EVERLIGHTELECTRONICS CO.,LTD.

Technical Data Sheet

TOP View LEDs With Lens

67-21BUPGC/A003-3/TR8

Features

- P-LCC-2 package.
- High flux output.
- High current capability.
- White package.
- Optical indicator.
- Colorless clear window.
- Ideal for backlight and light pipe application.
- Inter reflector.
- Suitable for automatic placement equipment.
- Suitable for reflow and wave solder processes.
- Available on tape and reel (12mm Tape).
- Pb-free.
- The product itself will remain within RoHS compliant version.

Descriptions

The 67-21B series is available in soft orange, red and yellow. Due to the package design, the LED has wide viewing angle and optimized light coupling by inter reflector. This feature makes the 67-21B series LED ideal for light pipe application. The low current requirement makes this device ideal for portable equipment or any other application where power is at a premium.

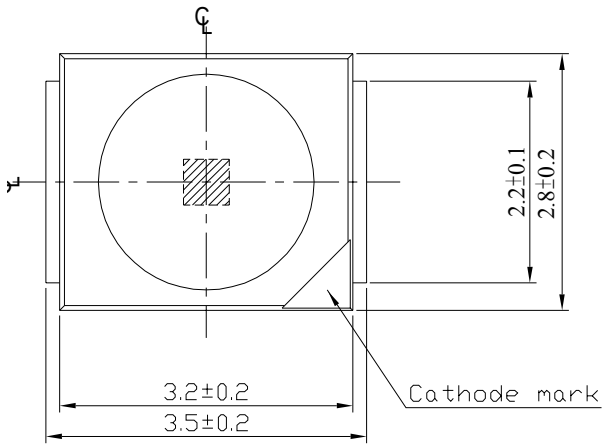
Applications

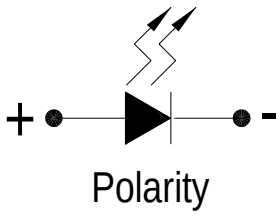
- Automotive: dashboard, indicator and switch.
- Indicator and backlight for audio and video equipment.
- Indicator and backlight in office and family equipment.
- Flat backlight for LCD's, switches and symbols.
- Light pipe application.
- General use.

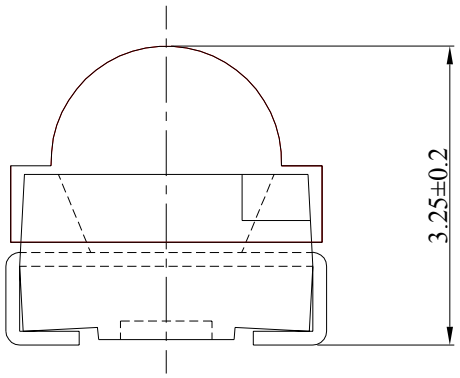
Device Selection Guide

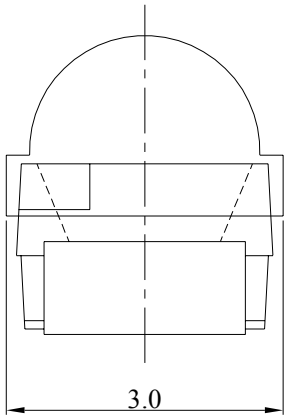
Chip		Lens Color
Material	Emitted Color	
AlGaInP	Pale Green	Water Clear

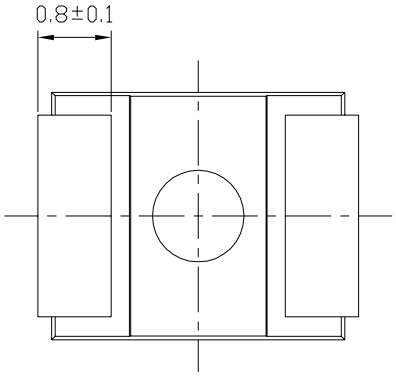
Package Dimensions











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

Absolute Maximum Ratings (T_a=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	12	V
Forward Current	I_F	30	mA
Peak Forward Current(Duty 1/10 @ 1KHz)	I_{FP}	80	mA
Power Dissipation	Pd	100	mW
Electrostatic Discharge (HBM)	ESD	2000	V
Operating Temperature	Topr	-40 ~ +100	℃
Storage Temperature	Tstg	-40~ +110	℃
Soldering Temperature	Tsol	Reflow Soldering : 260 ℃ for 10 sec. Hand Soldering : 350 ℃ for 3 sec.	

