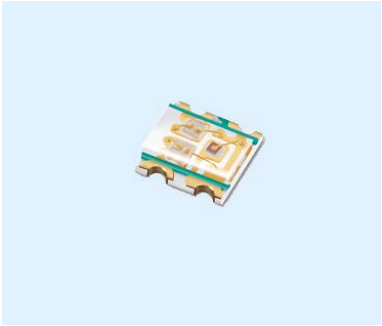
Technical Data Sheet

Full Color Chip LED

19-237/R6G7BHC-A05/2T

Features



- Package in 8mm tape on 7″ diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Multi-color type.
- Pb-free.

Descriptions

- The 19-237 SMD LED is much smaller than lead frame type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
- Besides, lightweight makes them ideal for miniature applications. etc.

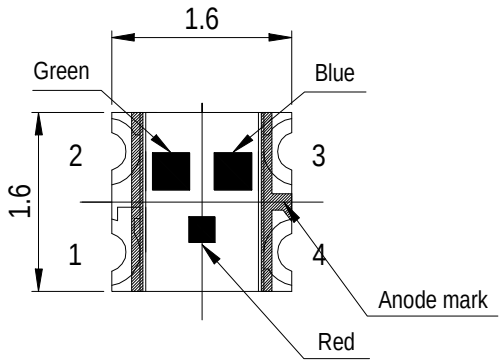
Applications

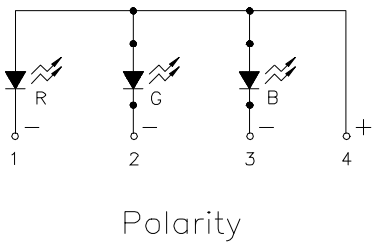
- Backlighting in dashboard and switch.
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.

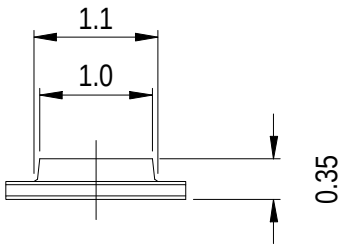
Device Selection Guide

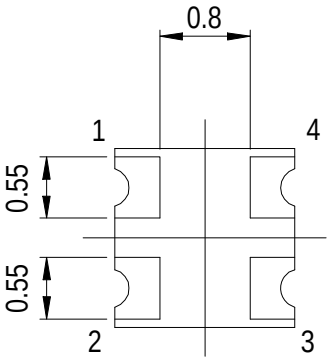
Chip			Resin Color
Type	**Material**	**Emitted Color**	
R6	AlGaInP	Brilliant Red	Water Clear
G7	AlGaInP	Brilliant Yellow Green	
BH	InGaN	Blue	

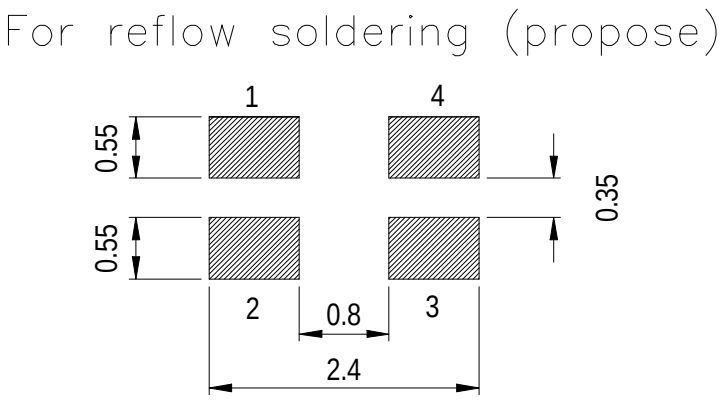
Package Outline Dimensions











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

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	R6:25 G7:25 BH:25	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	R6:60 G7:60 BH:100	mA
Power Dissipation	Pd	R6:60 G7:60 BH:95	mW
Electrostatic Discharge(HBM)	ESD	R6:2000 G7:2000 BH:150	V
Operating Temperature	Topr	-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		Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	R6	72.0	-----	180	mcd	IF=20mA
		G7	28.5		72.0		
		BH	45.0		112		
Viewing Angle	2θ 1/2		-----	120	-----	deg	
Peak Wavelength	λp	R6	-----	632	-----	nm	
		G7		575			
		BH		468			
Dominant Wavelength	λd	R6	613.0	-----	628.5	nm	
		G7	567.5		573.5		
		BH	464.5		475.5		
Spectrum Radiation Bandwidth	△λ	R6	-----	20	-----	nm	
		G7		20			
		BH		35			
Forward Voltage	VF	R6	1.7	2.0	2.4	V	
		G7	1.7	2.0	2.4		
		BH	2.7	3.3	3.7		
Reverse Current	IR	R6	-----	-----	10	μA	VR=5V
		G7			10		
		BH			50		

