

Technical Data Sheet

1.9mm Round Subminiature Lead LED

95-21SYGC/S530-XX/XXX

Features

- Package in 12mm tape on 7" diameter reels.
- Compatible with automatic placement equipment.
- EIA Std. package.
- Mono-color type.
- Pb-free
- The product itself will remain within RoHS compliant version.

Descriptions

- The 95-21 SMD LED is much smaller than leaded components .Thus enable smaller board size. Higher packing density. Reduced storage space and finally smaller equipment to be obtained.
- Besides, light weight makes them ideal for miniature applications.
- Furthermore by automation assembly machines the accuracy is anticipated.



Applications

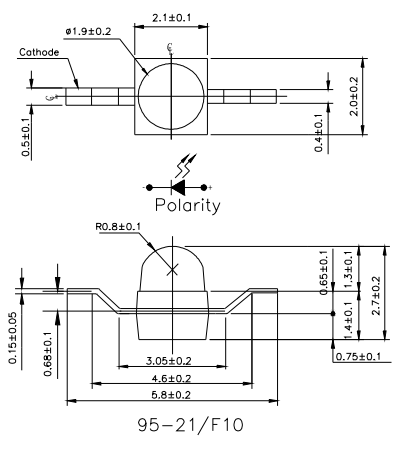
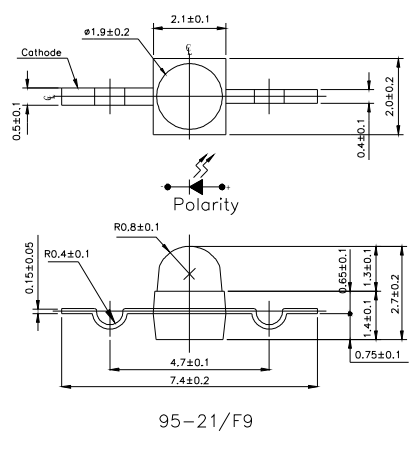
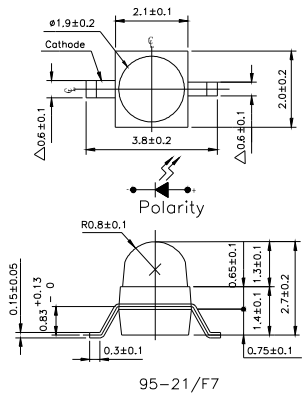
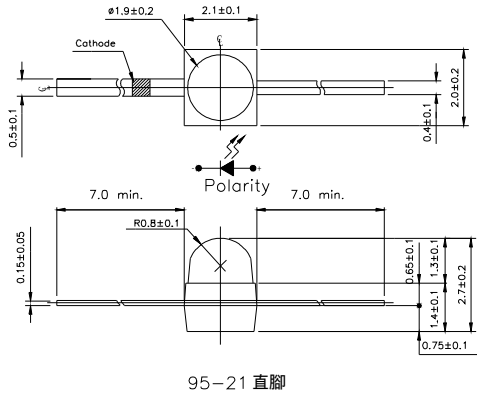
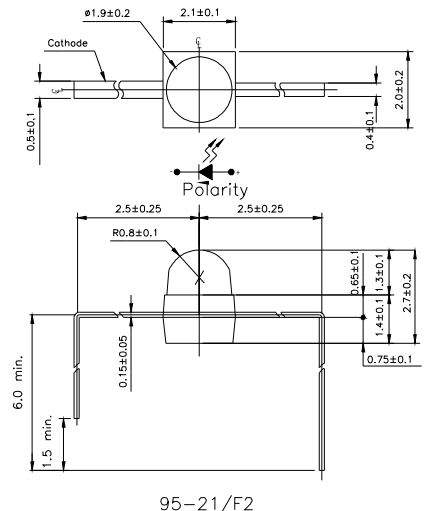
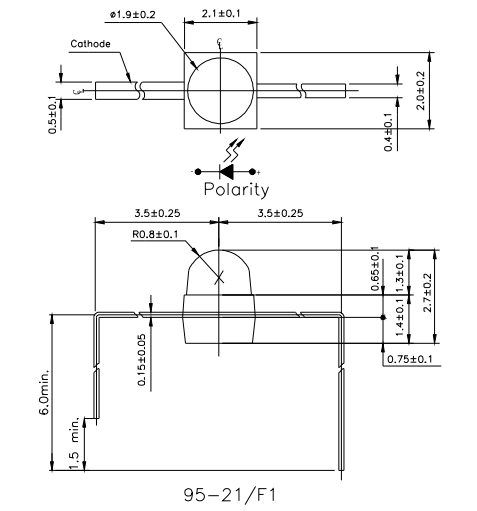
- Small indicator for indoor applications.
- Flat backlight for LCD, switches and symbols.
- Indicator and backlight in office equipment.
- Indicator and backlight for battery driven equipment.
- Indicator and backlight for audio and video equipment.
- Telecommunication : indicator and backlighting in telephone and fax.

