

Device Selection Guide

Code	Chip Materials	Emitted Color	Resin Color
R6	AlGaInP	Brilliant Red	Water Clear
GH	InGaN	Brilliant Green	
BH	InGaN	Blue	

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Code	Rating	Unit
Reverse Voltage	V_R		5	V
Forward Current	I_F		25	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	R6	60	mA
		GH	100	
		BH	100	
Power Dissipation	P_d	R6	60	mW
		GH	95	
		BH	95	
Electrostatic Discharge(HBM)	ESD	R6	2000	V
		GH	150	
		BH	150	
Operating Temperature	T_{opr}		-40 ~ +85	°C
Storage Temperature	T_{stg}		-40 ~ +90	°C
Soldering Temperature	T_{sol}		Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.	

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Code	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	R6	18.0	-----	57.0	mcd	
		GH	28.5	-----	112		
		BH	11.5	-----	28.5		
Viewing Angle	2θ _{1/2}		-----	120	-----	deg	
Peak Wavelength	λ _p	R6	-----	632	-----	nm	
		GH	-----	518	-----		
		BH	-----	468	-----		
Dominant Wavelength	λ _d	R6	613	-----	627	nm	I _F =5mA
		GH	520	-----	535		
		BH	465	-----	475		
Spectrum Radiation Bandwidth	Δλ	R6	-----	20	-----	nm	
		GH	-----	35	-----		
		BH	-----	25	-----		
Forward Voltage	V _F	R6	1.7	-----	2.2	V	
		GH	2.6	-----	3.3		
		BH	2.6	-----	3.3		
Reverse Current	I _R	R6	-----	-----	10	μA	V _R =5V
		GH	-----	-----	50		
		BH	-----	-----	50		

Note:

1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Dominant Wavelength ±1nm
3. Tolerance of Forward Voltage: ±0.10V

Bin Range of Luminous Intensity R6

Bin Code	Min.	Max.	Unit	Condition
M	18.0	28.5	mcd	I _F =5mA
N	28.5	45.0		
P	45.0	57.0		

Bin Range of Luminous Intensity GH

Bin Code	Min.	Max.	Unit	Condition
N	28.5	45.0	mcd	I _F =5mA
P	45.0	72.0		
Q	72.0	112		

