Device Selection Guide

Code	Chip Materials	Emitted Color	Resin Color
R6	AlGaInP	Brilliant Red	White Diffused
GH	InGaN	Brilliant Green	

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Code	Rating	Unit
Reverse Voltage	V_R		5	V
Forward Current	I_F	R6	25	mA
		GH	25	
eak Forward Current (Duty 1/10 @1KHz)	I_{FP}	R6	60	mA
		GH	100	
Power Dissipation	Pd	R6	60	mW
		GH	95	
Electrostatic Discharge	ESD_{HBM}	R6	2000	V
		GH	150	
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	28.5	-----	72.0	mcd	I_F=10mA
		GH	72.0	-----	180		
Viewing Angle	$2\theta_{1/2}$		-----	130	-----	deg	
Peak Wavelength	λp	R6	-----	632	-----	nm	
		GH	-----	518	-----		
Dominant Wavelength	λd	R6	615	-----	625	nm	
		GH	520	-----	535		
Spectrum Radiation Bandwidth	$\triangle\lambda$	R6	-----	20	-----	nm	
		GH	-----	35	-----		
Forward Voltage	V_F	R6	1.7	2.0	2.4	V	
		GH	2.7	3.3	3.7		
Reverse Current	I_R	R6	-----	-----	10	μA	V_R=5V
		GH	-----	-----	50		

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

R6
Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
N	28.5	45.0	mcd	I_F =10mA
P	45.0	72.0		

GH
Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
Q1	72.0	90.0	mcd	I_F =10mA
Q2	90.0	112		
R1	112	140		
R2	140	180		

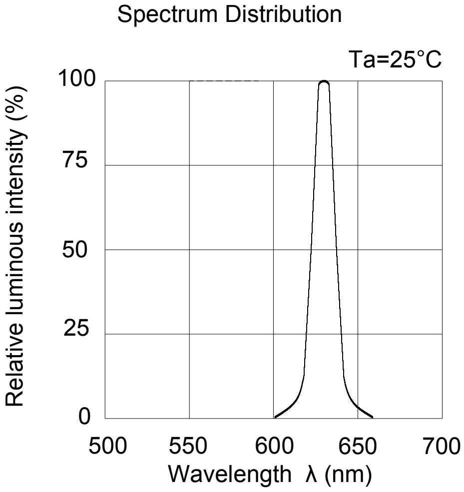
Bin Range Of Dom. Wavelength

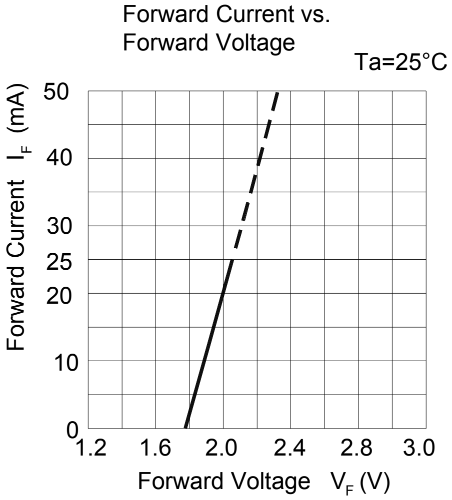
Bin Code	Min.	Max.	Unit	Condition
1	520	525	nm	I_F =10mA
2	525	530		
3	530	535		

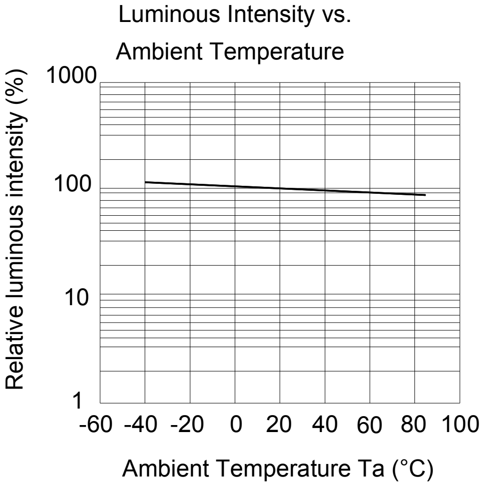
Note:
1.Tolerance of Luminous Intensity: ±11%
2.Tolerance of Dominant Wavelength ±1nm

