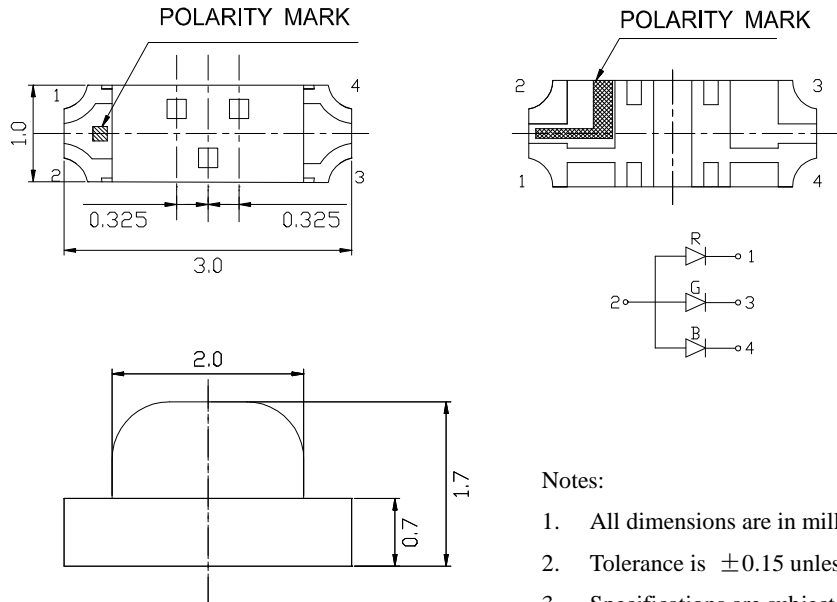




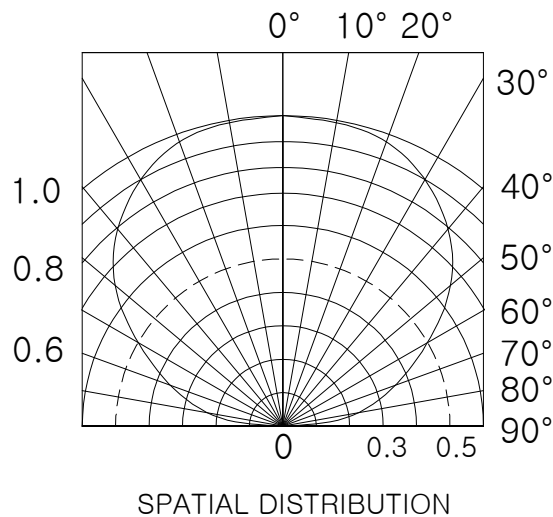
■ Outline Dimension:



Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.15 unless otherwise noted.
3. Specifications are subject to change without notice.

■ View Angle:





Typical Electrical & Optical Characteristics(Ta=25°)

Items	Symbol	Condition	Device	Min	Typ	Max	Unit
Forward Voltage	VF	If=20mA	Red	1.8	1.9	2.0	V
			Green	2.8	3.0	3.2	
			Blue	3.0	3.2	3.4	
Reverse Current	IR	VR =5V		---	---	5	μ A
Dominant Wavelength	λ d	If=20mA	Red	615	620	---	nm
			Green	515	520	---	
			Blue	465	475	---	
Luminous Intensity	Iv	If=20mA	Red	120	140	---	mcd
			Green	150	210		
			Blue	50	70	---	
View Angle	2 θ 1/2	If=20mA		---	120	---	Deg

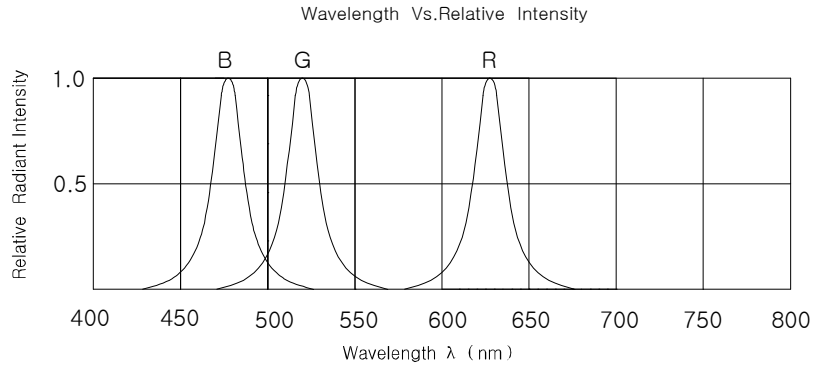
■ Absolute Maximum Ratings (Ta = 25°C)