Electronic Optical Characteristics (T_a=25℃) :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I_v	71	-----	140	mcd	I_F=30mA
Viewing Angle	2θ1/2	-----	60	-----	deg	I_F=30mA
Peak Wavelength	λp	-----	560	-----	nm	I_F=30mA
Dominant Wavelength	λd	557	-----	561	nm	I_F=30mA
Spectrum Radiation Bandwidth	△λ	-----	20	-----	nm	I_F=30mA
Forward Voltage	V_F	1.80	-----	2.40	V	I_F=30mA
Reverse Current	I_R	-----	-----	10	μA	V_R=12V

Notes:

1.Tolerance of Luminous Intensity ±11%
2.Tolerance of Dominant Wavelength ±1nm
3.Tolerance of Forward Voltage ±0.1V

Bin Range Of Dominant Wavelength

Bin Code	Min.	Max.	Unit	Condition
A	557	559	nm	IF=30mA
B	559	561		

Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition
Q1	71	90	mcd	IF=30mA
Q2	90	112		
R1	112	140		

Bin Range Of Forward Voltage

Bin	Min	Max	Unit	Condition
2B-1	1.80	1.90	V	IF=30mA
3A	1.90	2.05		
3B	2.05	2.20		
4A-1	2.20	2.40		

Notes:

1.Tolerance of Luminous Intensity ±11%
2.Tolerance of Dominant Wavelength ±1nm
3.Tolerance of Forward Voltage ±0.1V

Typical Electro-Optical Characteristics Curves
Typical curve of spectral distribution:
V(λ)=Standard eye response curve

