

**Technical Data Sheet(Preliminary)****Side View Red SMD LEDs**

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**57-21USOC/B004/TR8****Features**

- Fluorescence Type
- High Luminous Intensity
- High Efficiency
- Pb-free.
- The product itself will remain with RoHS compliant version
- Preconditioning: acc. to JEDEC Level 2
- ESD: up to 2KV acc. to JESD22-A114-B

**Descriptions**

The 57-21series is available in soft orange, green, blue and yellow. Due to the package design, the LED has wide viewing angle and optimized light coupling by inter reflector. This feature makes 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.

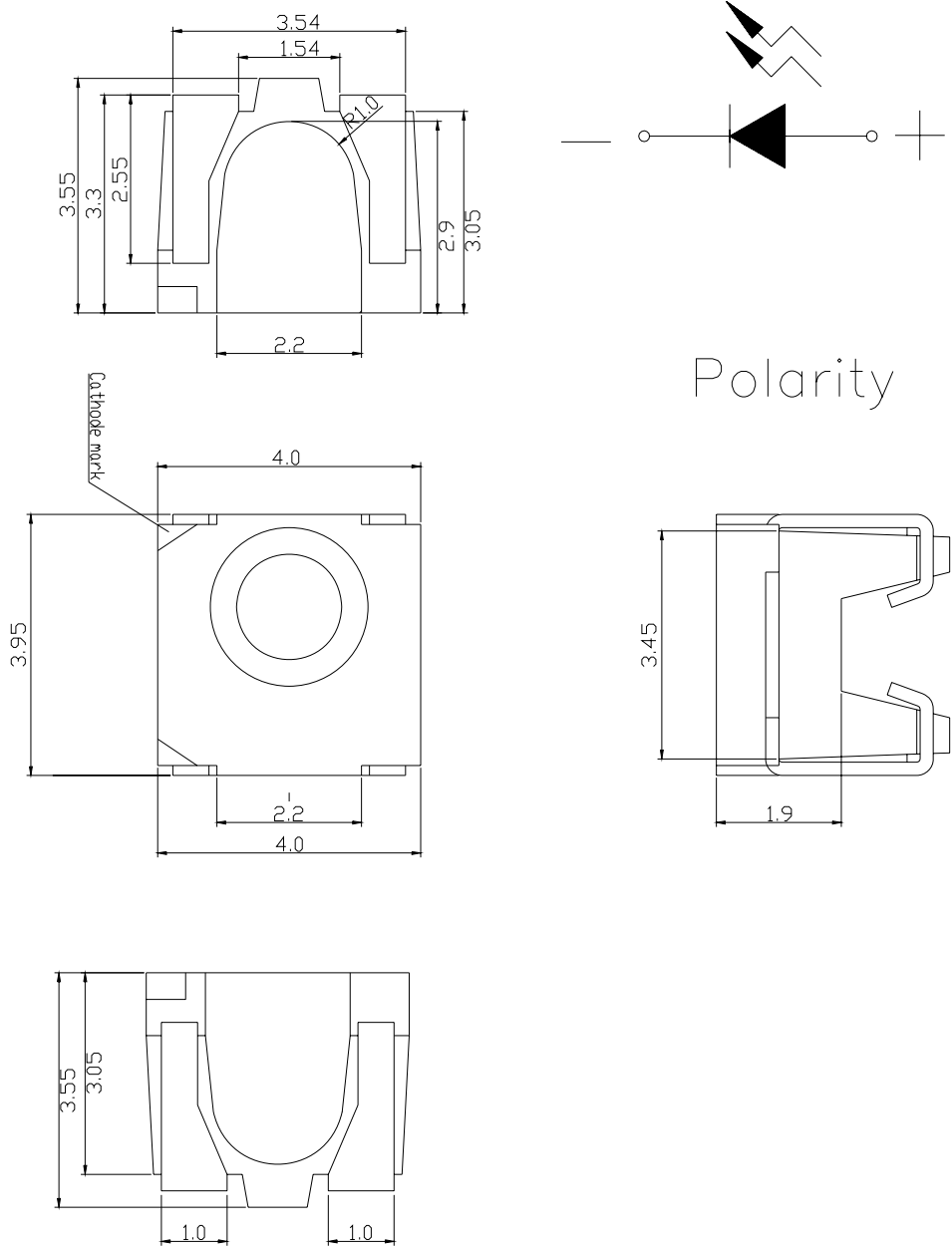
**Applications**

- OA Equipment
- Backlighting of Full Color LCD
- Automotive Equipment
- Replacement of Conventional Light Bulbs and Fluorescent Lamps

