Device Selection Guide

Code	Chip Materials	Emitted Color	Resin Color
R6	AlGaInP	Brilliant Red	Water Clear
G6	AlGaInP	Brilliant Yellow Green	

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Code	Rating	Unit
Reverse Voltage	V_R		5	V
Forward Current	I_F	R6	25	mA
		G6	25	
eak Forward Current (Duty 1/10 @1KHz)	I_{FP}	R6	60	mA
		G6	60	
Power Dissipation	Pd	R6	60	mW
		G6	60	
Electrostatic Discharge	ESD_{HBM}		2000	V
Operating Temperature	T_{opr}		-40 ~ +85	℃
Storage Temperature	Tstg		-40 ~ +90	℃
Soldering Temperature	Tsol		Reflow Soldering : 260 ℃ for 10 sec. Hand Soldering : 350 ℃ for 3 sec.	

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Code	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	R6	45.0	-----	112.0	mcd	
		G6	45.0	-----	72.0		
Viewing Angle	$2\theta_{1/2}$		-----	130	-----	deg	
Peak Wavelength	λ p	R6	-----	632	-----	nm	
		G6	-----	575	-----		
Dominant Wavelength	λ d	R6	617.5	-----	633.5	nm	I_F=20mA
		G6	567.5	-----	575.5		
Spectrum Radiation Bandwidth	△λ	R6	-----	20	-----	nm	
		G6	-----	20	-----		
Forward Voltage	V_F	R6	1.7	2.0	2.4	V	
		G6	1.7	2.0	2.4		
Reverse Current	I_R	R6	-----	-----	10	μA	V_R=5V
		G6	-----	-----	10		

Note:
1.Tolerance of Luminous Intensity: ±11%
2.Tolerance of Dominant Wavelength ±1nm

R6
Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
P1	45.0	57.0	mcd	I_F =20mA
P2	57.0	72.0		
Q1	72.0	90.0		
Q2	90.0	112.0		

Bin Range of Dom. Wavelength

Bin Code	Min.	Max.	Unit	Condition
E4	617.50	621.50	mcd	I_F =20mA
E5	621.50	625.50		
E6	625.50	629.50		
E7	629.50	633.50		

G6
Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
P1	45.0	57.0	mcd	I_F =20mA
P2	57.0	72.0		

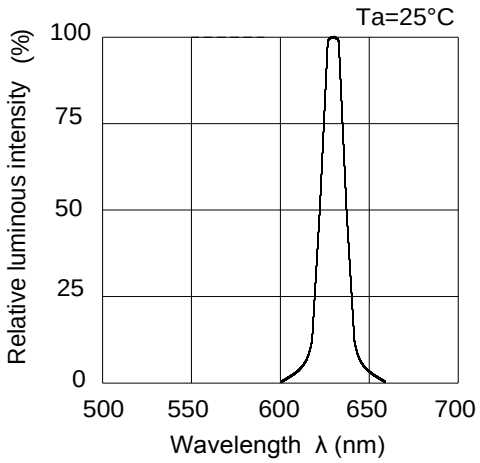
Bin Range of Dom. Wavelength

Bin Code	Min.	Max.	Unit	Condition
C15	567.50	569.50	mcd	I_F =20mA
C16	569.50	571.50		
C17	571.50	573.50		
C18	573.50	575.50		

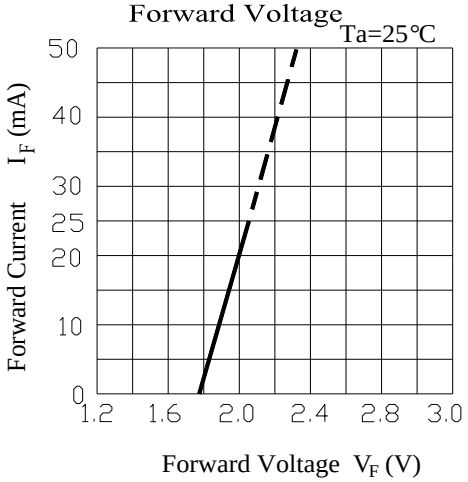
Note:
1.Tolerance of Luminous Intensity: ±11%
2.Tolerance of Dominant Wavelength ±1nm