Notes:

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	Min	Max	Unit	Condition
Q	72.0	112	mcd	IF=20mA
R	112	180		

G7

Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition
N	28.5	45.0	mcd	IF=20mA
P	45.0	72.0		

BH

Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition
P	45.0	72.0	mcd	IF=20mA
Q	72.0	112		

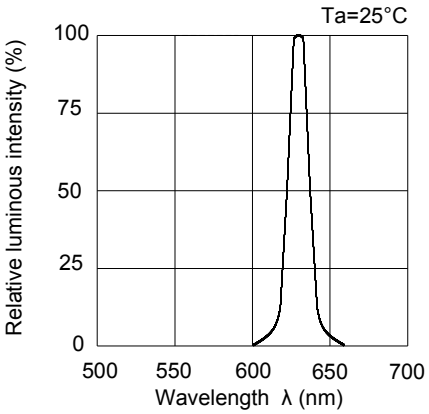
Notes:

1.Tolerance of Luminous Intensity ±11%

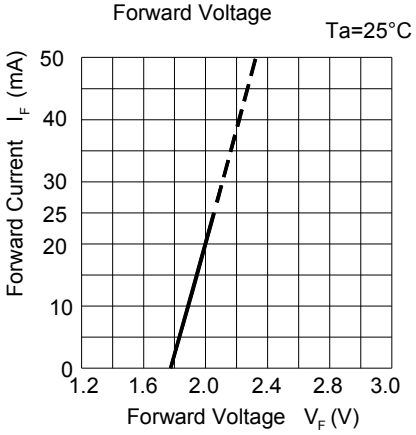
Typical Electro-Optical Characteristics Curves

R6

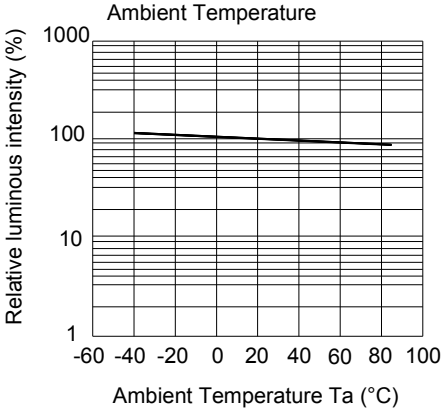
Spectrum Distribution



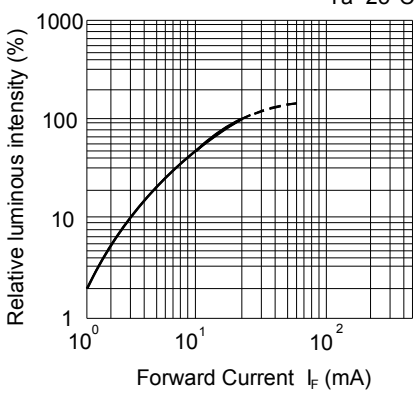
Forward Current vs. Forward Voltage



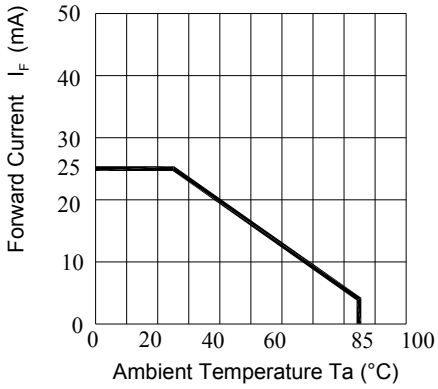
Luminous Intensity vs. Ambient Temperature