Items	Symbol	Absolute maximum Rating			Unit
		Red	Green	Blue	
Power Dissipation	PD	120	120	120	mW
Forward Current(DC)	IF	30	30	30	mA
Peak Forward Current	IFP	120	120	120	mA
Reverse Voltage	VR	5			V
Operation Temperature	Topr	- 40~ + 85			°C
Storage Temperature	Tstg	- 40~ + 85			°C

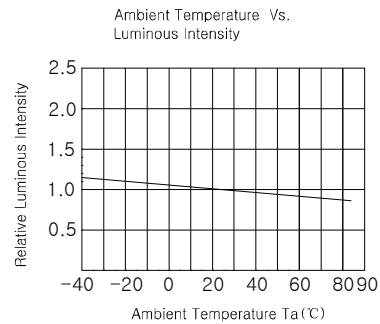
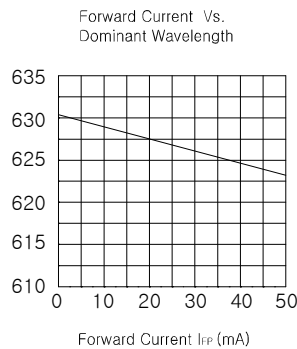
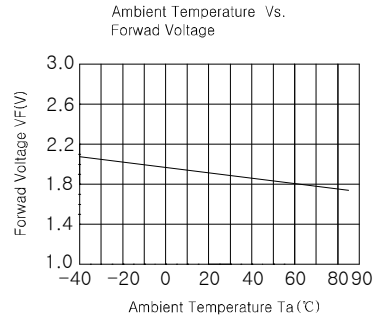
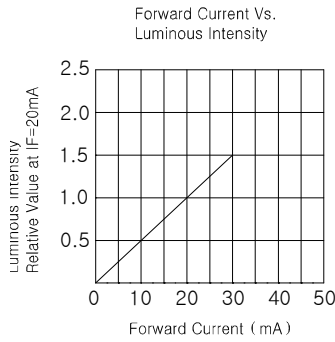
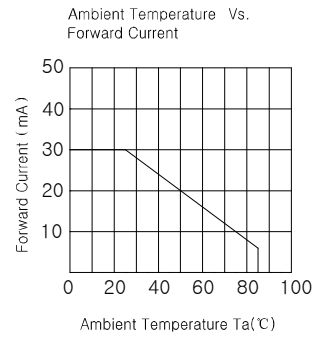
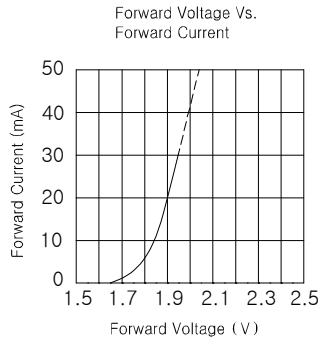
Note :1/10 Duty Cycle, 0.1 ms Pulse Width.



■ Typical Electrical/Optical Characteristics Curves:



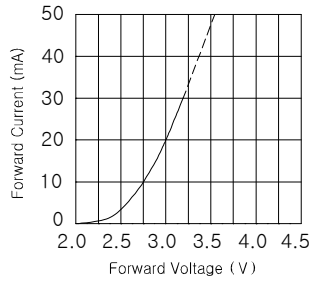
Red



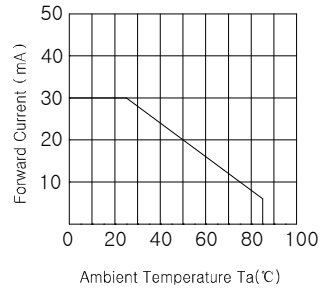


Green

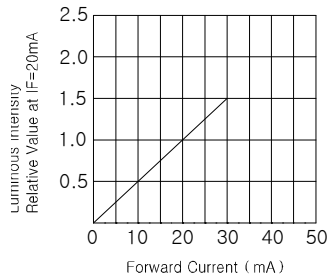
Forward Voltage Vs. Forward Current



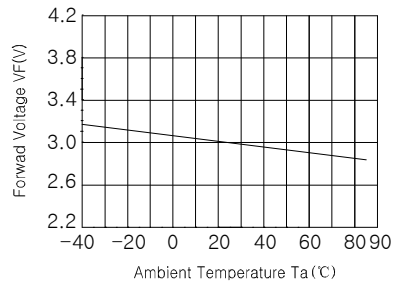
Ambient Temperature Vs. Forward Current (mA)