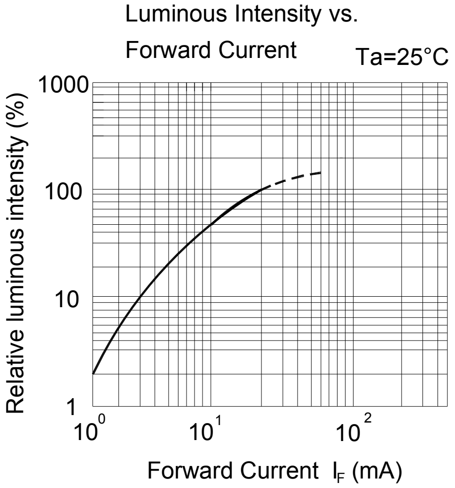
Typical Electro-Optical Characteristics Curves

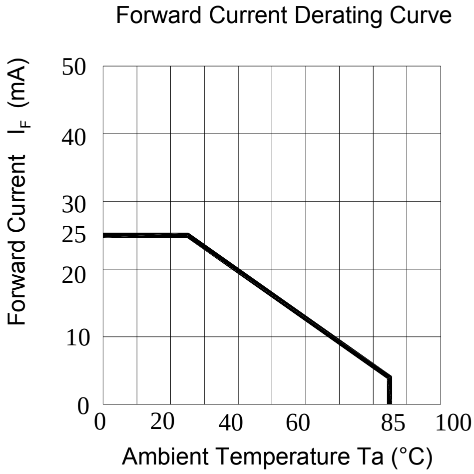
R6

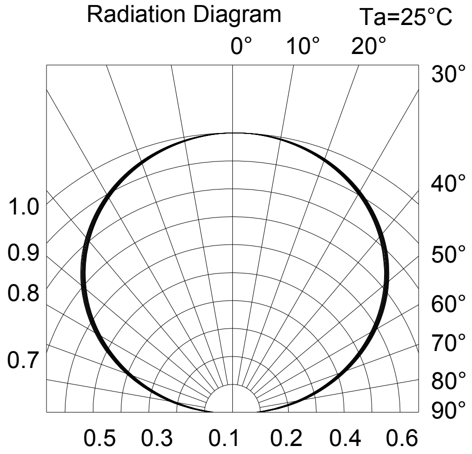










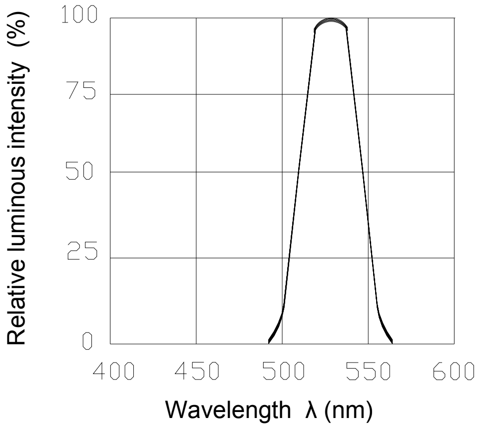


Typical Electro-Optical Characteristics Curves

GH

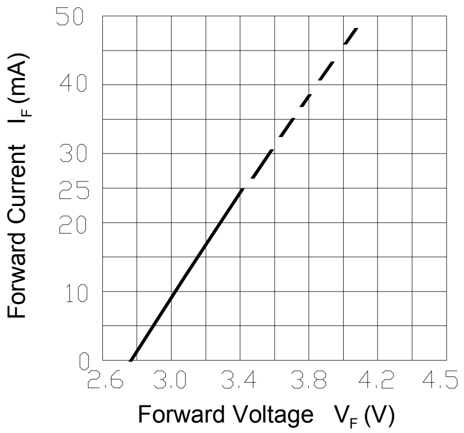
Spectrum Distribution

Ta=25°C