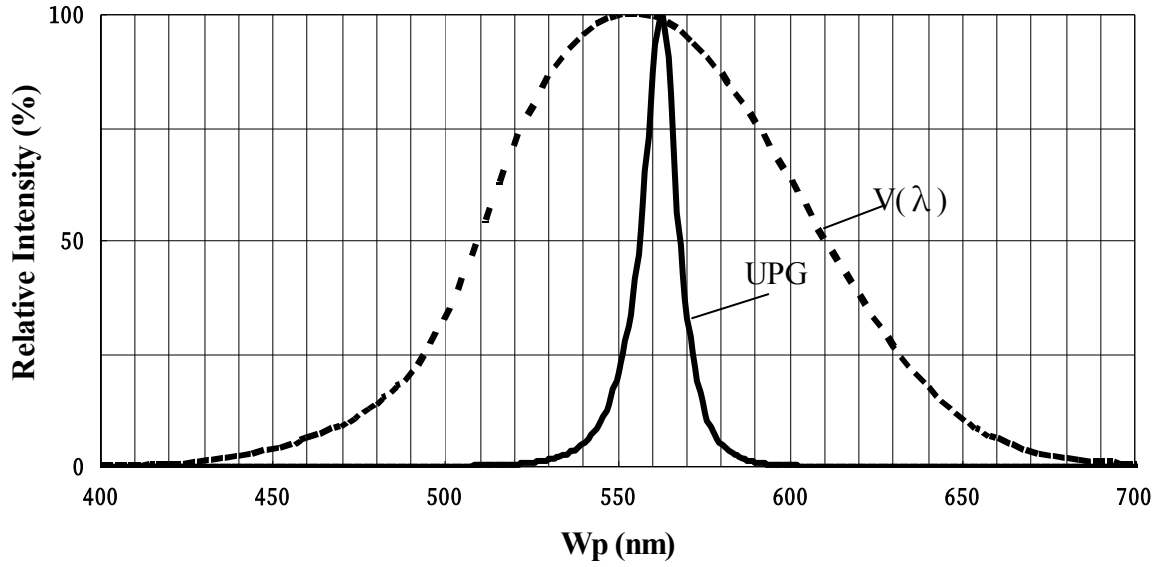
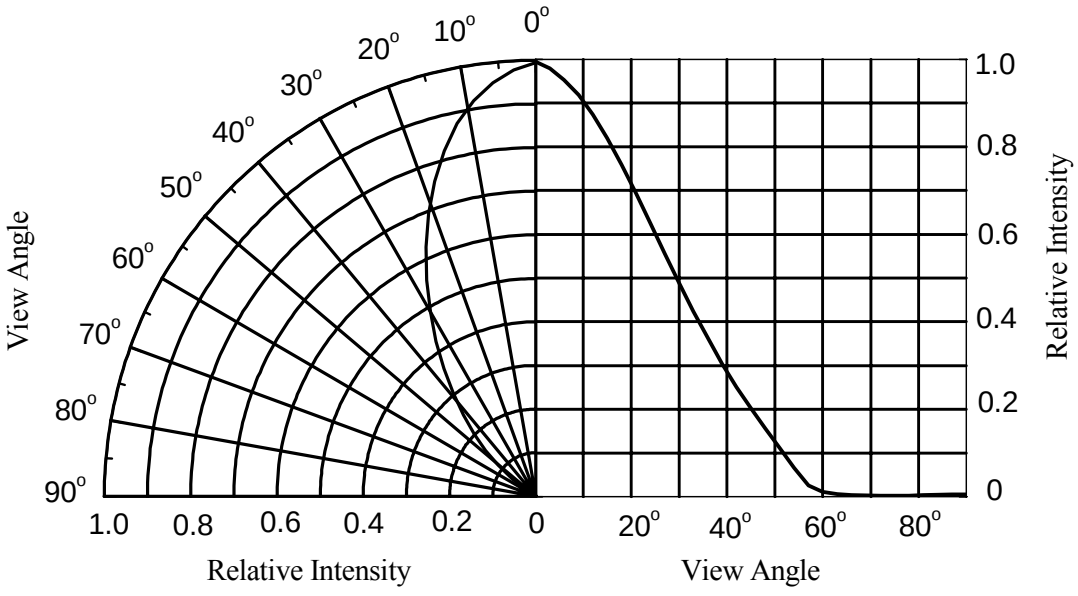
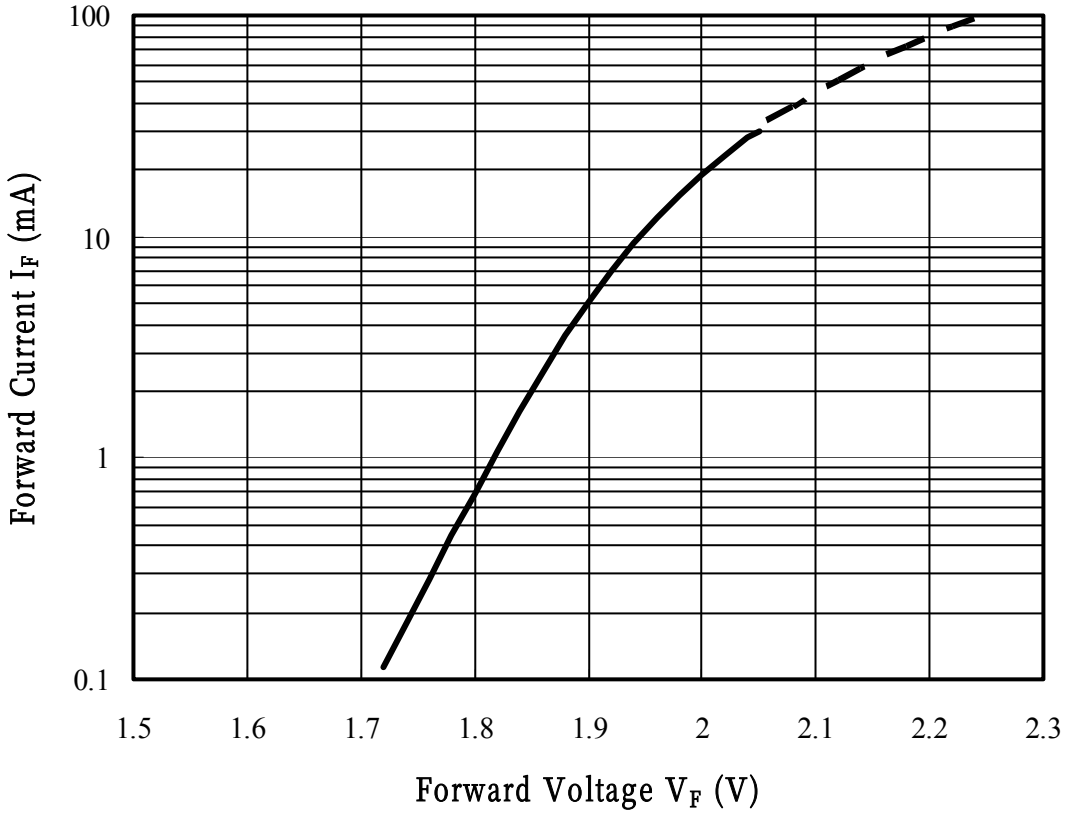


