SPECIFICATIONS APPROVAL

客 戶 Customer	索菱实业
客戶品號 Customer Part No.	
品號 Part No.	17-21SUBP/S681/TR8
規 格 Specification	0805 天蓝色
制作人 Prepared By	Penny 2011-02-14
審 核 Checkedy	

【 RoHS Compliant Parts】

【 For Customer approval Only 】

Qualification Status: □Full □Restricted □Rejected

Approved By	Verified By	Re-checked By	Checked By

【 Customers Proposal 】

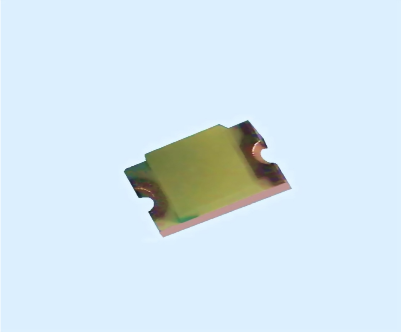
□ Approve (Please sign it under signature) □ Disagree

Comments:

Technical Data Sheet

0805 Package Chip LED(1.0mm Height)

17-21SUBP/S681/TR8



Features

- Package in 8mm tape on 7″ diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Mono-color type.
- Pb-free.
- The product itself will remain with in RoHS compliant version.

Descriptions

- The 17-21 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.

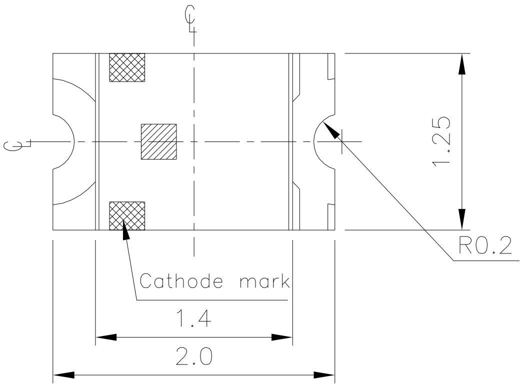
Applications

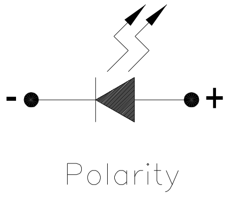
- Backlighting in dashboard and switch.
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.

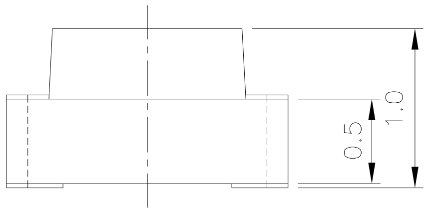
Device Selection Guide

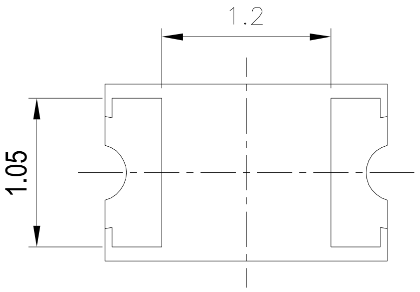
Part No.	Chip Material	Emitted Color	Resin Color
17-21SUBP/S681/TR8	InGaN	Aqua White	Green Diffused

Package Outline Dimensions

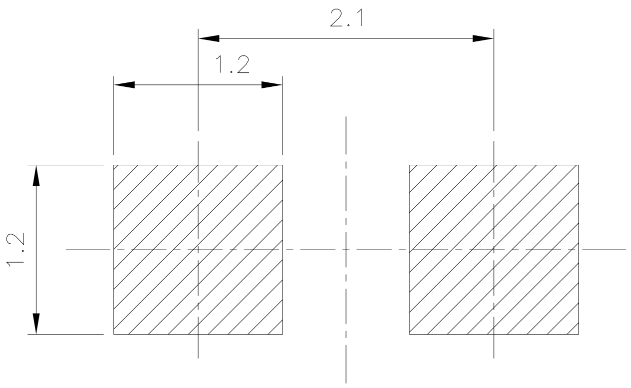








For reflow soldering (Propose)



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	25	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	100	mA
Power Dissipation	Pd	95	mW
Electrostatic Discharge(HBM)	ESD	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	72.0	-----	140	mcd	I_F=10mA
Viewing Angle	$2\theta 1/2$	-----	150	-----	deg	
Forward Voltage	V_F	2.70	-----	3.70	V	
Reverse Current	I_R	-----	-----	50	μA	V_R=5V