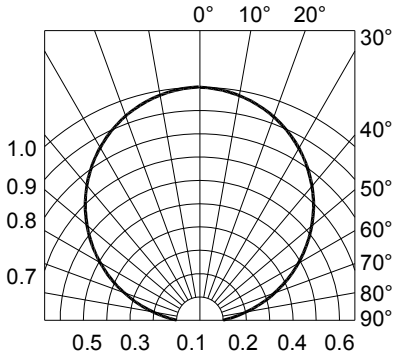
Luminous Intensity vs. Forward Current



Forward Current Derating Curve



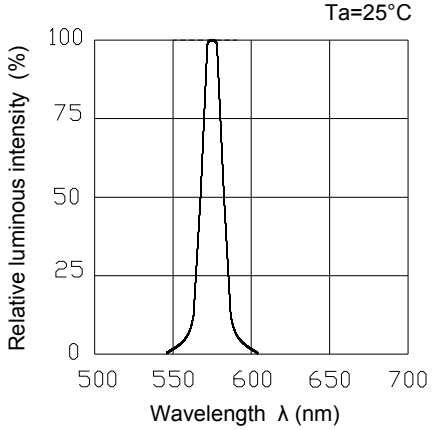
Radiation Diagram



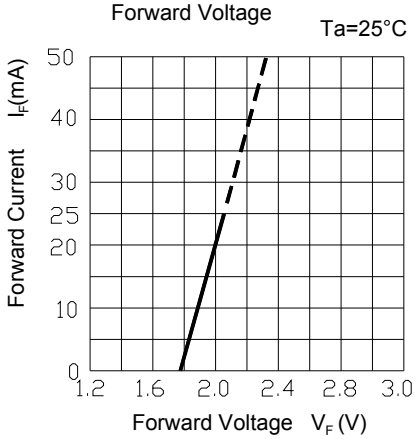
Typical Electro-Optical Characteristics Curves

G7

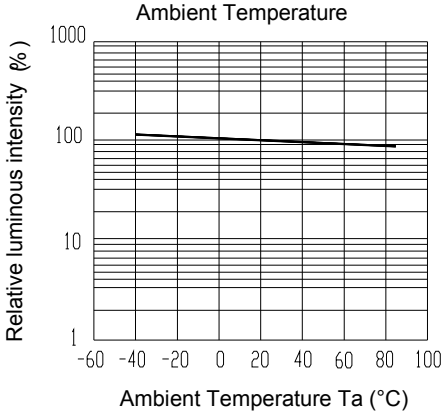
Spectrum Distribution



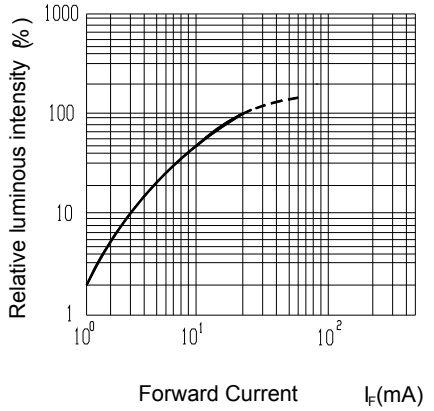
Forward Current vs. Forward Voltage



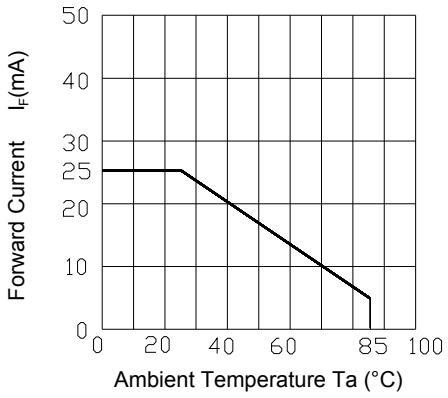
Luminous Intensity vs. Ambient Temperature