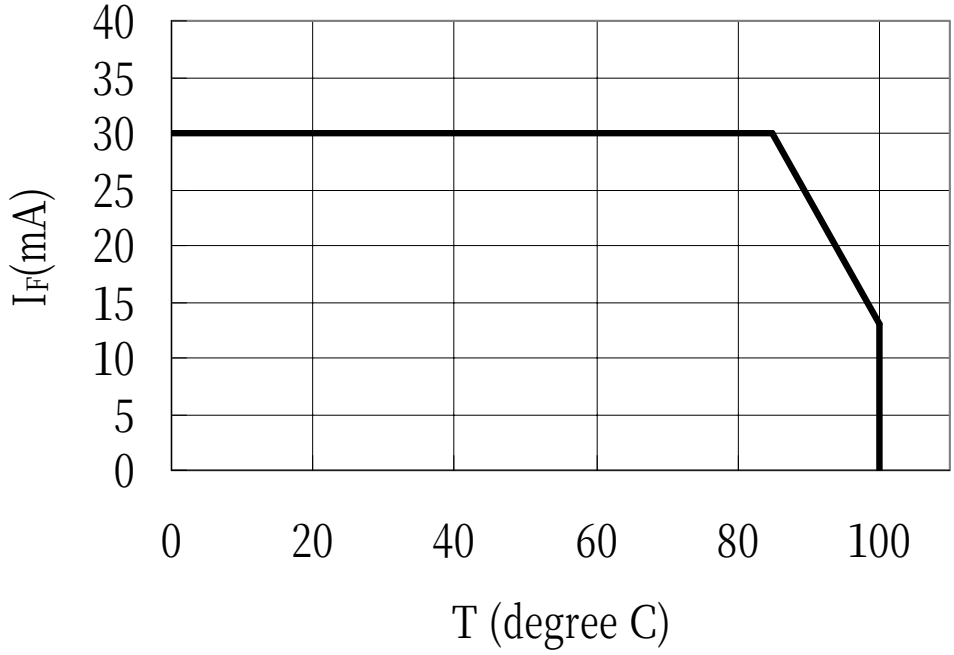
Diagram characteristics of radiation:



Forward Current vs. Forward Voltage Ta=25℃



Forward current v.s. Ambient Temp.