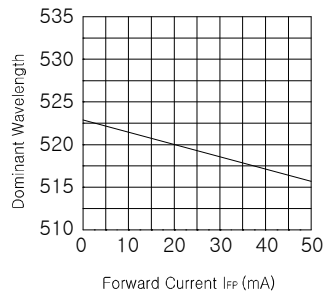
Forward Current Vs. Luminous Intensity



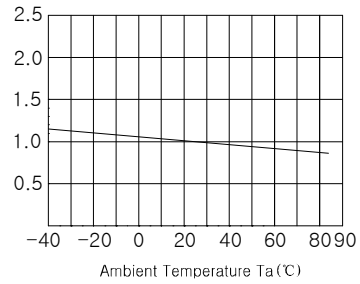
Ambient Temperature Vs. Forward Voltage



Forward Current Vs. Dominant Wavelength



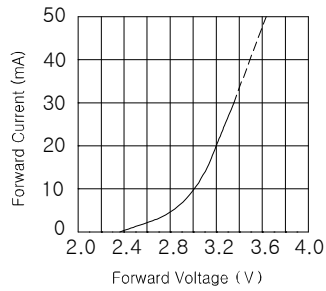
Ambient Temperature Vs. Luminous Intensity



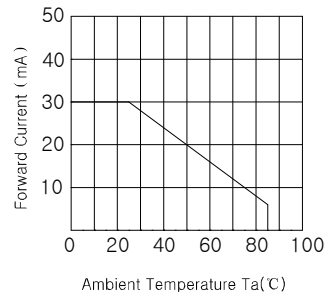


Blue

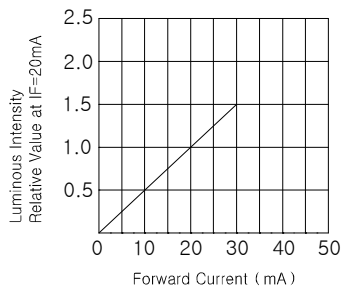
Forward Voltage Vs.
Forward Current



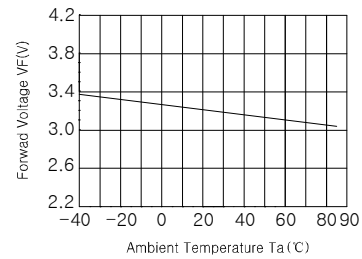
Ambient Temperature Vs.
Forward Current



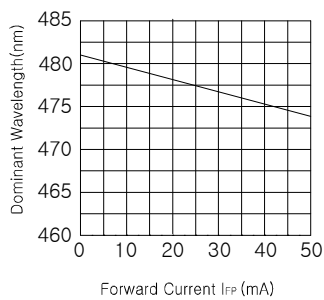
Forward Current Vs.
Luminous Intensity



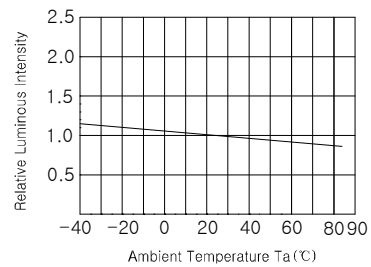
Ambient Temperature Vs.
Forward Voltage



Forward Current Vs.
Dominant Wavelength



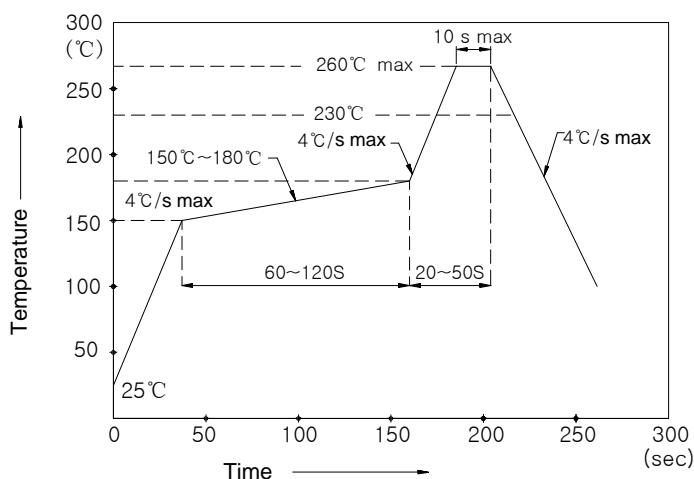
Ambient Temperature Vs.
Luminous Intensity



■ 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.



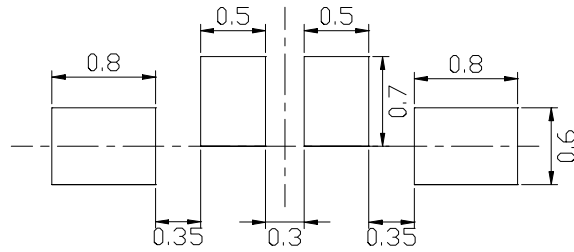
NOTES:

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.



■ Recommended Soldering Pattern:

(Units:mm)



■ Tape Specifications:

(Units:mm)