Device Selection Guide

Part No.	Chip	Emitted Color	Resin Color
	Material		
95-21SYGC/S530-XX/XXX	InGaN	Brilliant Yellow Green	Water Clear

Package Outline Dimensions

95-21Series



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

95-21SYGC/S530-XX/XXX

Absolute Maximum Ratings (Ta=25)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	25	mA
Peak Forward Current (Duty 1/10 @ 1KHz)	I _{FP}	60	mA
Power Dissipation	P _d	60	mW
Electrostatic Discharge(HBM)	ESD	2000	V
Operating Temperature	Topr	-40 ~ +85	
Storage Temperature	Tstg	-40 ~ +100	
Soldering Temperature	Tsol	Reflow Soldering : 260 Hand Soldering : 350	for 10 sec. for 3 sec.

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95-21SYGC/S530-XX/XXX

Electro-Optical Characteristics (Ta=25)

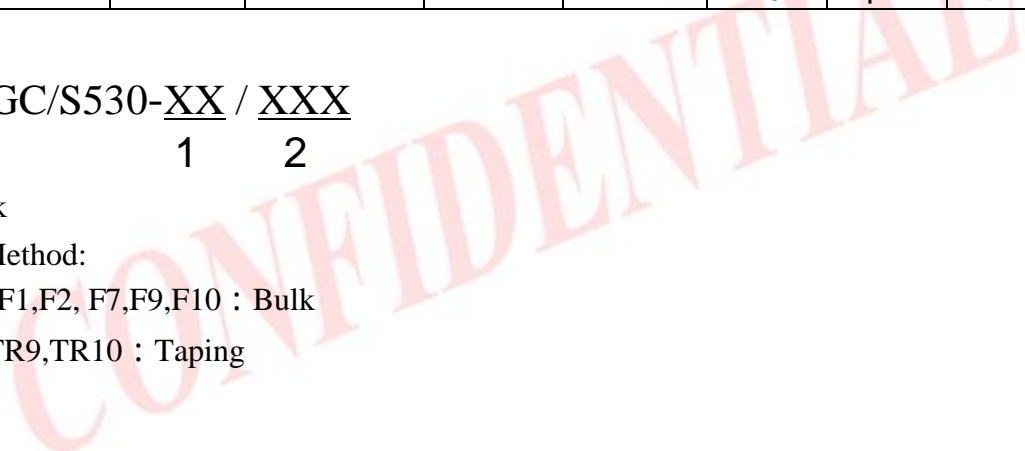
Parameter	Symbol	Chip Rank	MIN.	TYP.	MAX.	Unit	Condition
Luminous Intensity	I _v	E1	----	12	----	mcd	IF=2mA
		E2	----	20	----	mcd	
		E1	132	198	----	mcd	IF=20mA
		E2	264	330	----	mcd	
		E3	400	630	----	mcd	
Viewing Angle	2 1/2	----	----	25	----	deg	IF=20mA
Peak Wavelength	p	----	----	575	----	nm	
Dominant Wavelength	d	----	----	573	----	nm	
Spectrum Radiation Bandwidth		----	----	20	----	nm	
Forward Voltage	V _F	----	1.7	2.0	2.4	V	
Reverse Current	I _R	----	----	----	10	μ A	V _R =5V