Typical Electro-Optical Characteristics Curves
R6

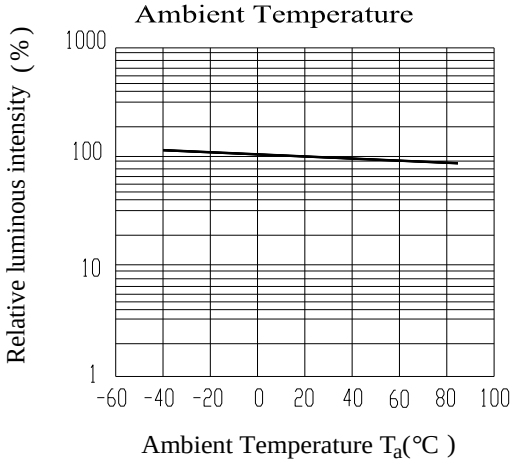
Spectrum Distribution



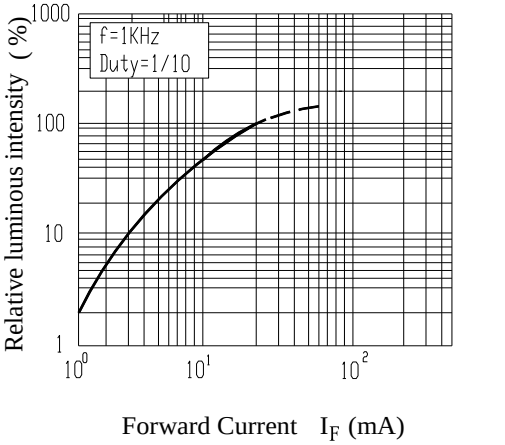
Forward Current vs. Forward Voltage



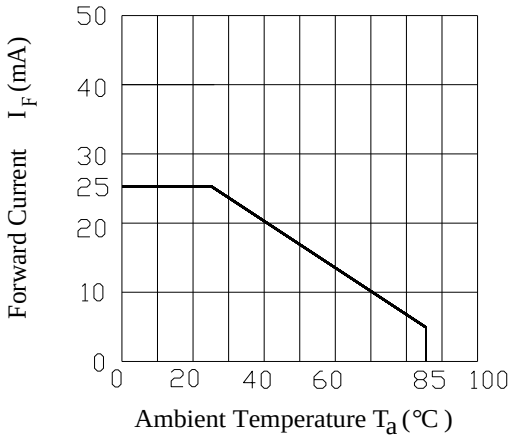
Luminous Intensity vs. Ambient Temperature