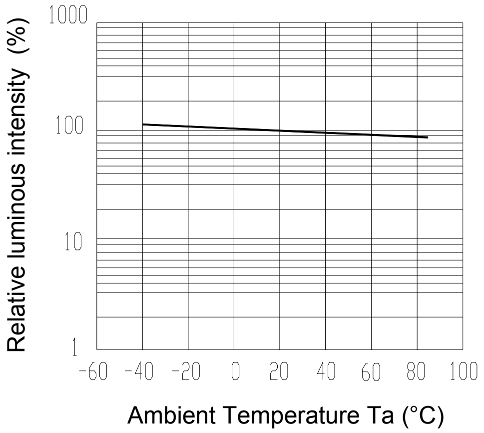


Forward Current vs.
Forward Voltage

Ta=25°C

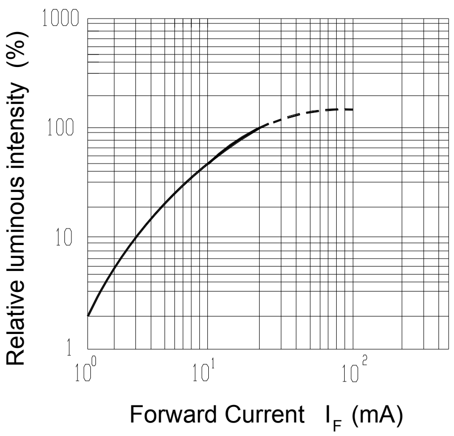


Luminous Intensity vs.
Ambient Temperature

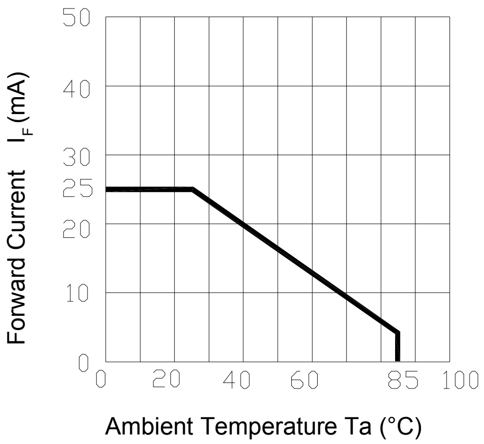


Luminous Intensity vs.
Forward Current

Ta=25°C

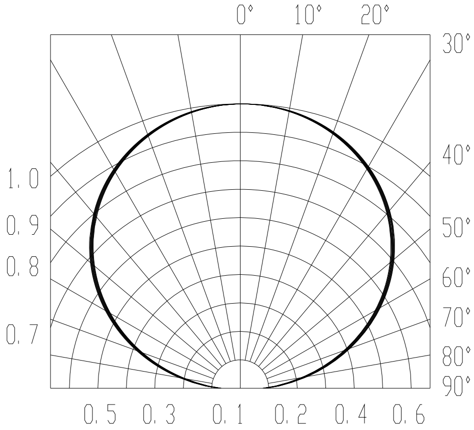


Forward Current Derating Curve

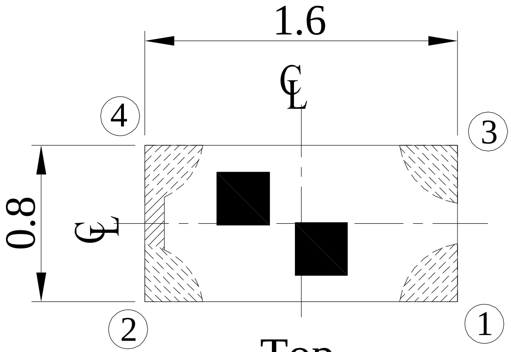