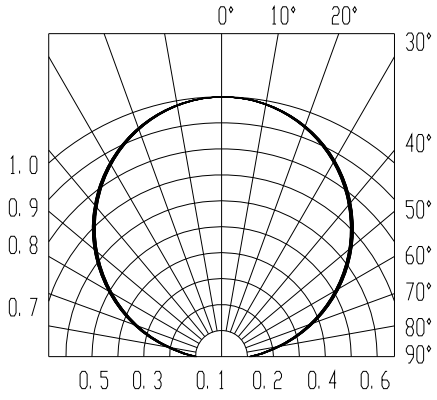
Luminous Intensity vs. Forward Current



Forward Current Derating Curve



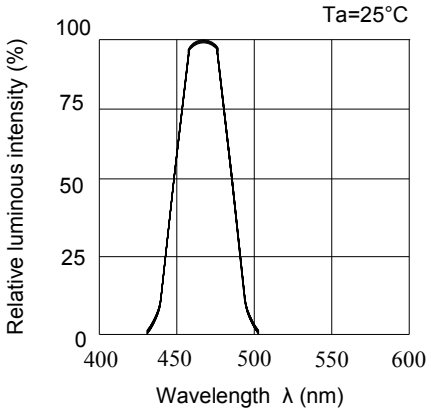
Radiation Diagram



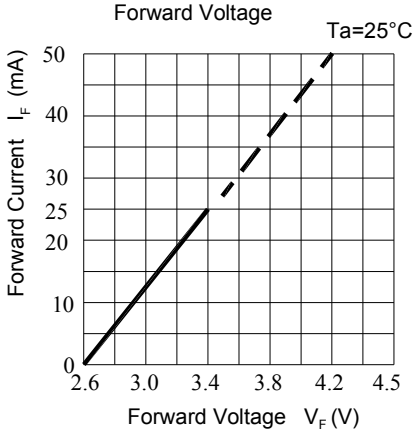
Typical Electro-Optical Characteristics Curves

BH

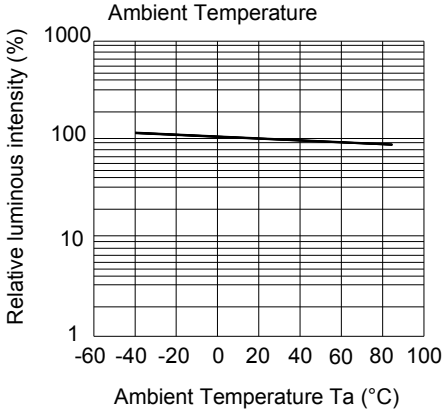
Spectrum Distribution



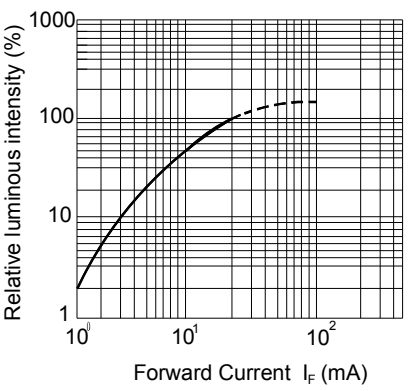
Forward Current vs. Forward Voltage



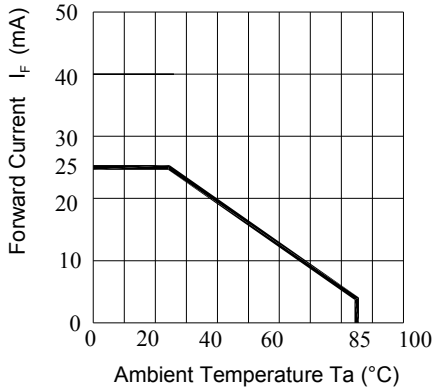
Luminous Intensity vs. Ambient Temperature