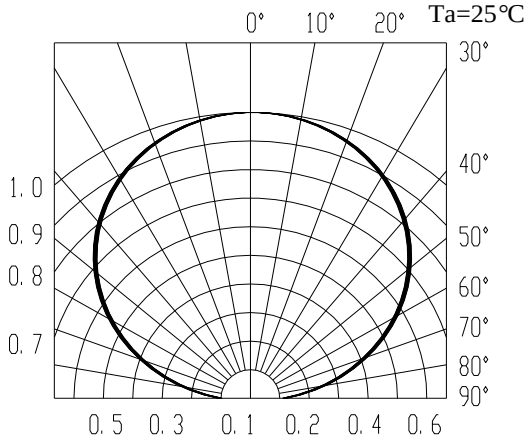
Luminous Intensity vs Forward Current



Forward Current Derating Curve

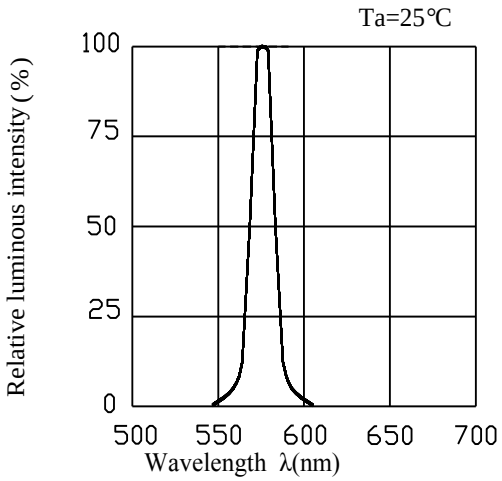


Radiation Diagram

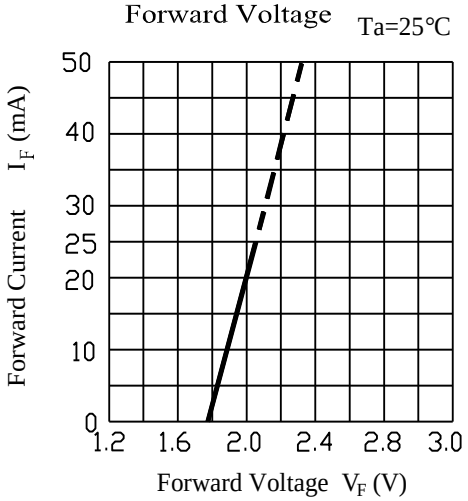


Typical Electro-Optical Characteristics Curves
G6

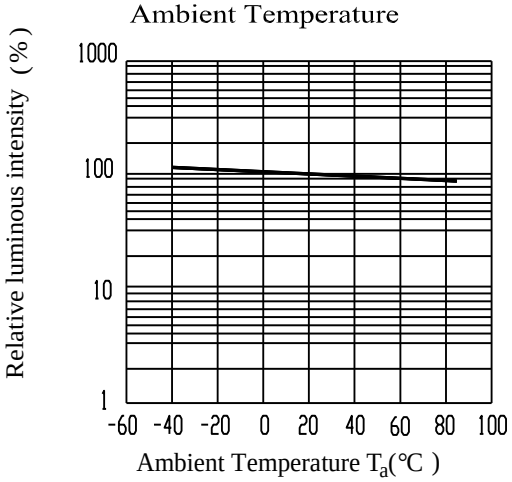
Spectrum Distribution



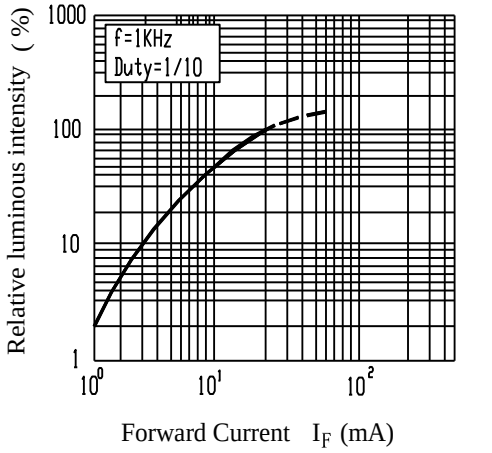
Forward Current vs. Forward Voltage



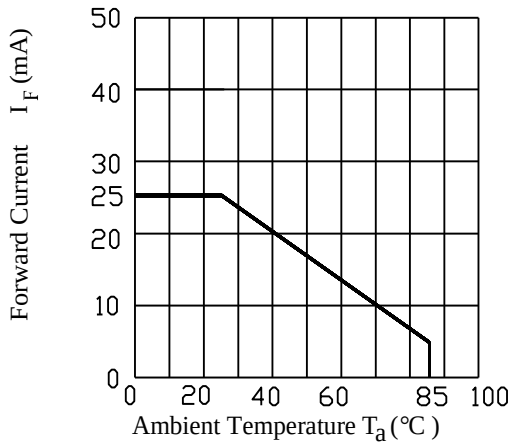
Luminous Intensity vs. Ambient Temperature