Radiation Diagram

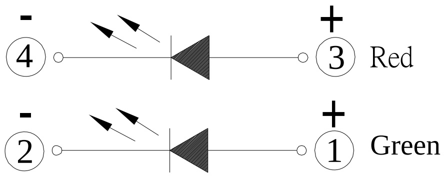
Ta=25°C



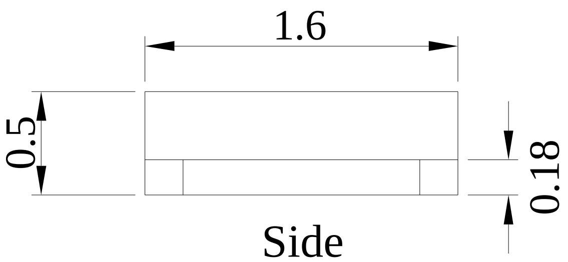
Package Dimension



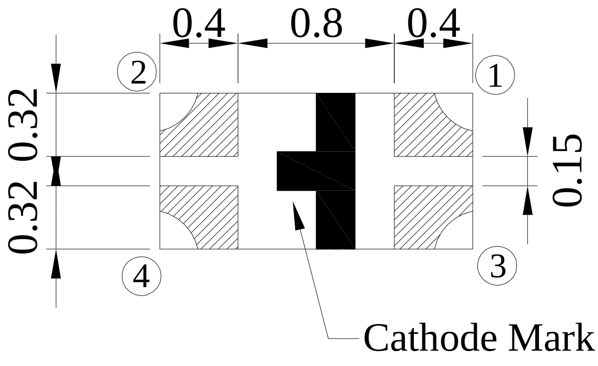
Top



Polarity

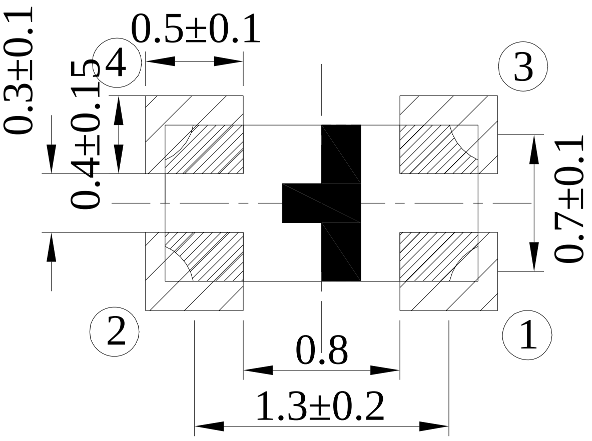


Side



Bottom

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


EVERLIGHT

RoHS

CPN :