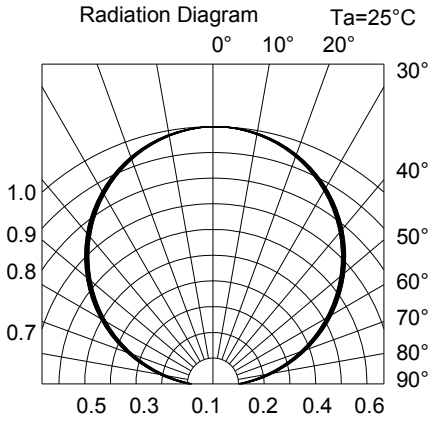
Luminous Intensity vs. Forward Current



Forward Current Derating Curve



Radiation Diagram

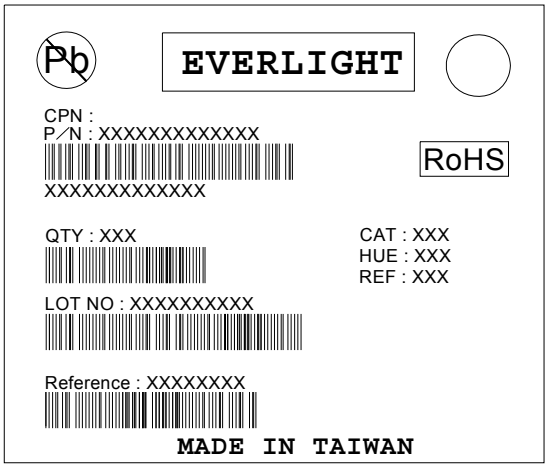


Label Explanation

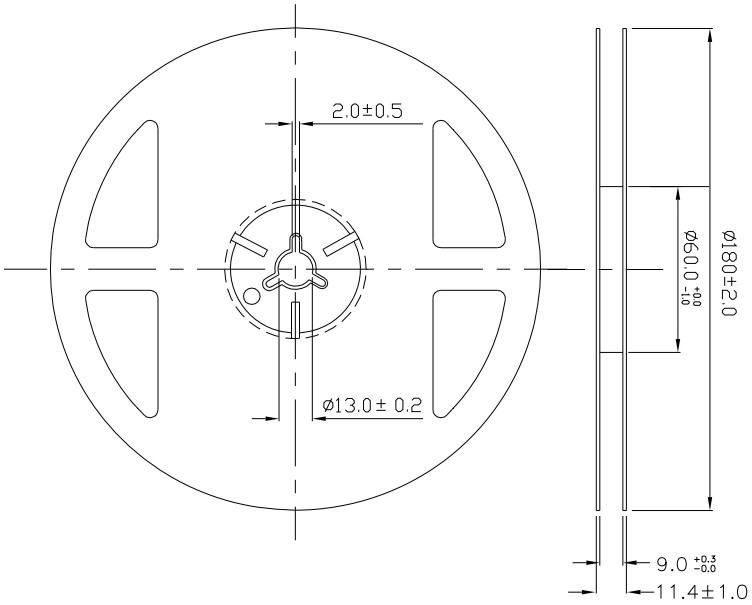
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank

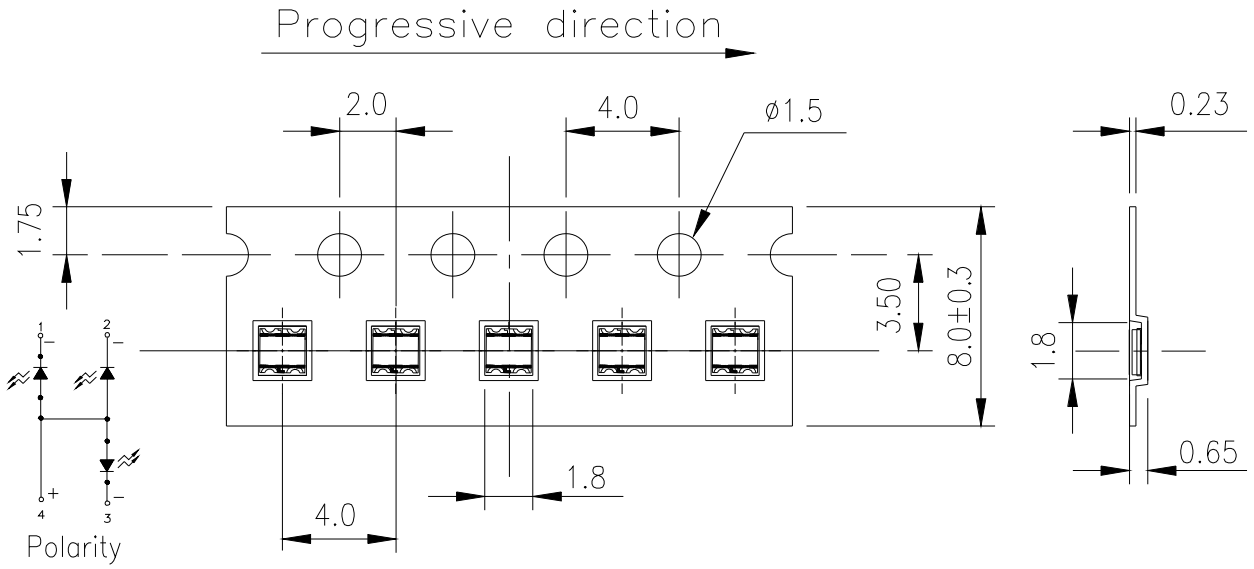


Reel Dimensions



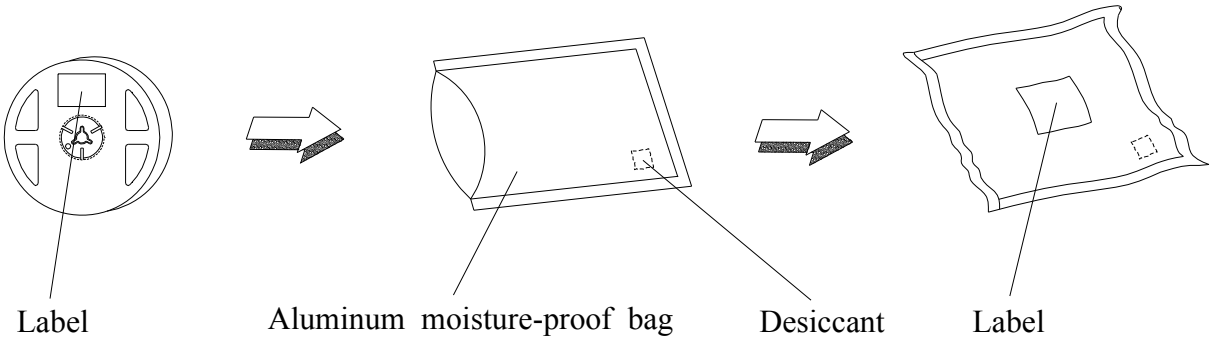
Note: The tolerances unless mentioned is ±0.1mm , Unit = mm

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.

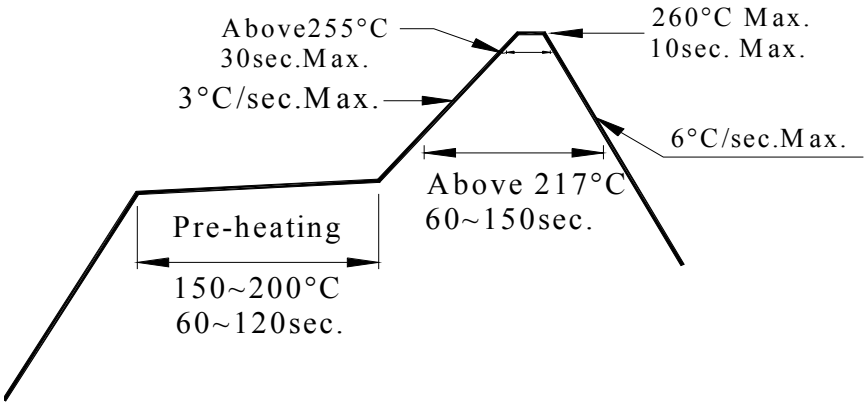
   2.2 Before opening the package: The LEDs should be kept at 30℃ or less and 90%RH or less.

   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.

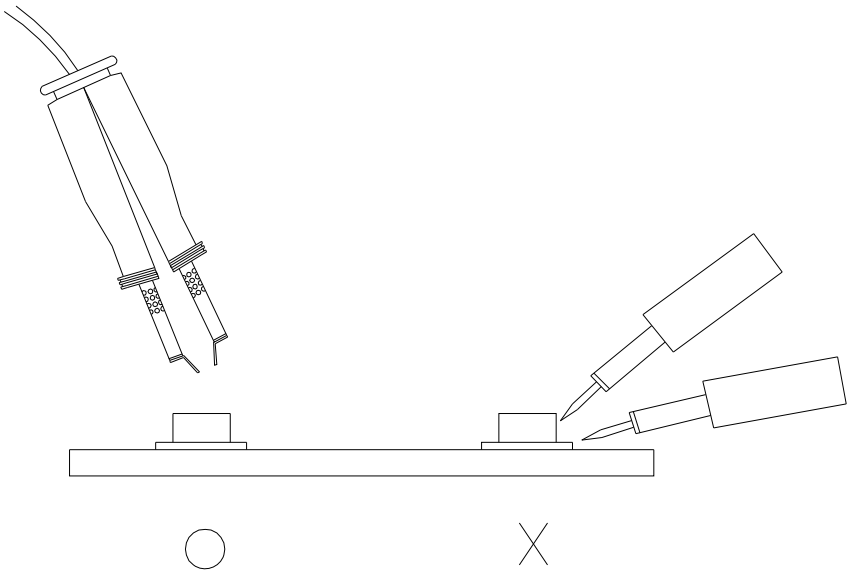
   3.4 After soldering, do not warp the circuit board.

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.



EVERLIGHT ELECTRONICS CO., LTD.
Office: No 25, Lane 76, Sec 3, Chung Yang Rd,
Tucheng, Taipei 236, Taiwan, R.O.C

Tel: 886-2-2267-2000, 2267-9936
Fax: 886-2267-6244, 2267-6189, 2267-6306
http://www.everlight.com