**Device Selection Guide**

Chip		Lens Color
Material	Emitted Color	
AlGaInP	Reddish Orange	Water Clear

**Package Dimensions**



**Note:** The tolerances unless mentioned is  $\pm 0.1$ mm ,Unit = mm

**57-21USOC/B004/TR8**

**Absolute Maximum Ratings (Ta=25°C)**

Parameter	Symbol	Rating	Unit
Reverse Voltage	V <sub>R</sub>	5	V
Forward Current	I <sub>F</sub>	30	mA
Operating Temperature	T <sub>opr</sub>	-40 ~ +100	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +110	°C
Junction Temperature	T <sub>j</sub>	100	°C
Power Dissipation	P <sub>d</sub>	120	mW
Peak Forward Current (Duty 1/10 @1KHz)	I <sub>FP</sub>	100	mA
Soldering Temperature	T <sub>sol</sub>	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.	

**Electro-Optical Characteristics (Ta=25°C)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>v</sub>	180	-----	355	mcd	I <sub>F</sub> =20mA
Viewing Angle	2θ <sub>1/2</sub>	-----	120	-----	deg	I <sub>F</sub> =20mA
Peak Wavelength	λ <sub>p</sub>	-----	621	-----	nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>	609	-----	621	nm	I <sub>F</sub> =20mA
Spectrum Radiation Bandwidth	△λ	-----	20	-----	nm	I <sub>F</sub> =20mA
Forward Voltage	V <sub>F</sub>	1.75	-----	2.35	V	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>	-----	-----	10	μA	V <sub>R</sub> =12V

**Notes:**

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

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**Bin Range Of Luminous Intensity**

Bin	Min	Max	Unit	Condition
S1	180	224	mcd	I <sub>F</sub> =20mA
S2	224	280		
T1	280	355		

**Bin Range Of Forward Voltage**

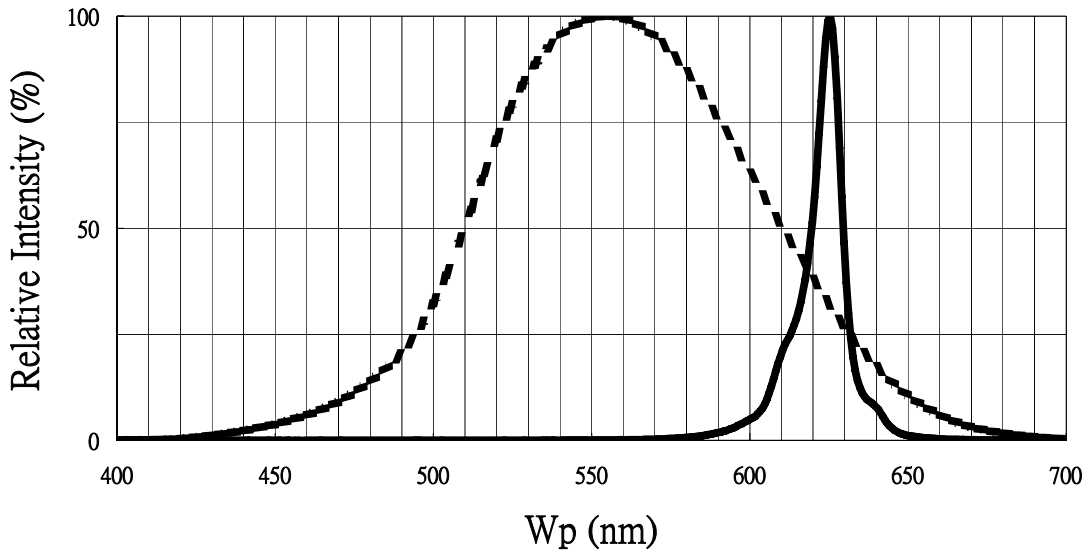
Bin	Min	Max	Unit	Condition
0	1.75	1.95	V	I <sub>F</sub> =20mA
1	1.95	2.15		
2	2.15	2.35		

