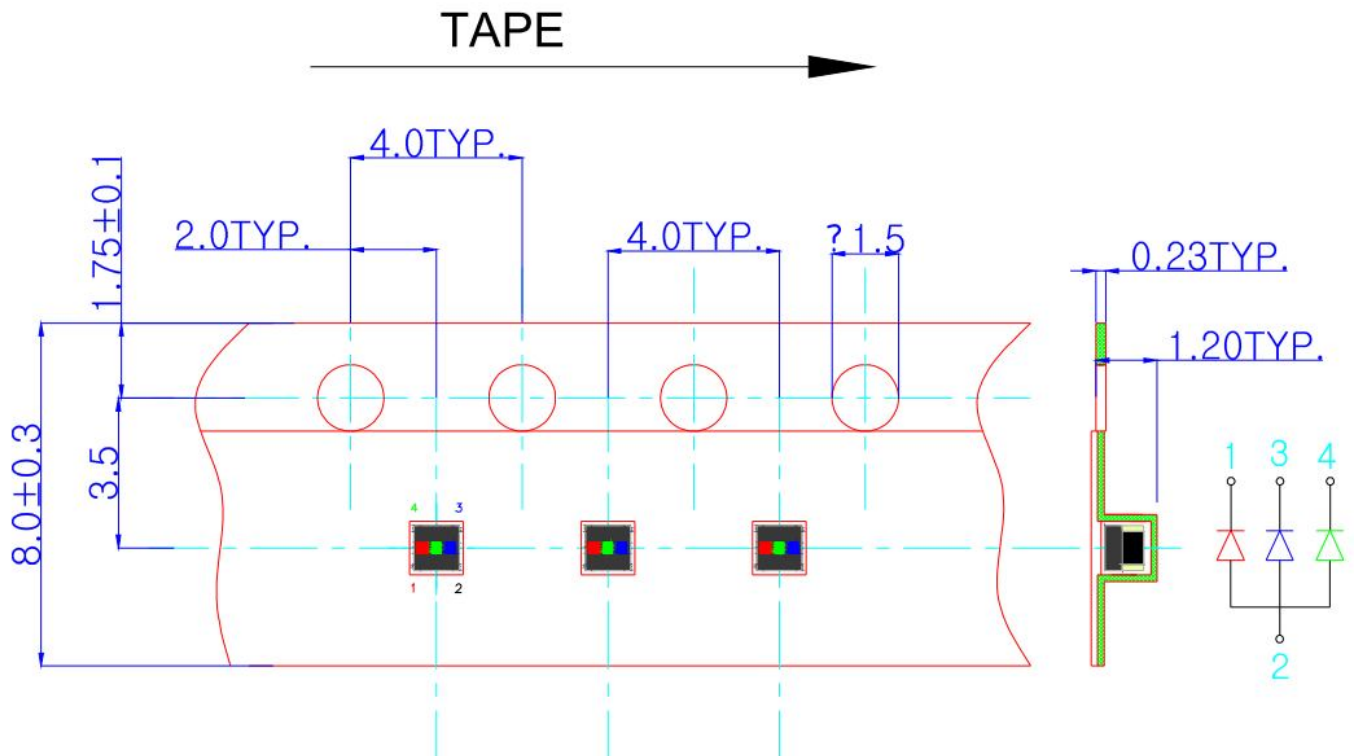
4.DIMENSIONS UNIT : m/m TOLERANCE : ± 0.25m/m