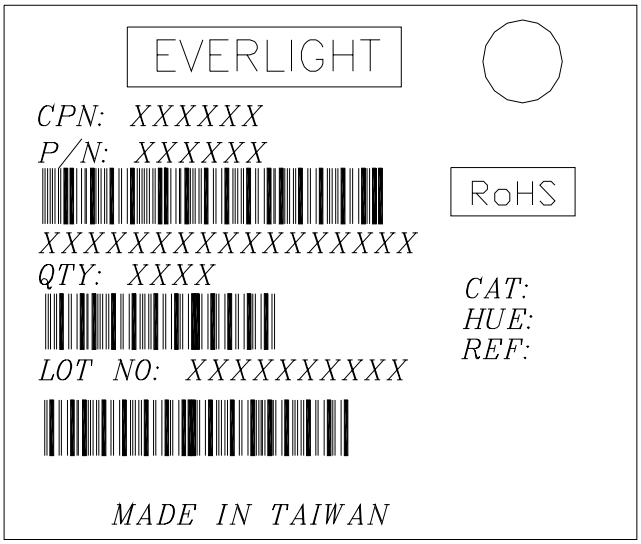


Label explanation

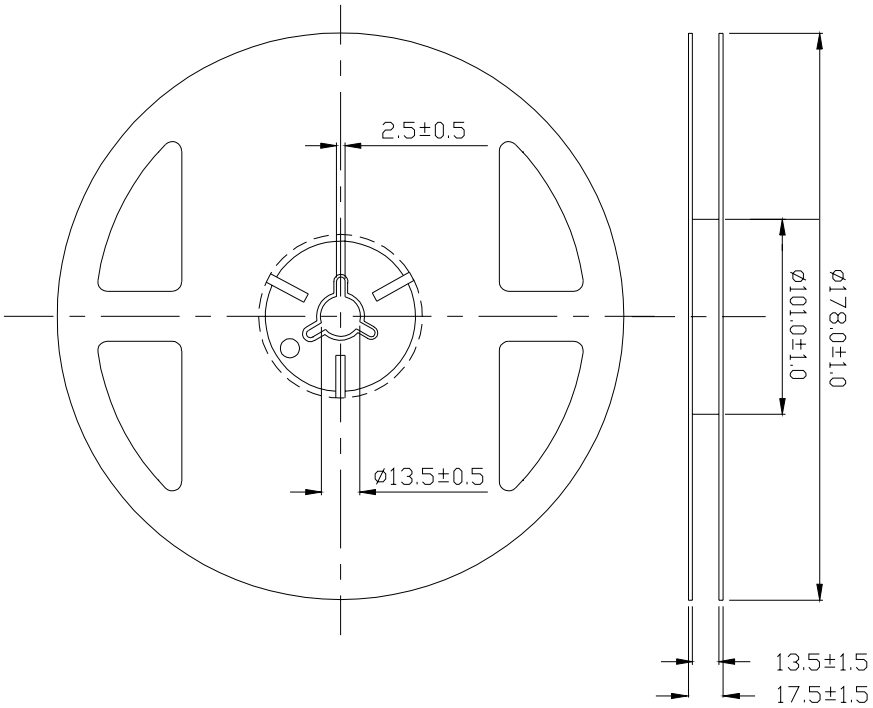
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank



Reel Dimensions



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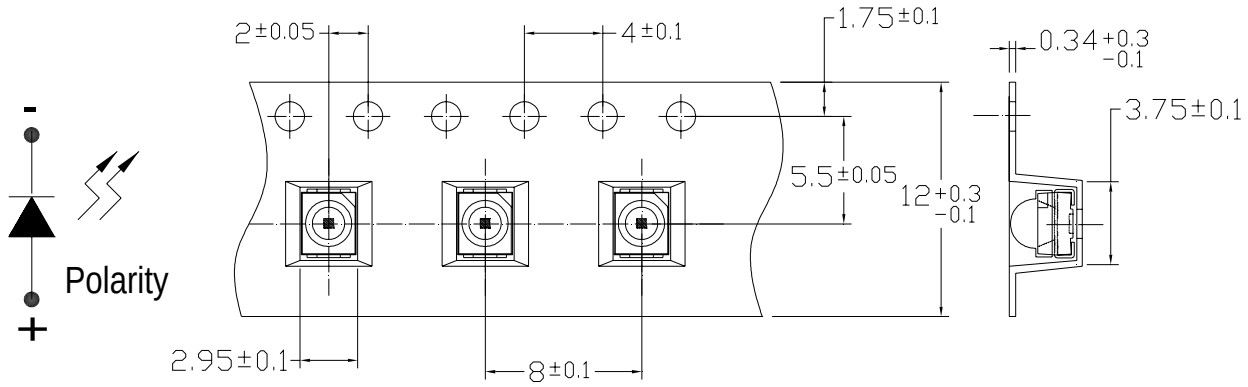
Carrier Tape Dimensions: Loaded quantity 2000 PCS per reel.