**Notes:**

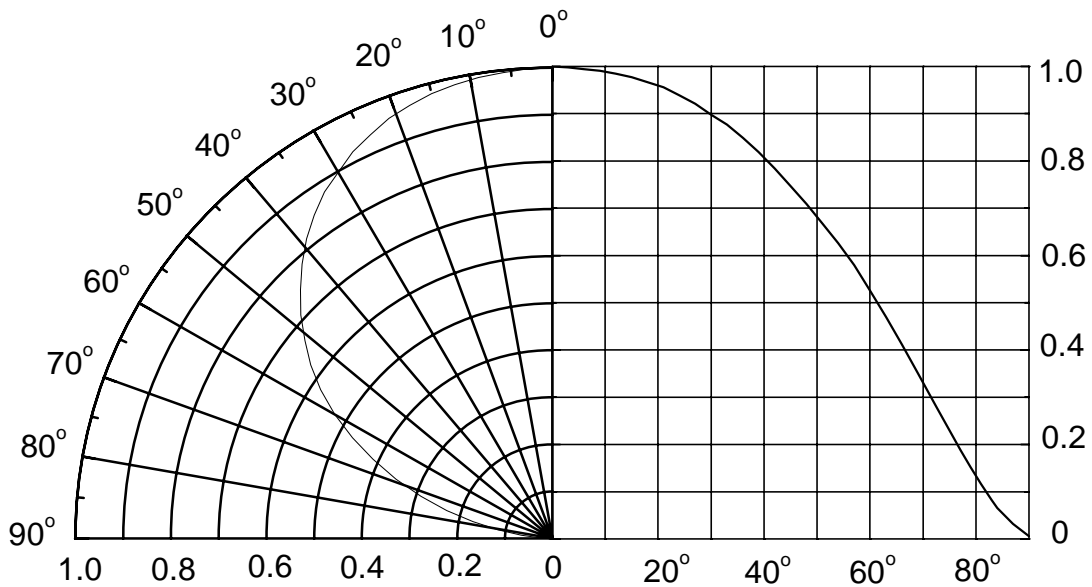
- 1.Tolerance of Luminous Intensity  $\pm 11\%$
- 2.Tolerance of Forward Voltage  $\pm 0.1V$

**Typical Electro-Optical Characteristics Curves**

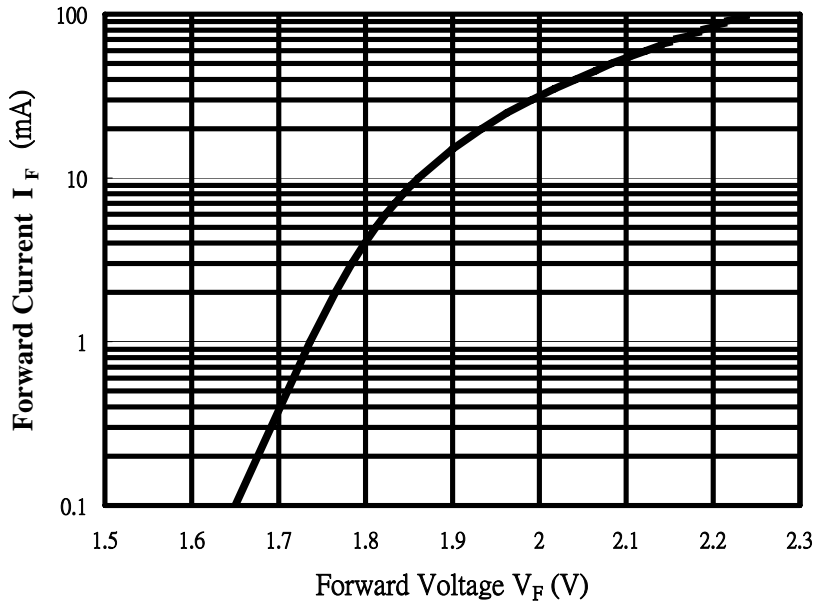
**Typical curve of spectral distribution:**