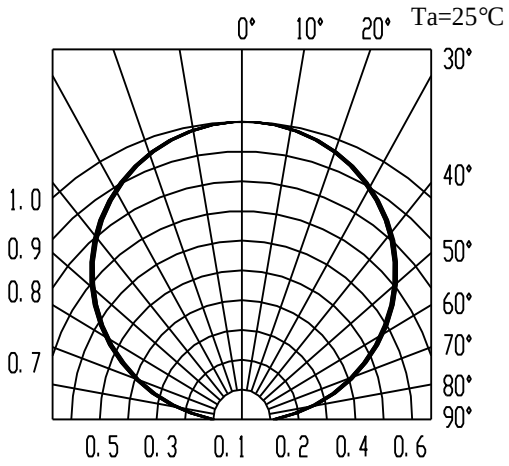
Luminous Intensity vs Forward Current



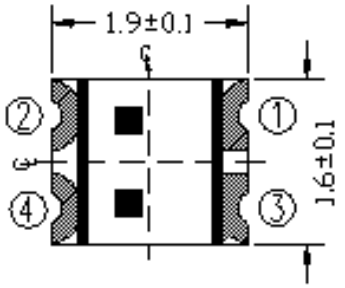
Forward Current Derating Curve

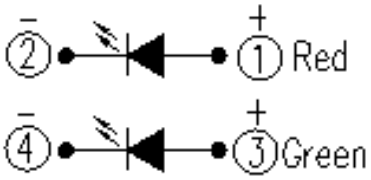


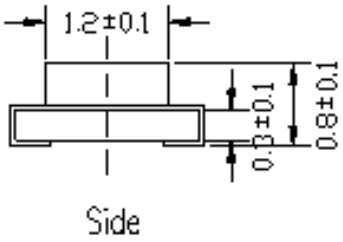
Radiation Diagram



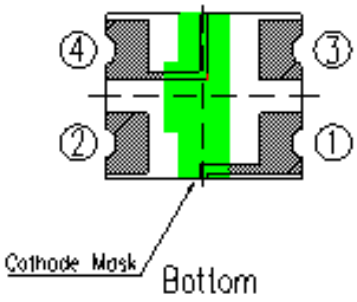
Package Dimension

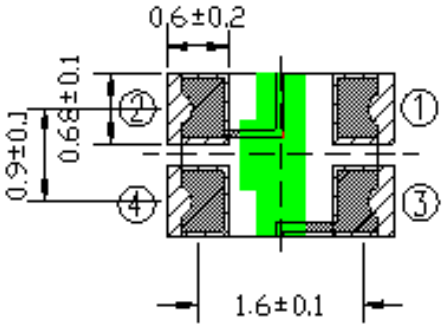






Recommend soldering pad

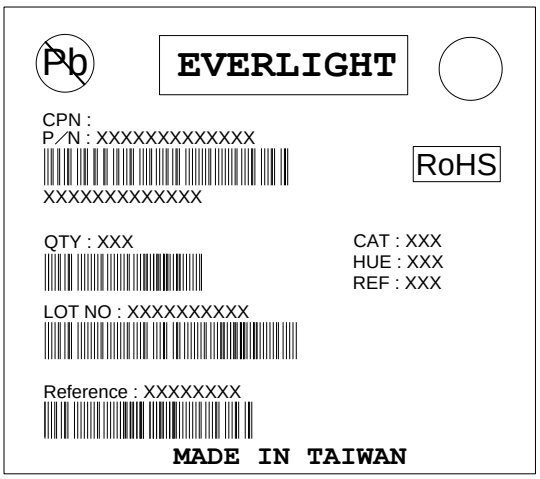




Suggested pad dimension is just for reference only.
Please modify the pad dimension based on individual need.