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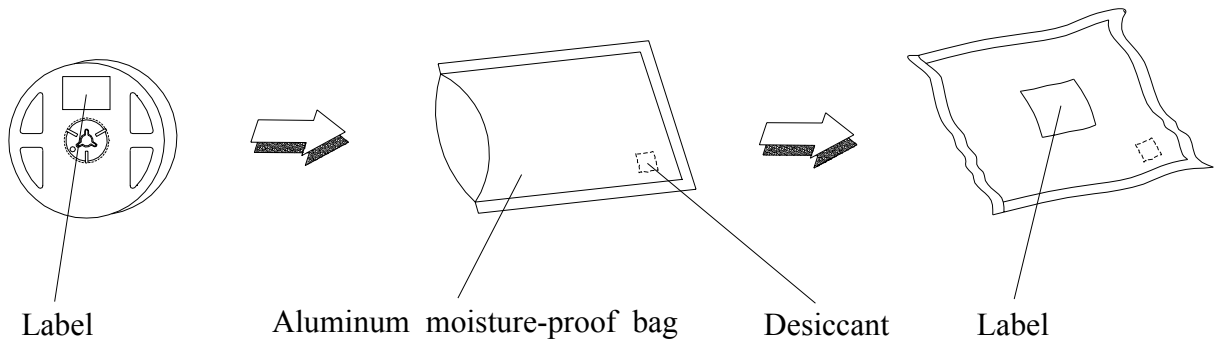
Moisture Resistant Packaging



Reliability Test Items And Conditions
The reliability of products shall be satisfied with items listed below.
Confidence level：90%
LTPD：10%

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp. : 260°C±5°C Min. 5sec.	6 Min.	22 PCS.	0/1
2	Temperature Cycle	H : +100°C 15min ∫ 5 min L : -40°C 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	300 Cycles	22 PCS.	0/1
4	High Temperature Storage	Temp. : 100°C	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Temp. : -40°C	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life	I_F = 20 mA / 25°C	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85°C/ 85%RH	1000 Hrs.	22 PCS.	0/1

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.

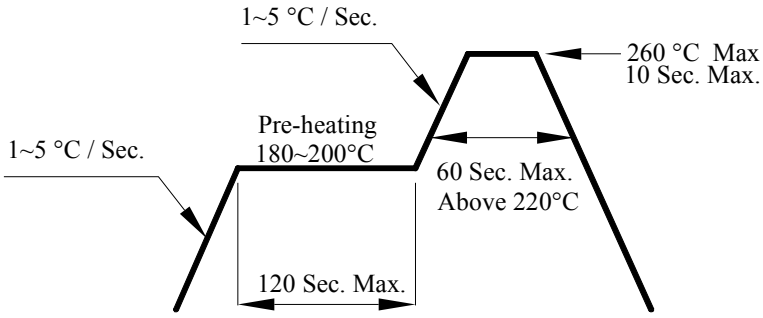
2.2 Before opening the package: The LEDs should be kept at 30℃ or less and 90%RH or less.

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



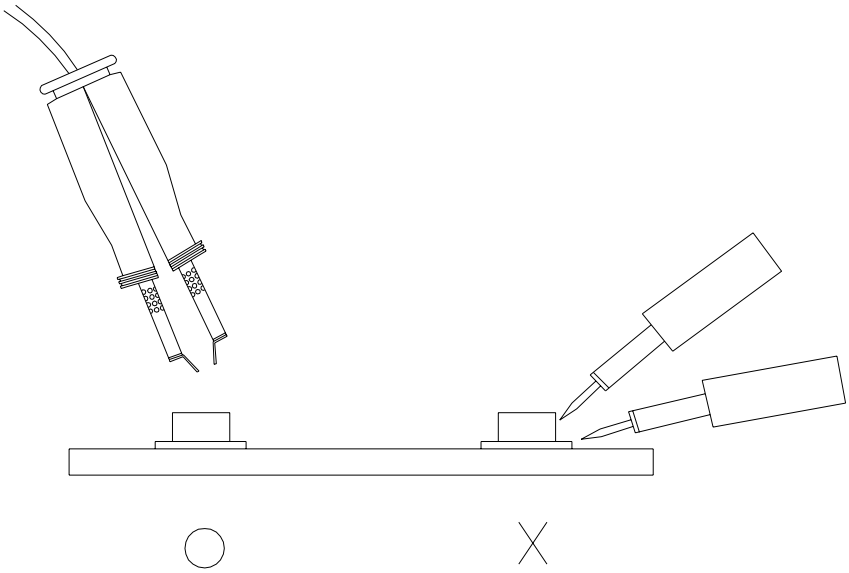
3.2 Reflow soldering should not be done more than two times.
3.3 When soldering, do not put stress on the LEDs during heating.
3.4 After soldering, do not warp the circuit board.

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.



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