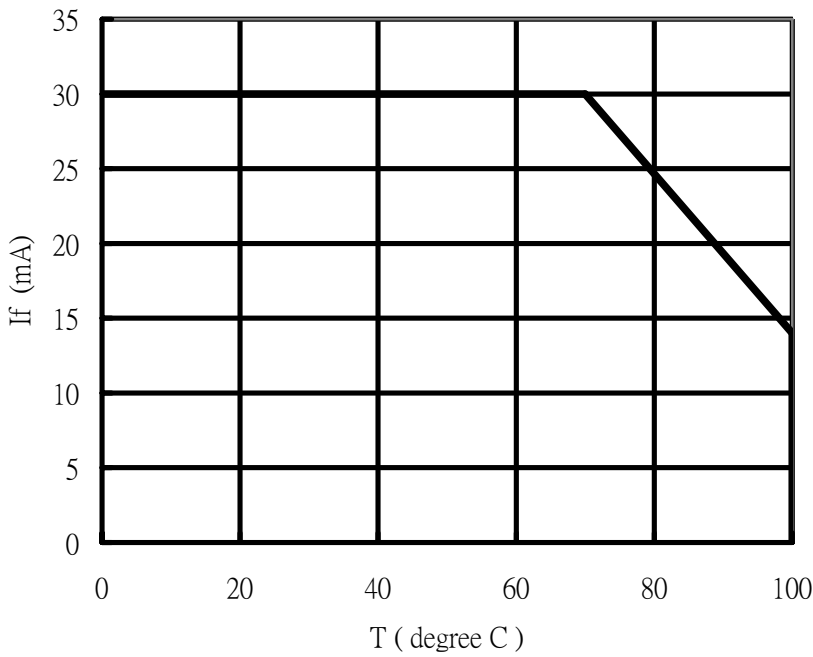
**Diagram characteristics of radiation ( Iv / Iv max):**



**Forward Current vs. Forward Voltage Ta=25°C**



**Forward current v.s. ambient temp.**



**Label explanation**

**CAT: Luminous Intensity Rank**

**HUE: Dom. Wavelength Rank**

**REF: Forward Voltage Rank**

EVERLIGHT

CPN: XXXXXX

P/N: XXXXXX

XXXXXXXXXXXXXXXXXXXX

QTY: XXXX

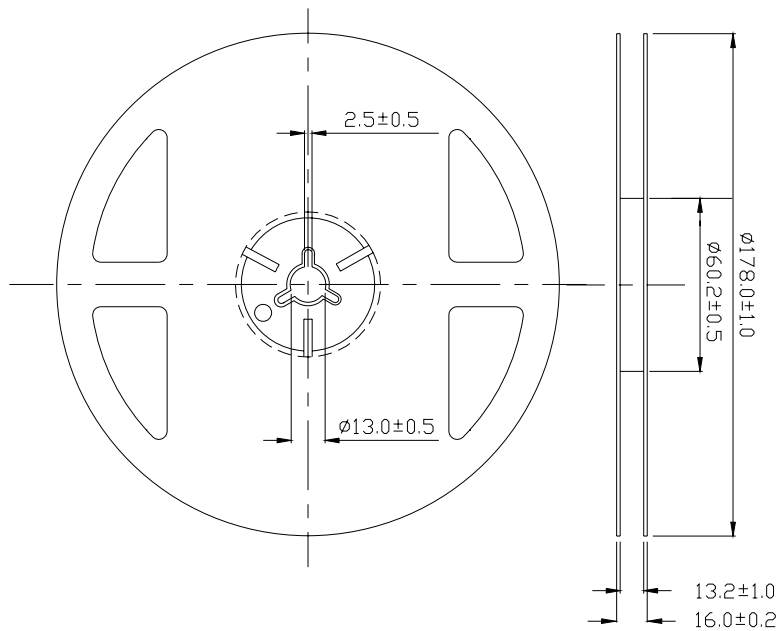
LOT NO: XXXXXXXXXXXX

MADE IN TAIWAN

RoHS

CAT:  
HUE:  
REF:

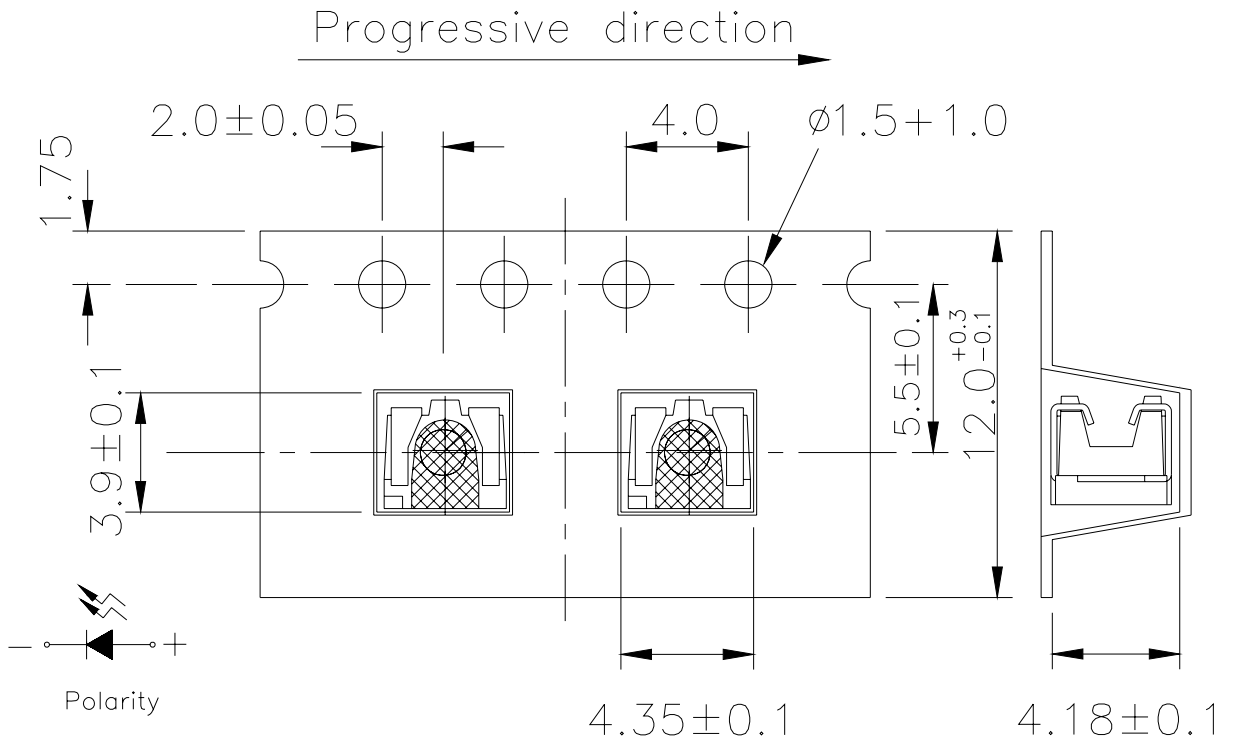
**Reel Dimensions**



**Note:** The tolerances unless mentioned is  $\pm 0.1\text{mm}$  ,Unit = mm

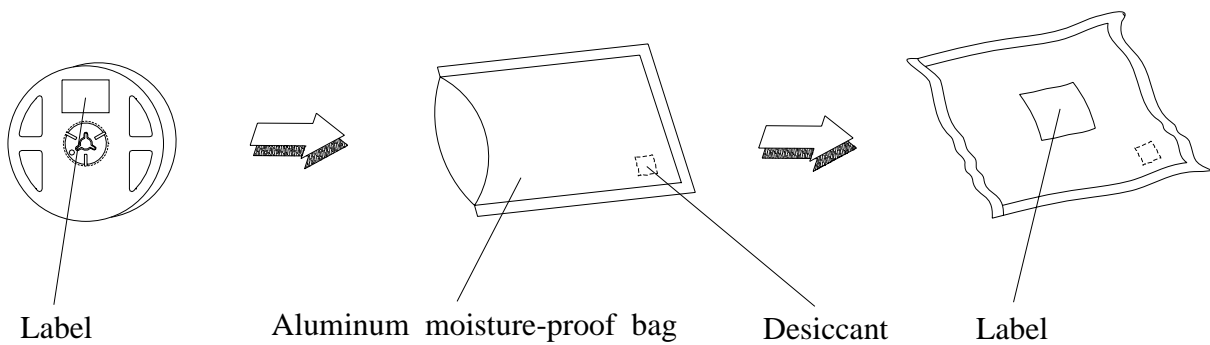
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**Carrier Tape Dimensions: Loaded quantity 500 PCS per reel.**