P／N : XXXXXXXXXXXXX
XXXXXXXXXXXXX

QTY : XXX

CAT : XXX
HUE : XXX
REF : XXX

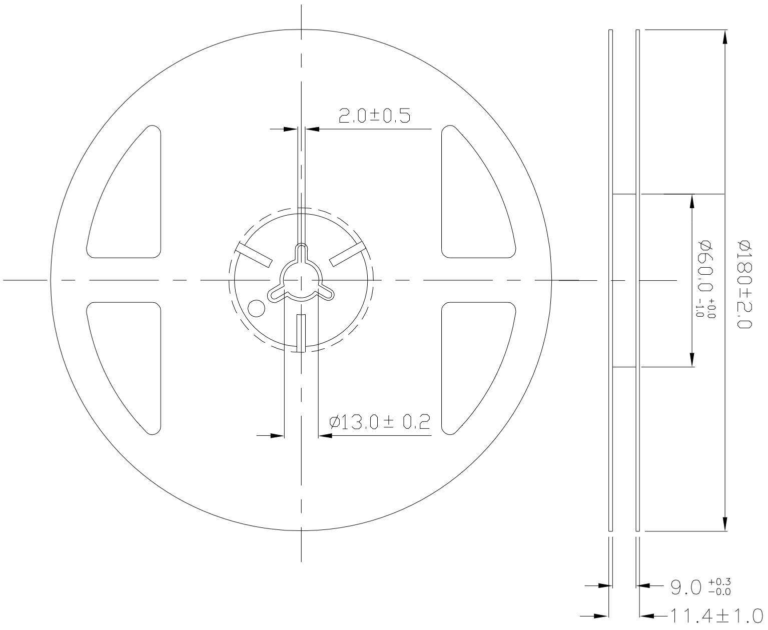
LOT NO : XXXXXXXXXX

Reference : XXXXXXXX

MADE IN TAIWAN

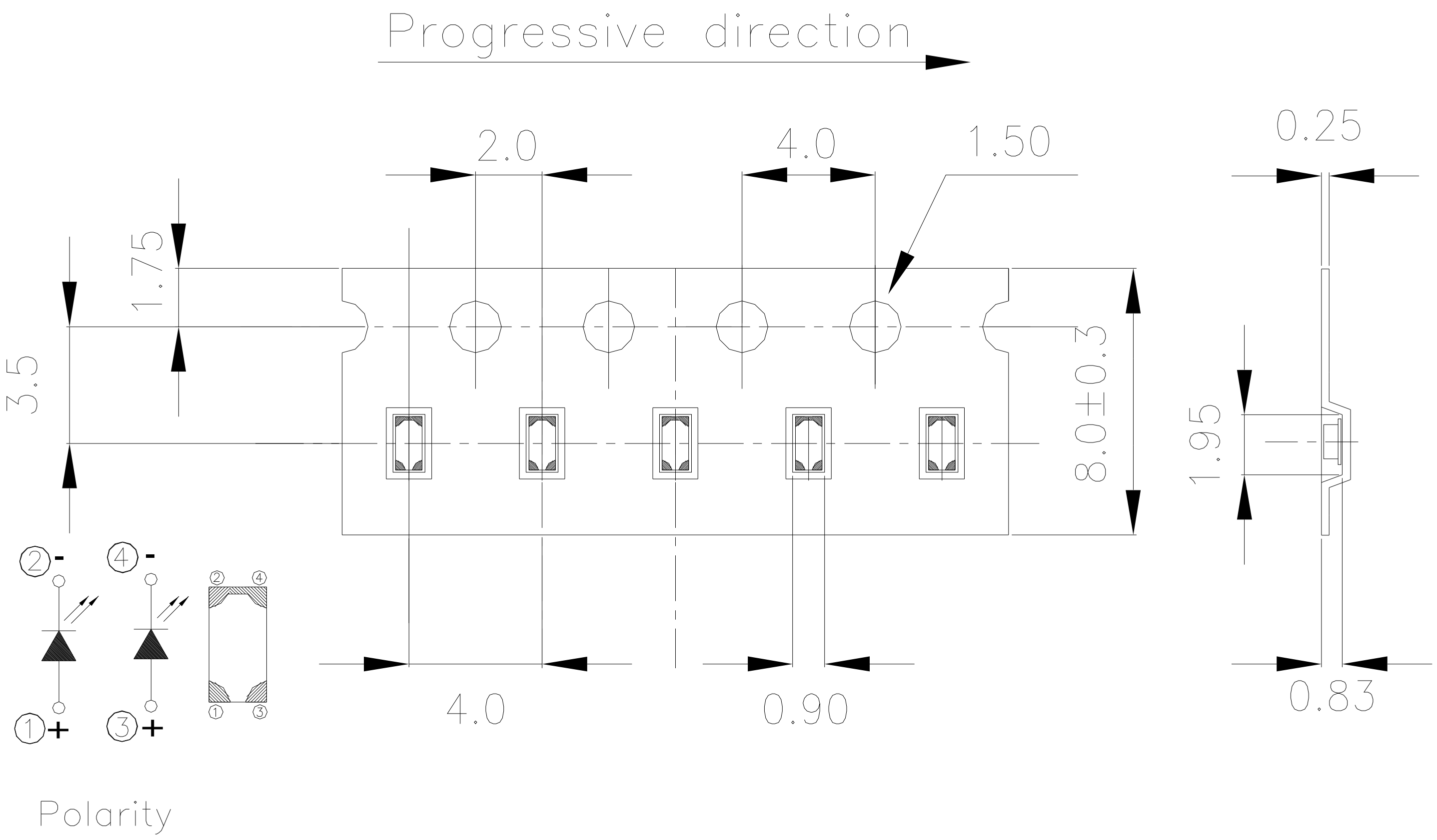
- CPN: Customer’s Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Chromaticity Coordinates & Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