*95-21SYGC/S530-XX / XXX
 1 2

1:Chip Rank

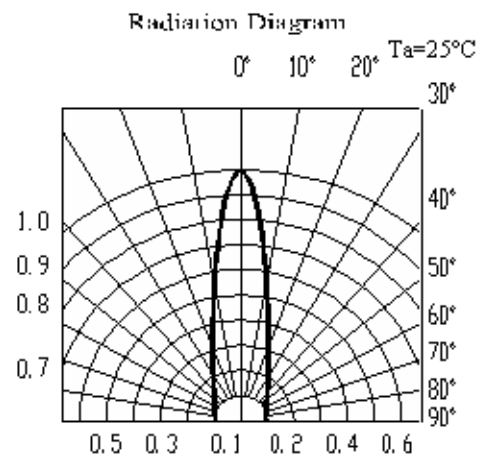
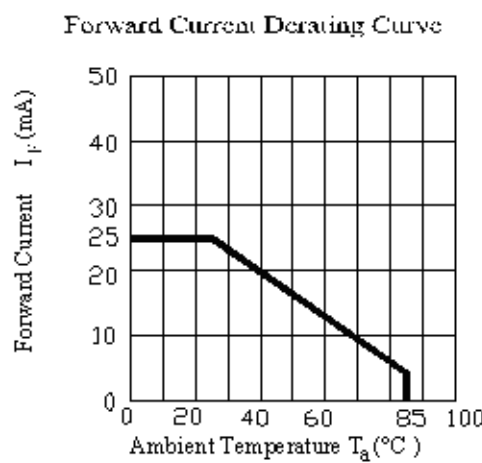
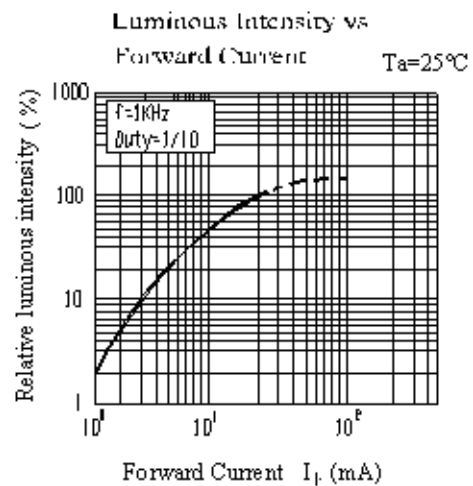
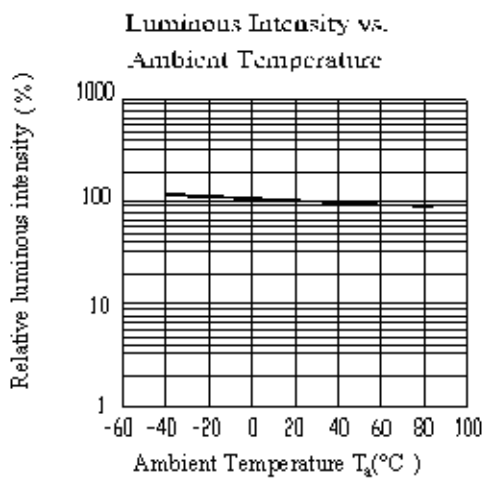
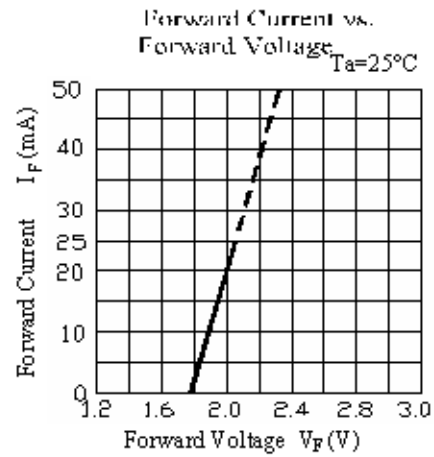
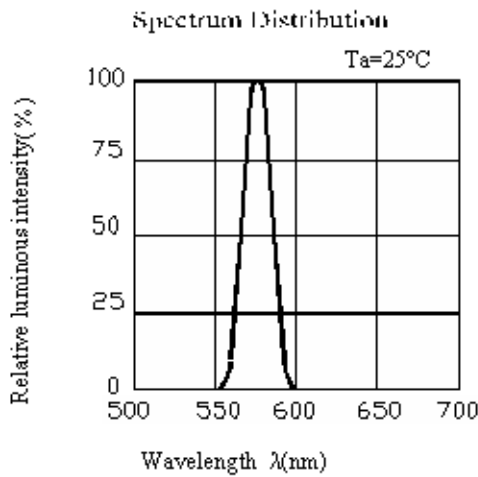
2:Packing Method:

- (1) None,F1,F2, F7,F9,F10 : Bulk
- (2) TR7,TR9,TR10 : Taping



95-21SYGC/S530-XX/XXX

Typical Electro-Optical Characteristics Curves

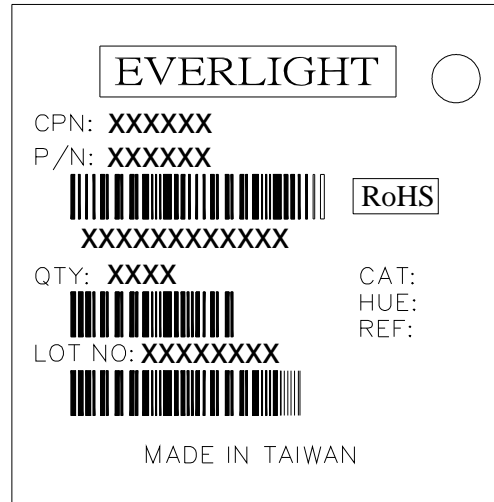


Label explanation

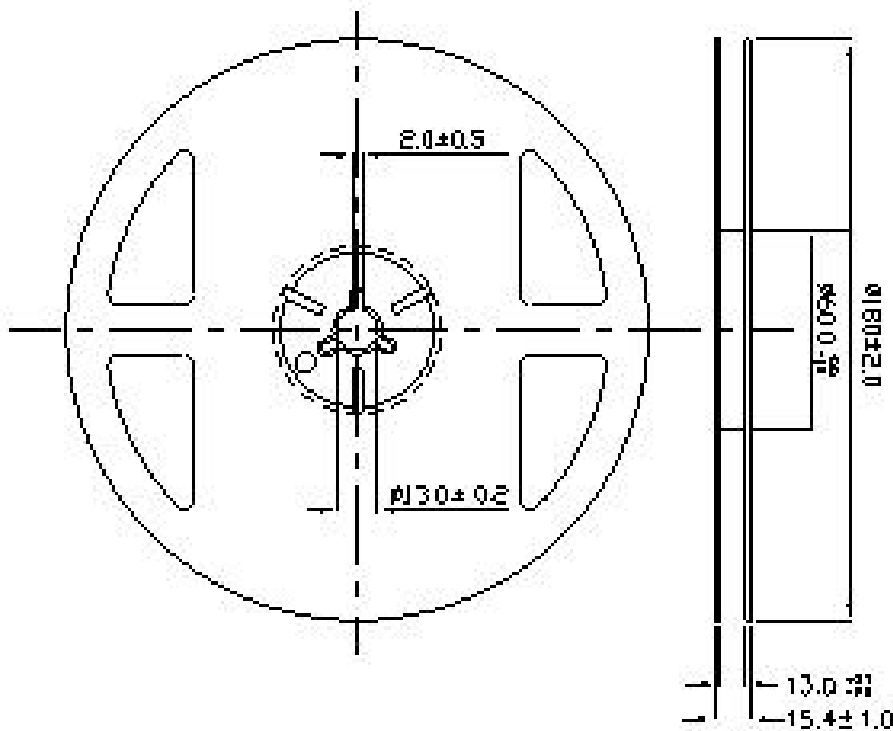
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank



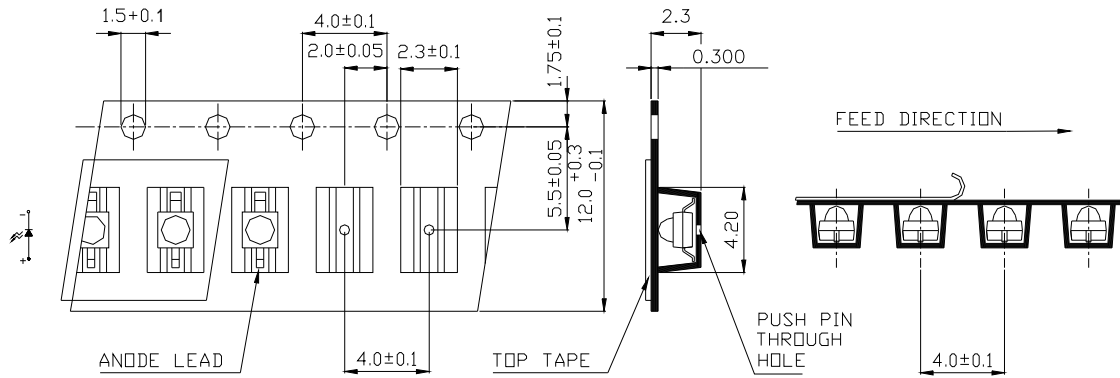
Reel & Carrier Tape Dimensions



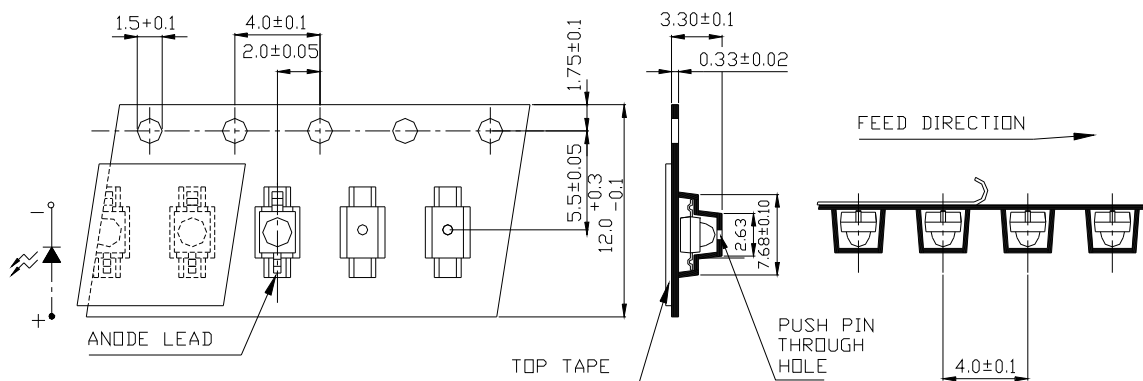
Note: Tolerances Unless Dimension is $\pm 0.1\text{mm}$, Unit = mm