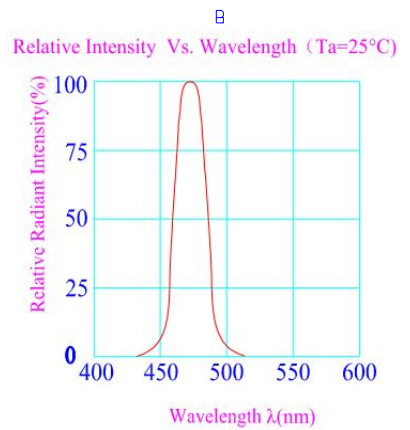
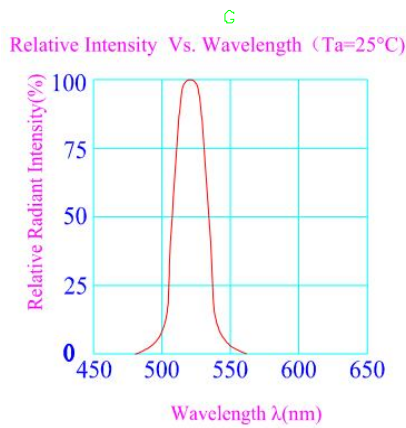
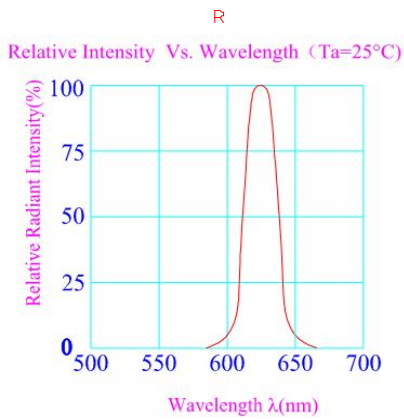
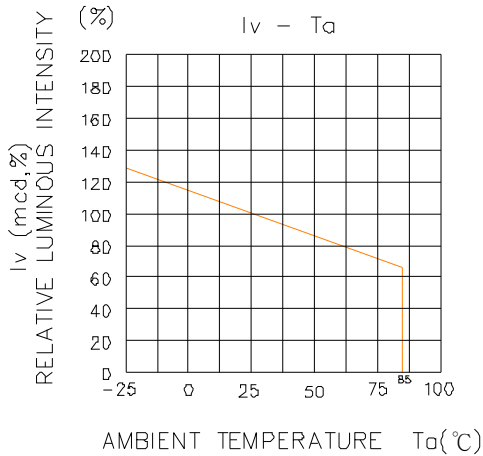
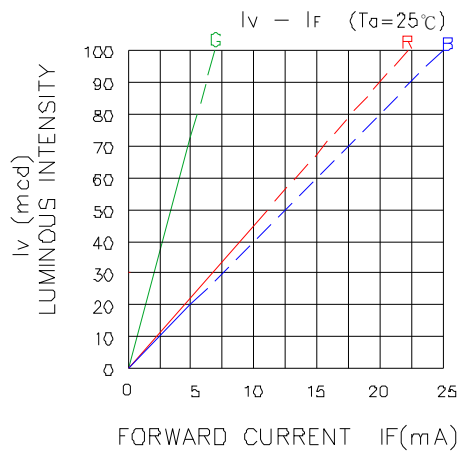
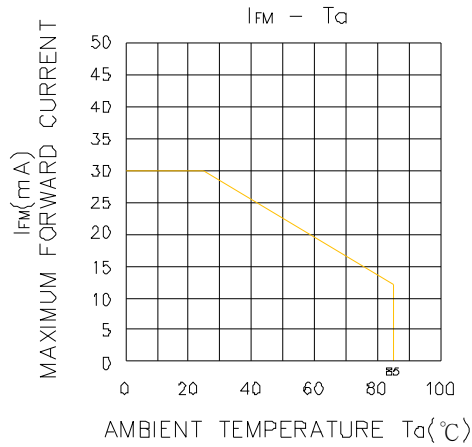
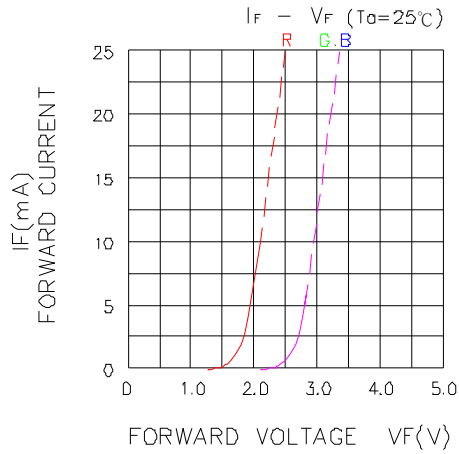


Recommended Soldering Pattern (Units:mm)

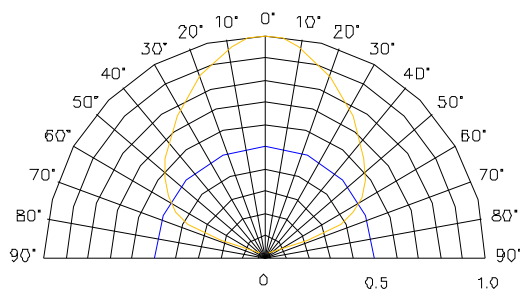


Tape Specifications (Units:mm)





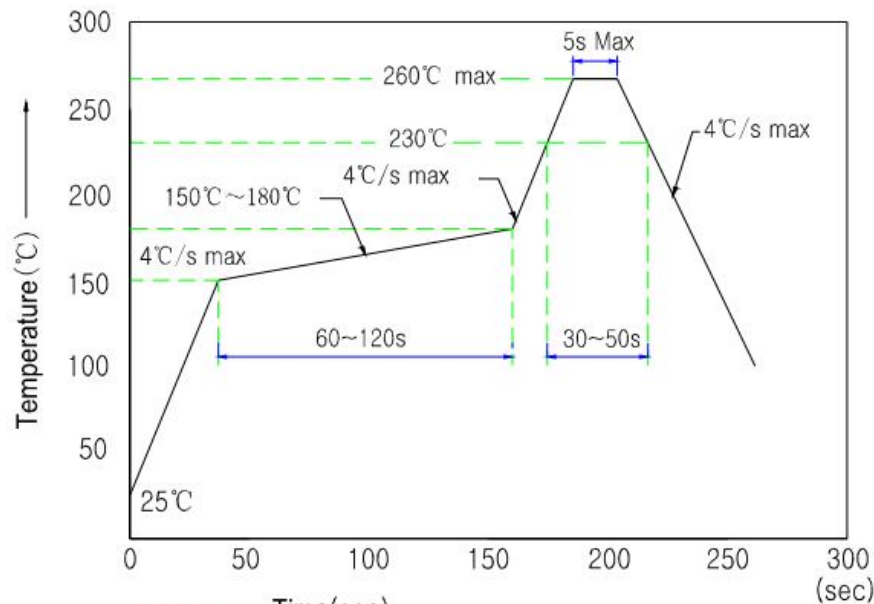
($T_a=25^\circ\text{C}$)



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 ⁺³ / _{.5} °C	1000hrs	22	0/22
	Temp & Humidity Storage	Ta =85°C ⁺⁵ / _{.3} °C RH=85 ⁺⁵ / ₋₁₀ %RH	1000hrs	22	0/22
	Thermal Shock Test	Ta= - 40°C ⁺⁵ / _{.3} °C ~ 100°C ⁺³ / _{.5} °C T=5min - 5min	100 Cycles	22	0/22
	Temperature Cycling Test	Ta= - 40 ⁺³ / _{.5} °C ~25°C ~ 100 ⁺⁵ / _{.3} °C ~25°C T=30min-5min-30min- 5min	10Cycles	22	0/22

Reflow Soldering Profile For Lead-free SMT Process.



NOTES: Time(sec) →

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.