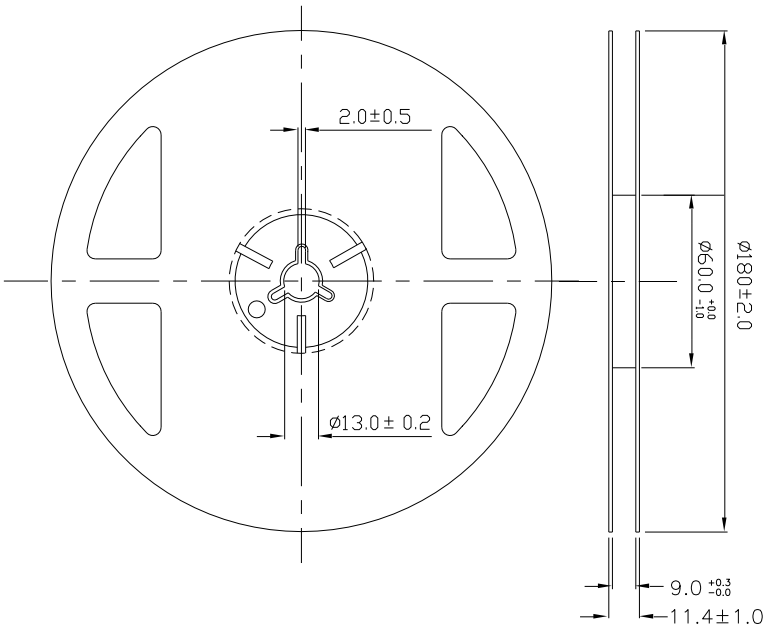
Note: Tolerances unless mentioned ±0.1mm. Unit = mm

Label Explanation



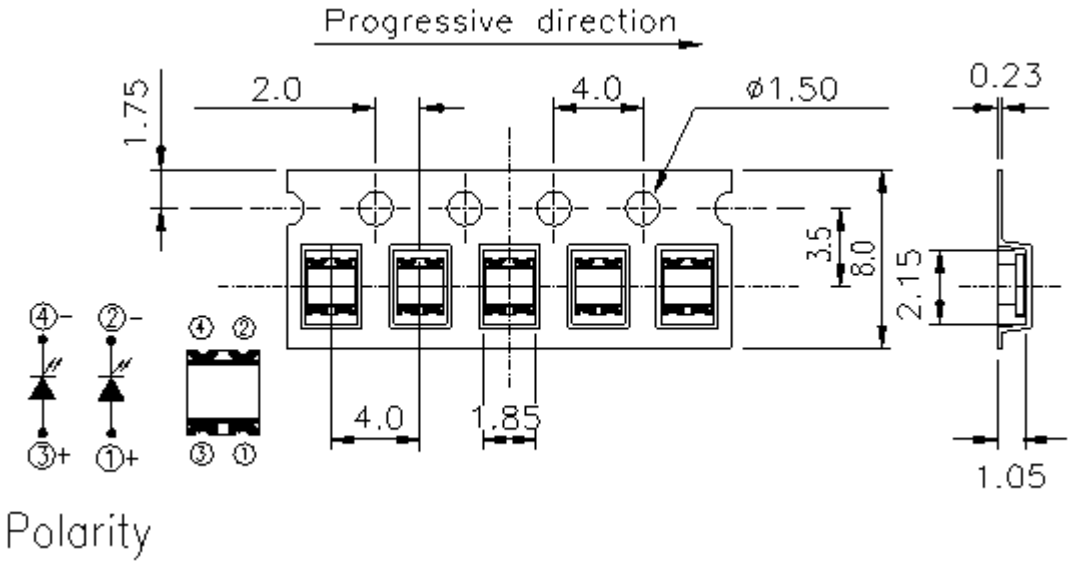
- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Chromaticity Coordinates & Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