Bin Range Of Dom. Wavelength

Bin Code	Min.	Max.	Unit	Condition
1	520	525	nm	I _F =5mA
2	525	530		
3	530	535		

Bin Range of Luminous Intensity BH

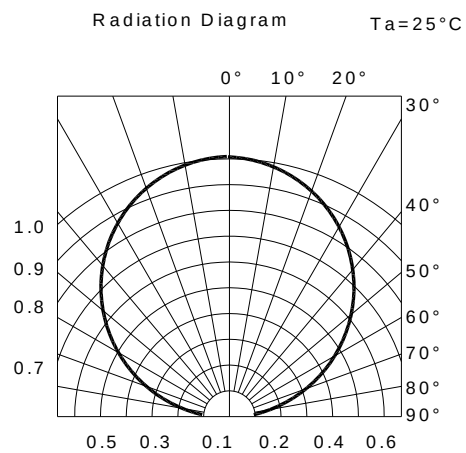
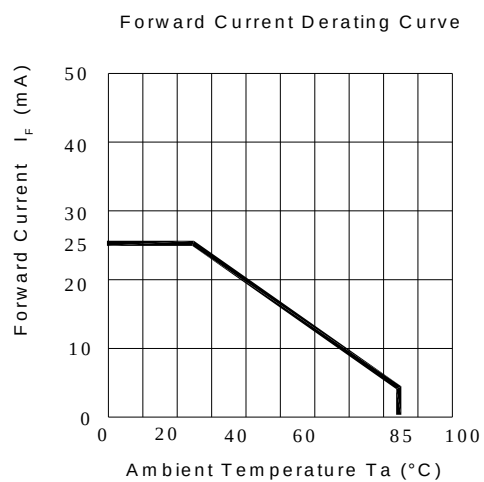
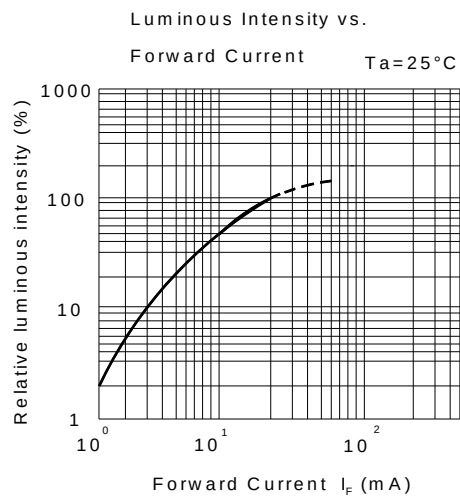
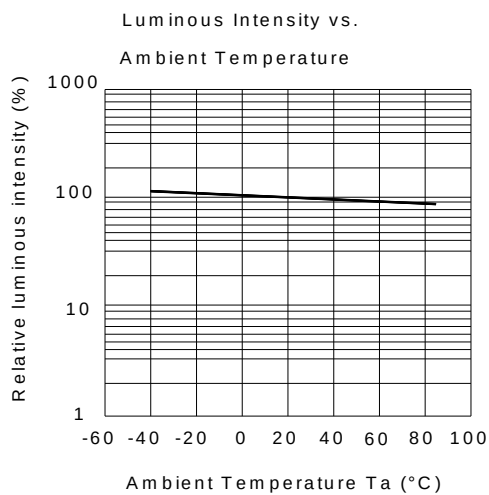
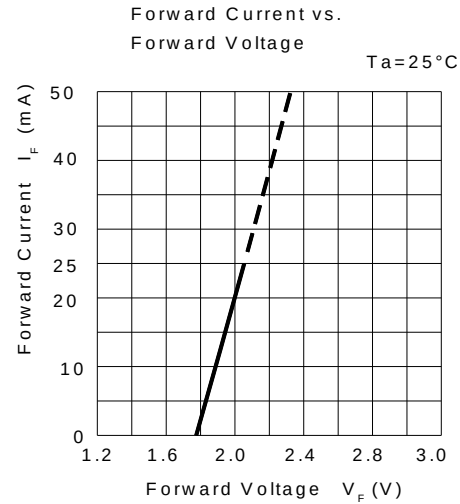
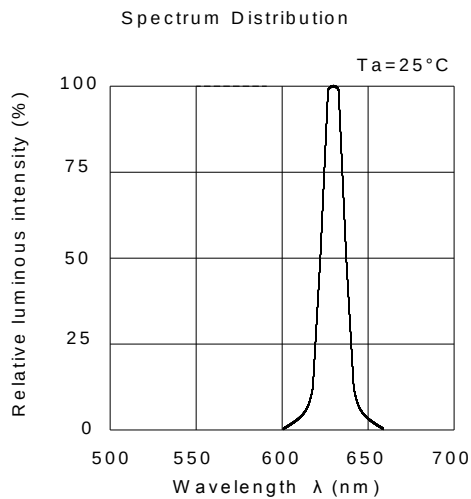
Bin Code	Min.	Max.	Unit	Condition
L	11.5	18.0	mcd	I _F =5mA
M	18.0	28.5		

Note:

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

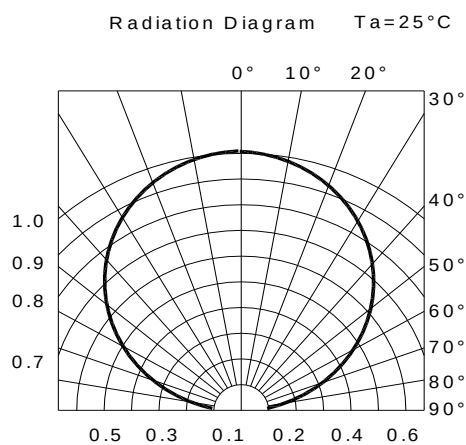
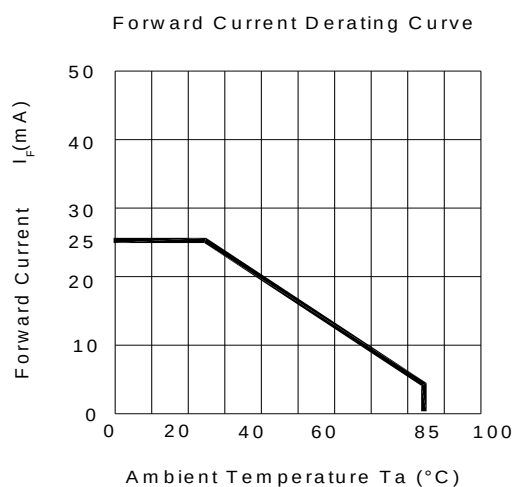
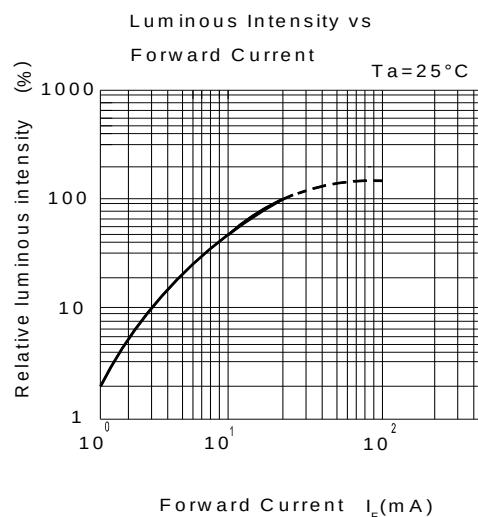
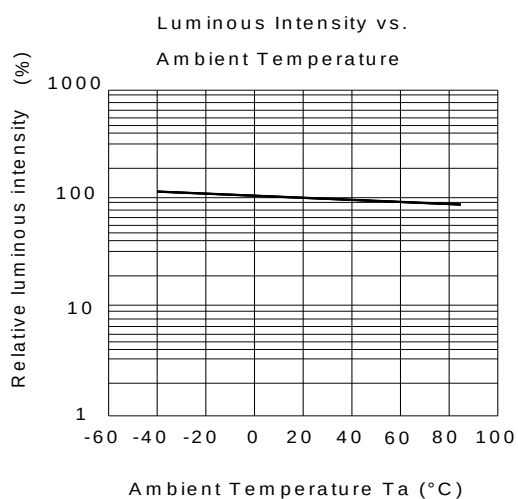
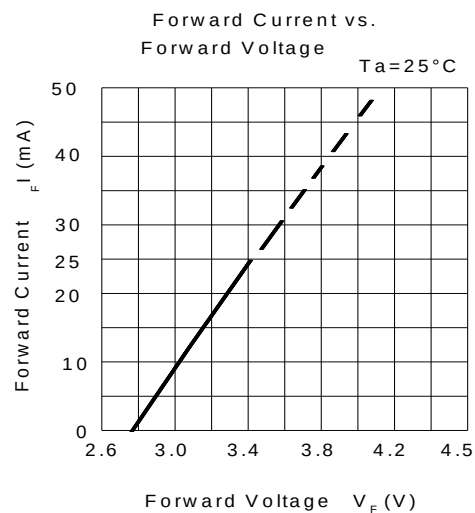
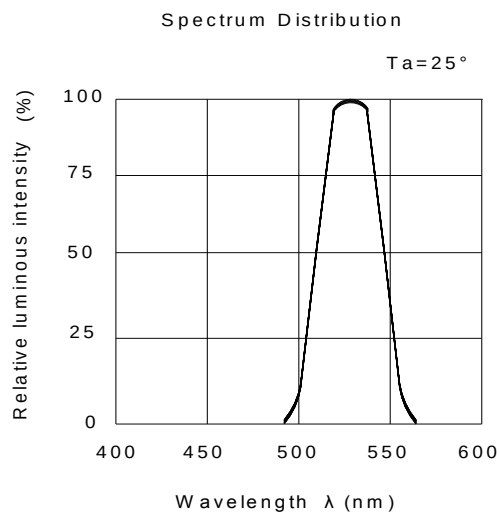
Typical Electro-Optical Characteristics Curves