Notes:

1.Tolerance of Luminous Intensity ±11%

2.Tolerance of Forward Voltage ±0.1 V

Bin Range Of Luminous Intensity

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

Bin Range Of Forward Voltage

Groups	Bin	Min	Max	Unit	Condition
N	10	2.70	2.90	V	I_F=10mA
	11	2.90	3.10		
	12	3.10	3.30		
	13	3.30	3.50		
	14	3.50	3.70		

Notes:

1.Tolerance of Luminous Intensity ±11%

2.Tolerance of Forward Voltage ±0.1V

Chromaticity Coordinates Specifications for Bin Grading

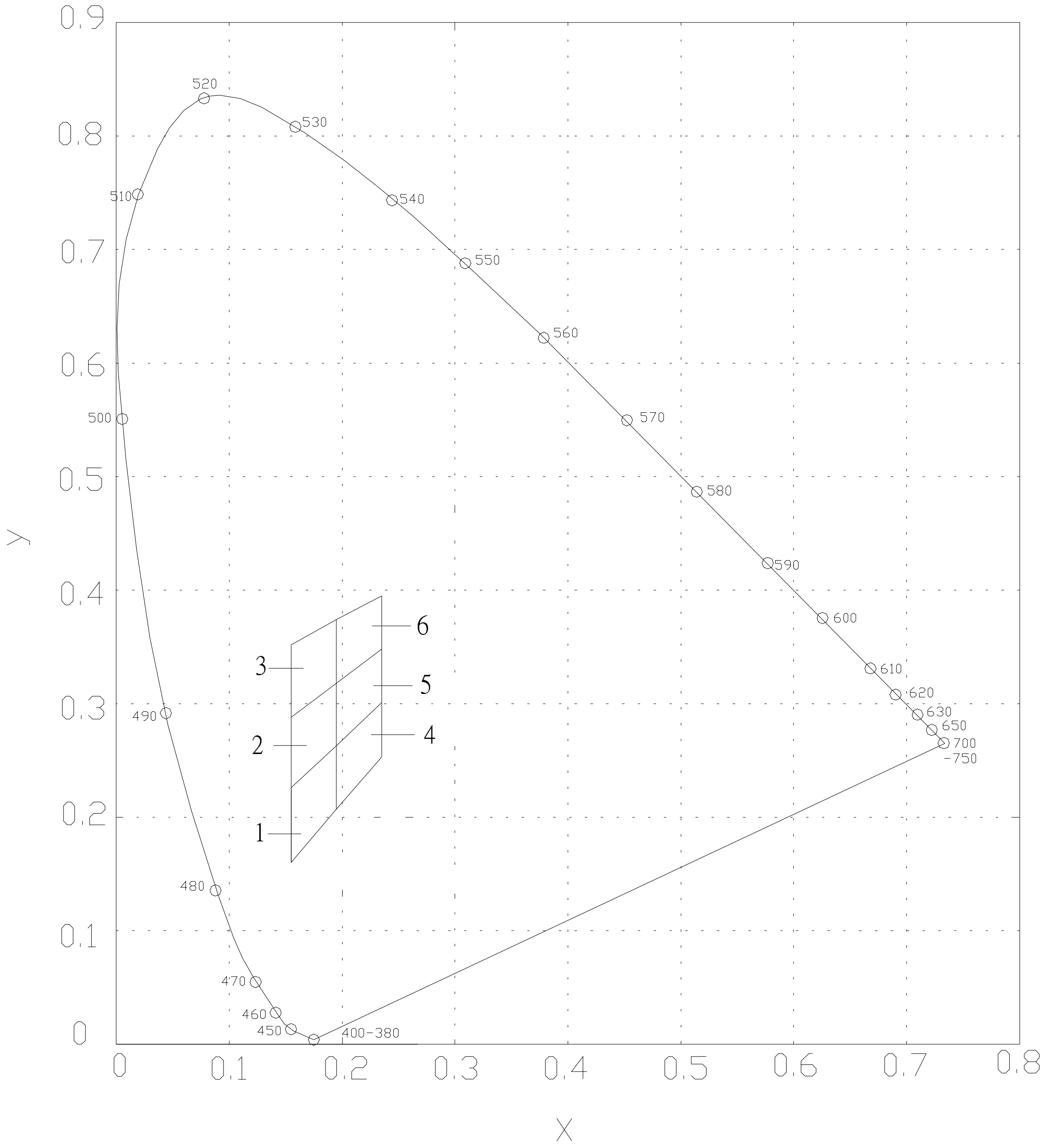
Bin Code	CIE_x	CIE_y	Condition
1	0.155	0.160	I_F =10mA
	0.155	0.226	
	0.195	0.263	
	0.195	0.207	
2	0.155	0.226	
	0.155	0.288	
	0.195	0.318	
	0.195	0.263	
3	0.155	0.288	
	0.155	0.352	
	0.195	0.374	
	0.195	0.318	
4	0.195	0.207	
	0.195	0.263	
	0.235	0.301	
	0.235	0.253	
5	0.195	0.263	
	0.195	0.318	
	0.235	0.348	
	0.235	0.301	
6	0.195	0.318	
	0.195	0.374	
	0.235	0.395	
	0.235	0.348	