**Note:** The tolerances unless mentioned is  $\pm 0.1$ mm ,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 ).

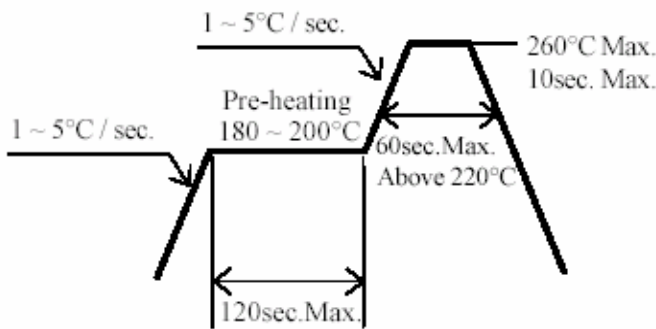
2. Storage

- 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°C or less and 90%RH or less.
- 2.3 After opening the package: The LED's floor life is 1 year under 30 deg 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.

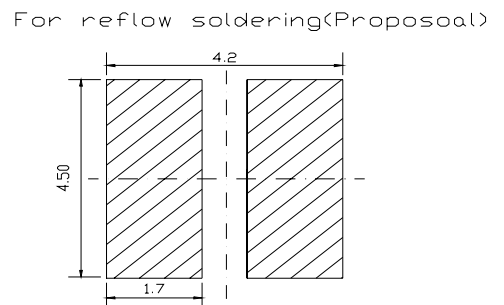
3. Soldering Condition

3.1

A. Pb-free solder temperature profile



B. Recommend soldering pad



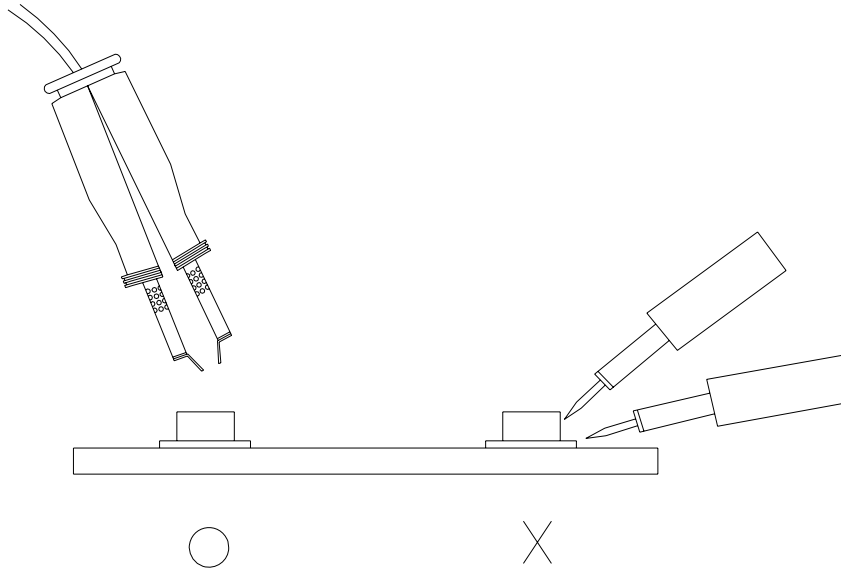
- 3.2 Reflow soldering should not be done more than two times.
- 3.3 When soldering, do not put stress on the LEDs during heating.
- 3.4 After soldering, do not warp the circuit board.

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.

**57-21USOC/B004/TR8****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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