R6



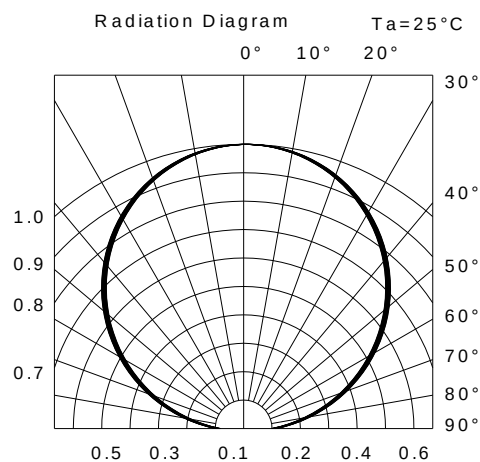
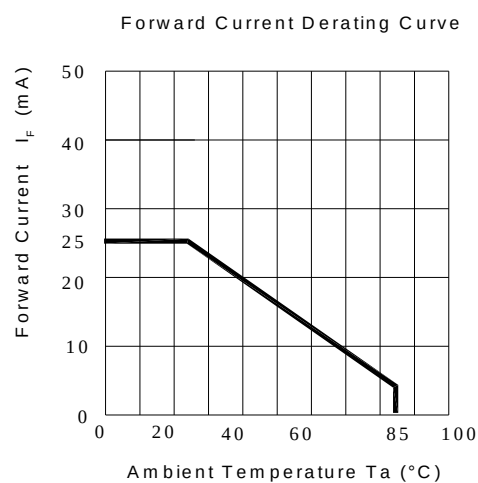
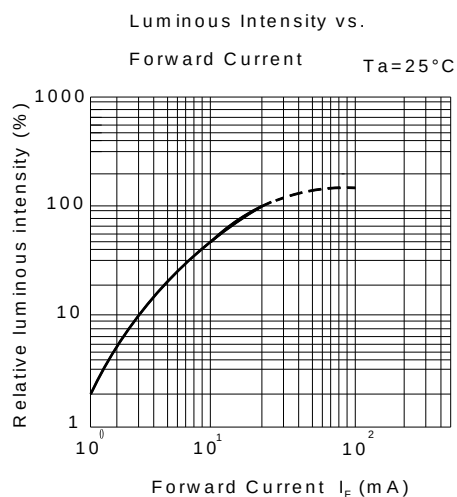
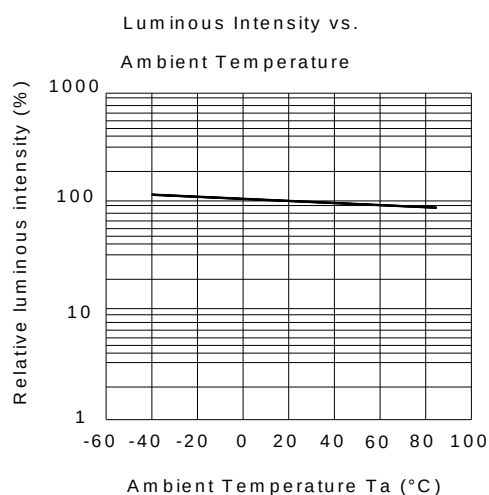
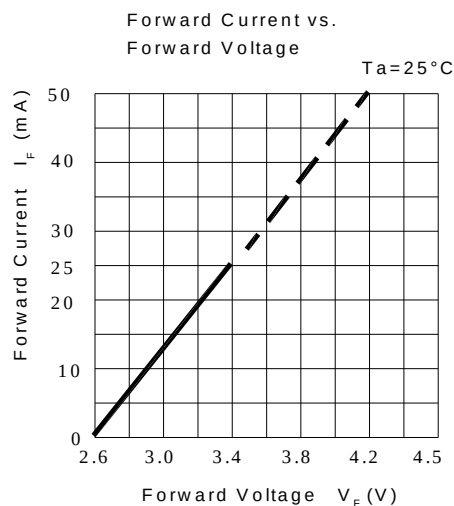
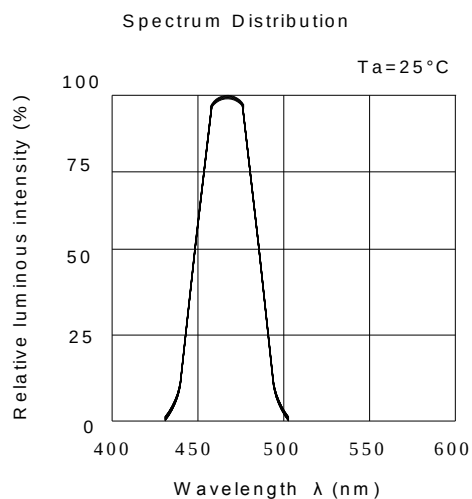
Typical Electro-Optical Characteristics Curves