Reel Dimensions



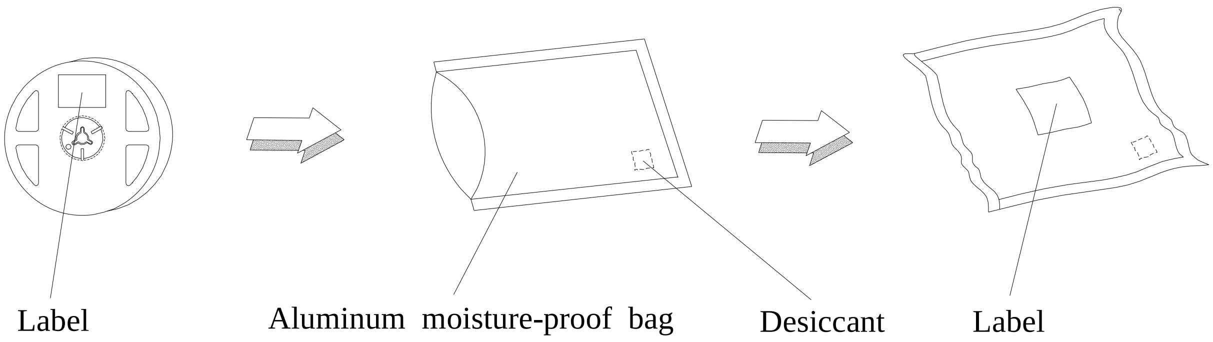
Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Carrier Tape Dimensions: Loaded quantity 3000 PCS per reel



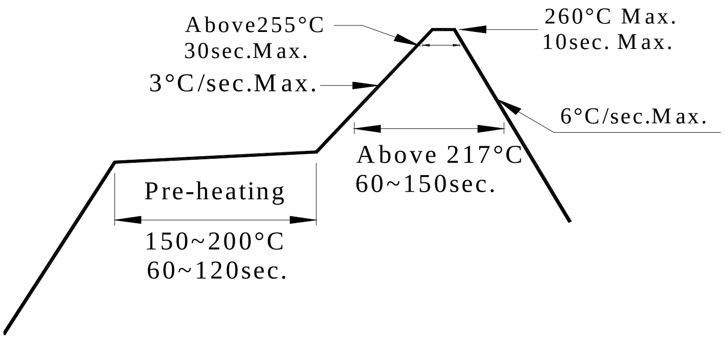
Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Moisture Resistant Packaging



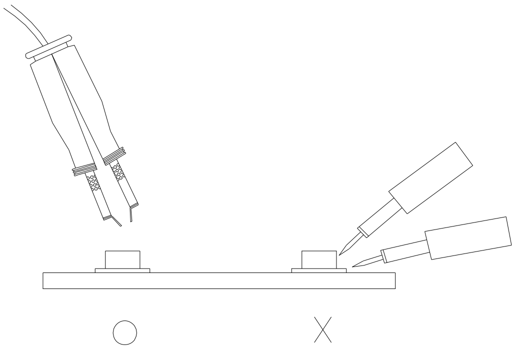
Precautions For Use

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 Before opening the package: The LEDs should be kept at 30℃ or less and 90%RH or less.
2.3 After opening the package: The LED's floor life is 1 year under 30℃ 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℃ 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.