Notes:

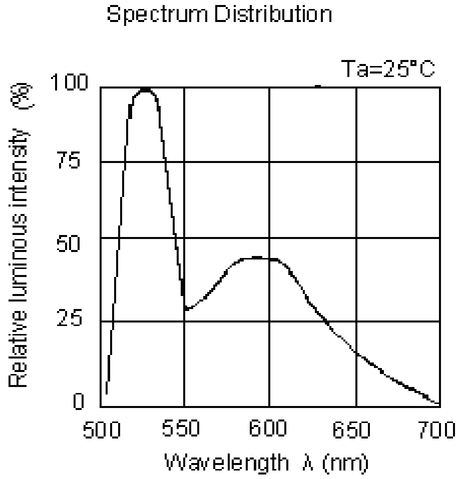
1.The C.I.E. 1931 chromaticity diagram (Tolerance ±0.01).

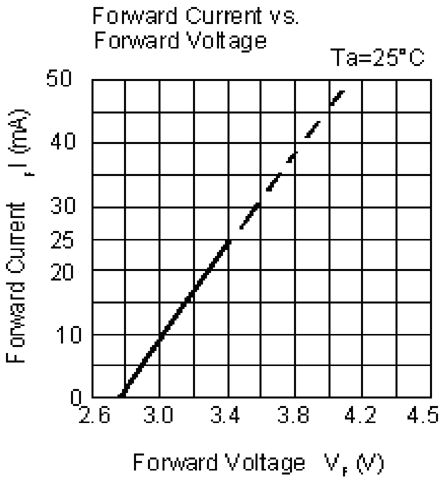
2.The products are sensitive to static electricity and care must be fully taken when handling products.