GH

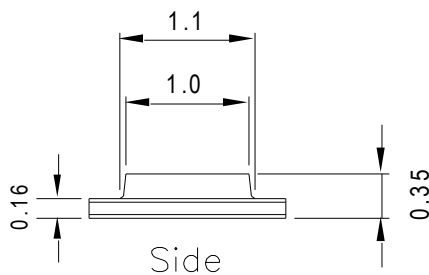
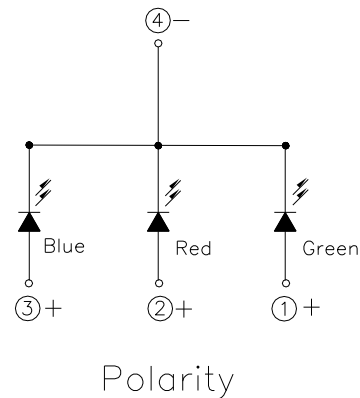
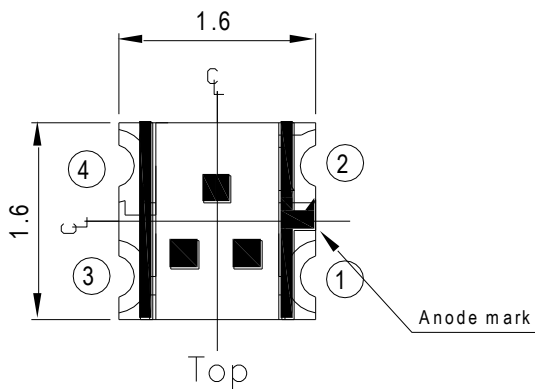


Typical Electro-Optical Characteristics Curves

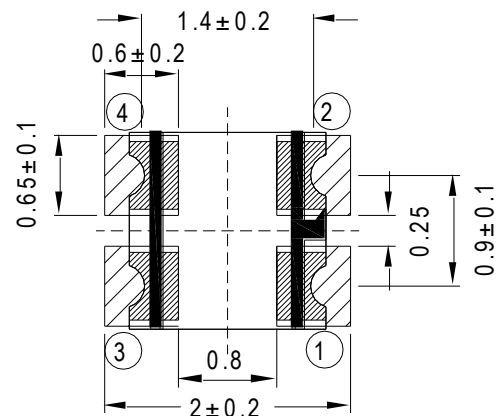
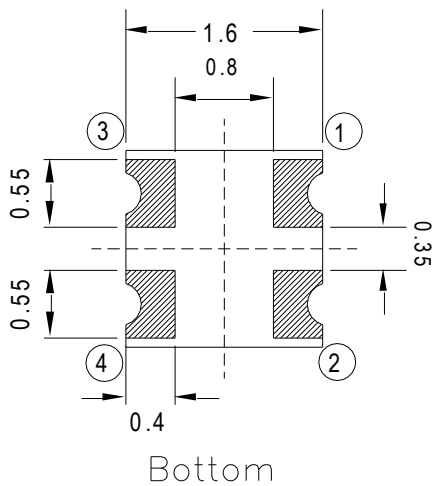
BH



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 ± 0.1 mm. Unit = mm

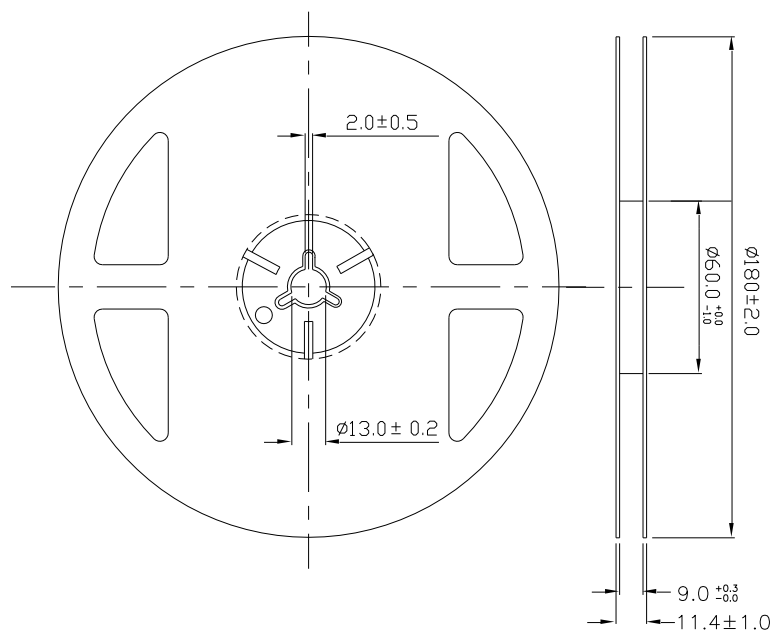
Moisture Resistant Packing Materials

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 $\pm 0.1\text{mm}$,Unit = mm

Technical drawing of a 4-pin connector. The drawing includes a top view, a side view, and a polarity diagram.