95-21SYGC/S530-XX/XXX

Loaded quantity 1000 PCS per reel

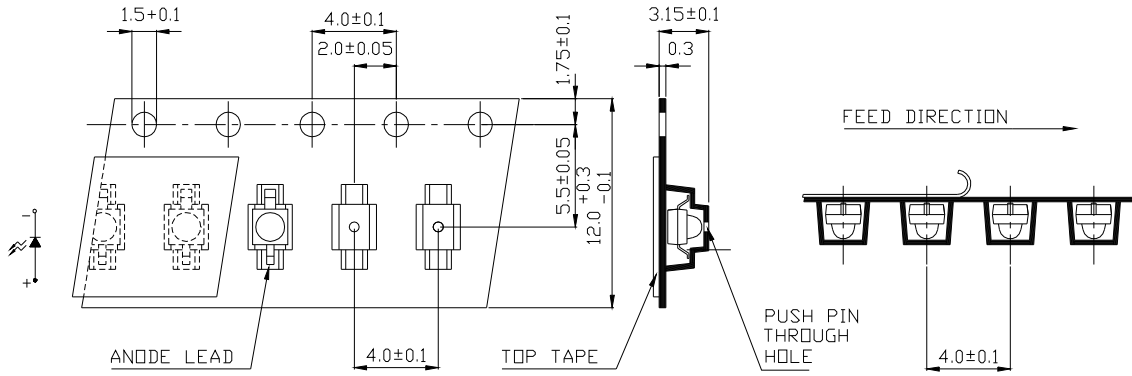


95-21/TR7



95-21/TR9

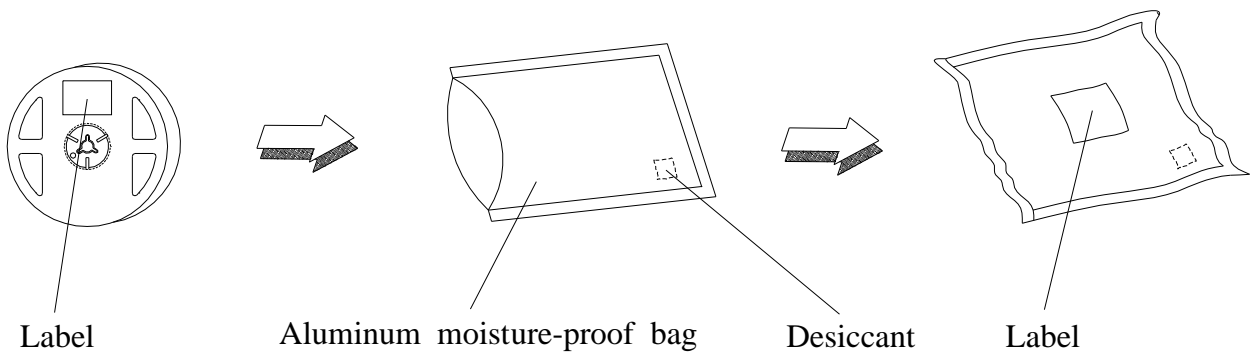
Loaded quantity 1000 PCS per reel



95-21/TR10

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

Moisture Resistant Packaging



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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 ±5 Min. 5 sec.	6 Min.	22 Pcs.	0/1
2	Temperature Cycle	H : +100 15 min. 5 min. L : -40 15 min.	300 Cycles	22 Pcs.	0/1
3	Thermal Shock	H : +100 5 min. 10 sec. L : -10 5 min.	300 Cycles	22 Pcs.	0/1
4	High Temperature Storage	Temp. : 100	1000 Hrs.	22 Pcs.	0/1
5	Low Temperature Storage	Temp. : -40	1000 Hrs.	22 Pcs.	0/1
6	DC Operating Life	IF = 20 mE	1000 Hrs.	22 Pcs.	0/1
7	High Temperature / High Humidity	85 / 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.

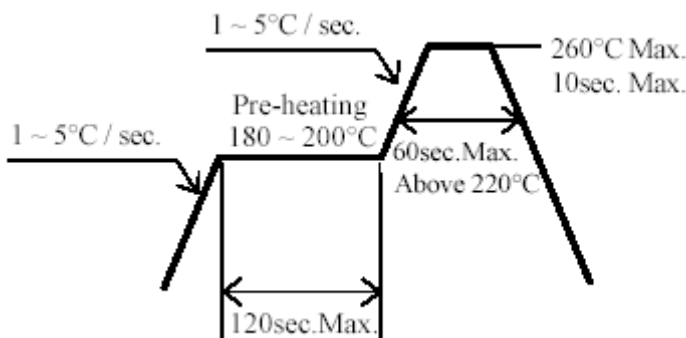
2.3 After opening the package, the LEDs should be kept at 30 or less and 60%RH or less.

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.

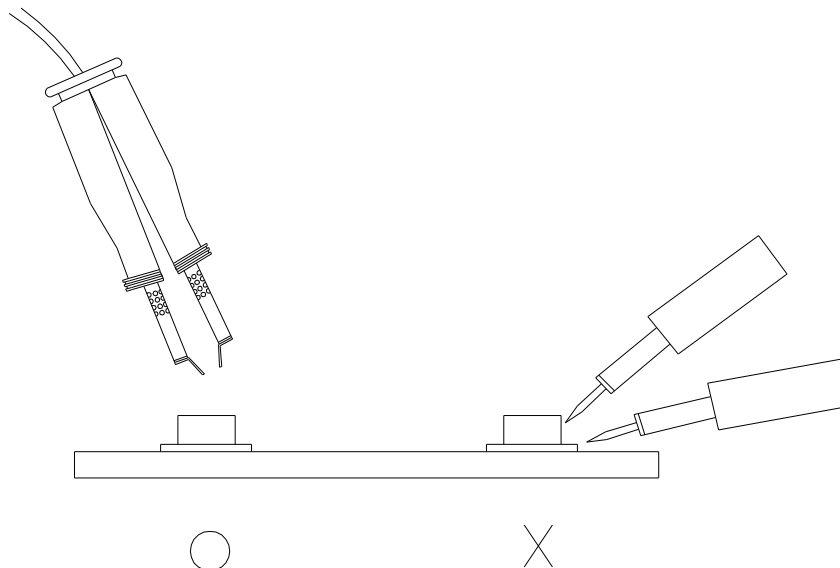
3.4 After soldering, do not warp the circuit board.

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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