Reel Dimensions



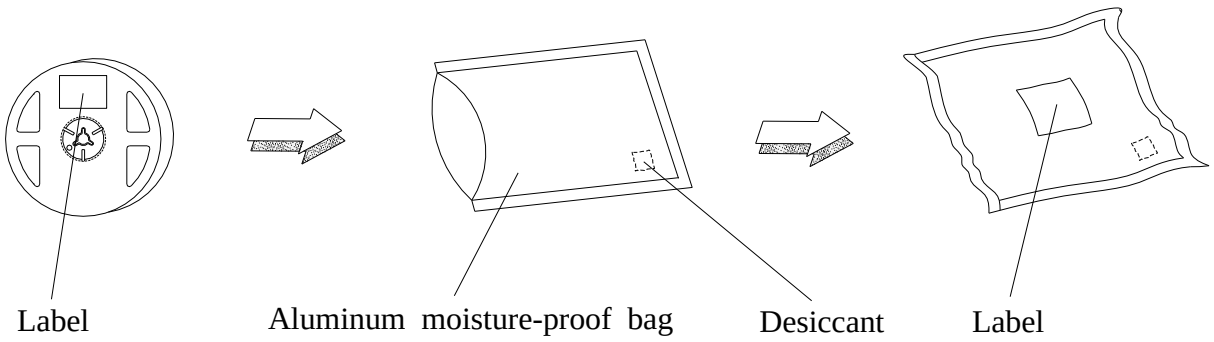
Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Carrier Tape Dimensions: Loaded quantity 2000 PCS per reel



Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Moisture Resistant Packaging

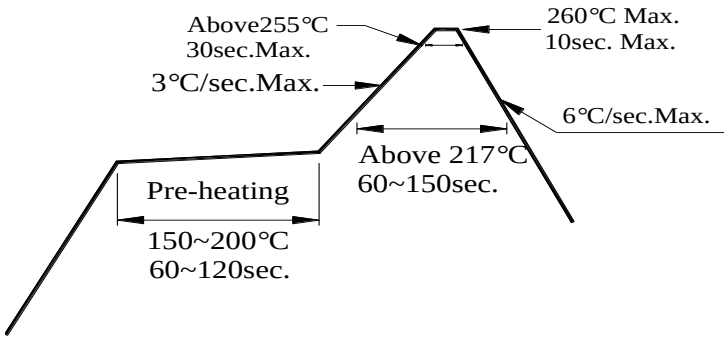


Precautions For Use

1. Over-current-proof
   Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage
   2.1 Do not open moisture proof bag before the products are ready to use.
   2.2 After opening the package: The LEDs should be kept at 30℃ or less and 60%RH or less.
   2.3 The LEDs should be used within 168 hours (7days) after opening the package .
   If unused LEDs remain, it should be stored in moisture proof packages.
   2.4 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.
   Baking treatment : 60±5℃ for 24 hours.

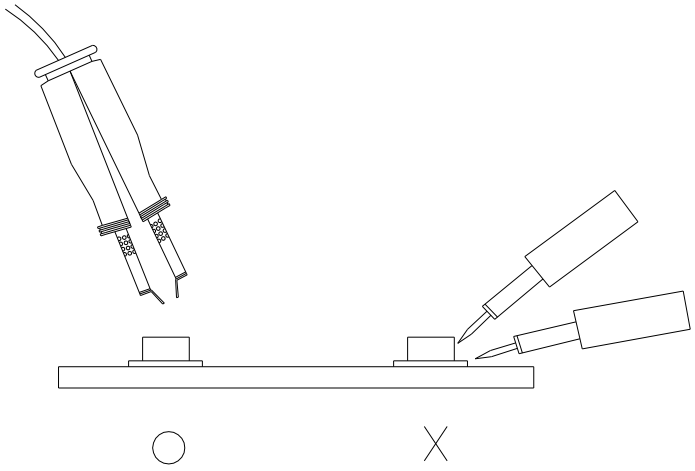
3. Soldering Condition
   3.1 Pb-free solder temperature profile



   3.2 Reflow soldering should not be done more than two times.
   3.3 When soldering, do not put stress on the LEDs during heating.
   3.4 After soldering, do not warp the circuit board.

4.Soldering Iron
   Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5.Repairing
   Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



Application Restrictions

High reliability applications such as military/aerospace, automotive safety/security systems, and medical equipment may require different product. If you have any concerns, please contact Everlight before using this product in your application. This specification guarantees the quality and performance of the product as an individual component. Do not use this product beyond the specification described in this document.