Top View Dimensions:

- Overall width: 8.0 ± 0.3
- Pin pitch (center-to-center): 4.0
- Pin diameter: $\phi 1.5$
- Pin length (from front face): 1.8
- Pin spacing from front face: 2.0, 4.0, 4.0, 2.0
- Pin diameter: $\phi 1.5$

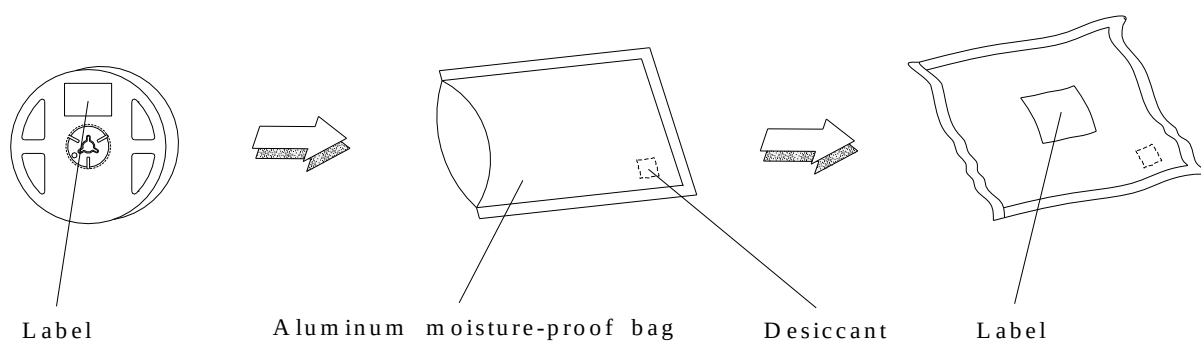
Side View Dimensions:

- Overall height: 1.8
- Pin height: 0.65
- Pin diameter: $\phi 1.5$
- Pin spacing from front face: 0.23

Polarity Diagram:

The polarity diagram shows four pins labeled 1, 2, 3, and 4. Pins 1, 2, and 3 are connected to a common ground symbol. Pin 4 is connected to a common positive symbol. The pins are labeled with their respective polarities: 1+, 2+, 3+, and 4+.

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 Before opening the package: The LEDs should be kept at 30°C or less and 90%RH or less.

2.3 After opening the package: The LED's floor life is 1 year under 30°C or less and 60% RH or less.

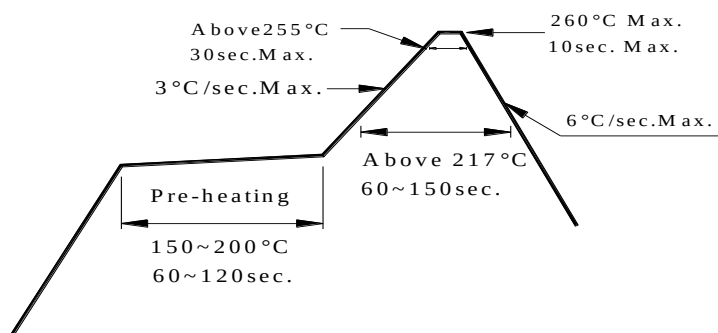
If unused LEDs remain, it should be stored in moisture proof packages.

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°C 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.

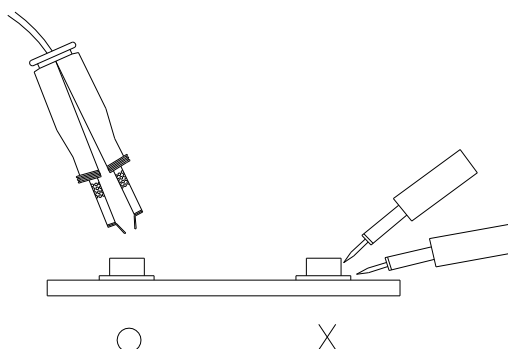
3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C 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.