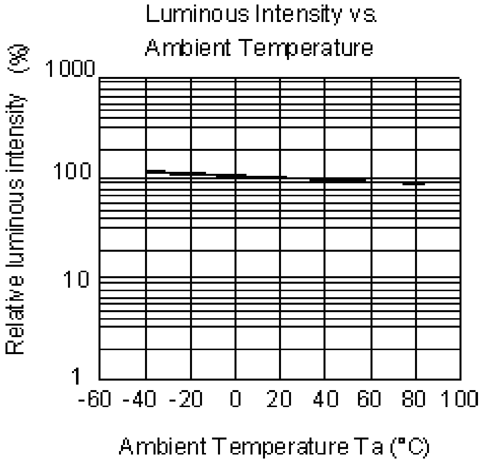
CIE Chromaticity Diagram

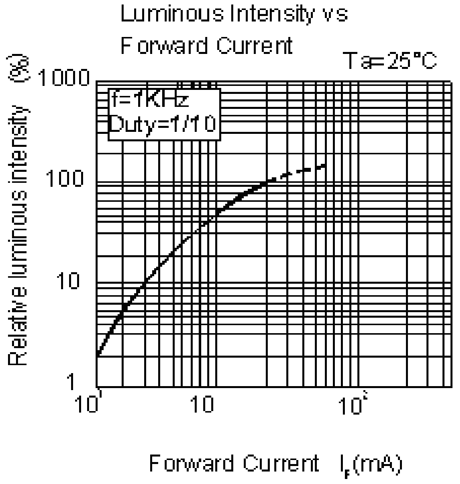


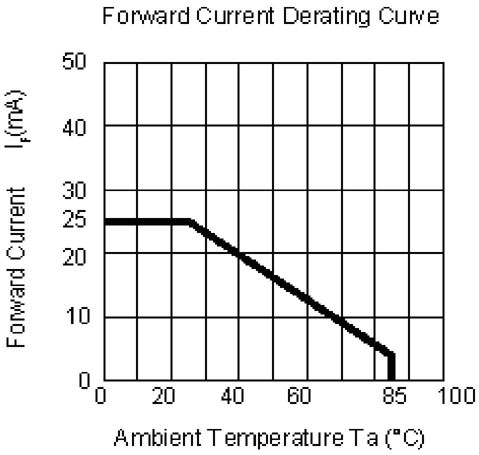
Typical Electro-Optical Characteristics Curves

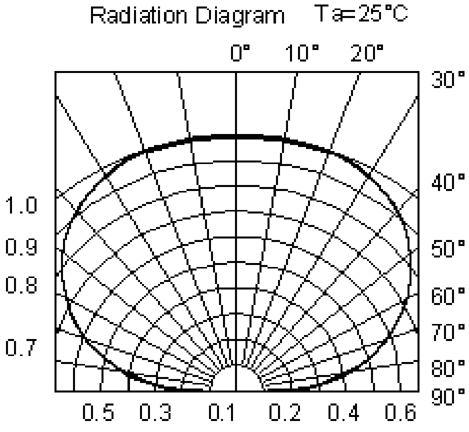

Spectrum Distribution


Forward Current vs.
Forward Voltage


Luminous Intensity vs.
Ambient Temperature


Luminous Intensity vs
Forward Current


Forward Current Derating Curve

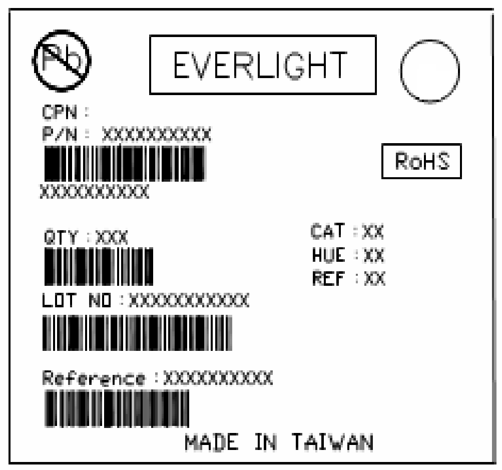

Radiation Diagram Ta=25°C

Label explanation

CAT: Luminous Intensity Rank

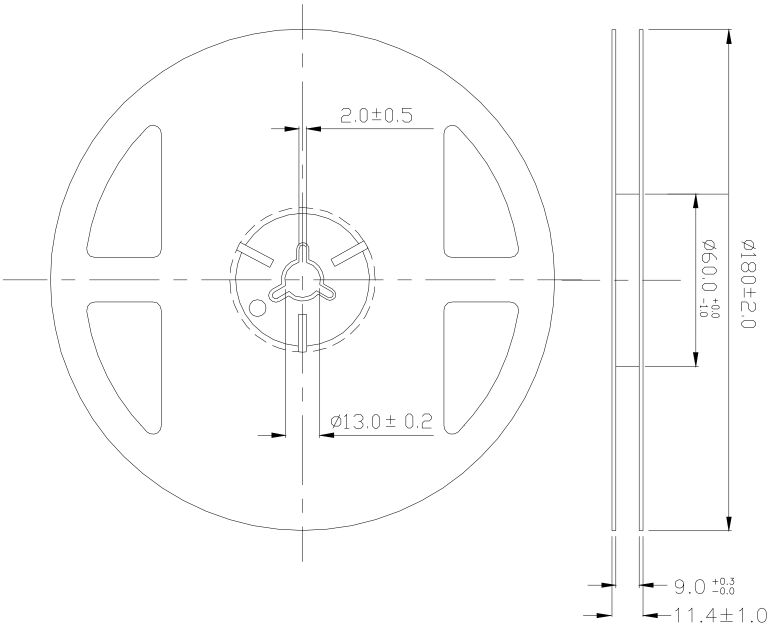
HUE: Chromaticity Coordinates

REF: Forward Voltage Rank



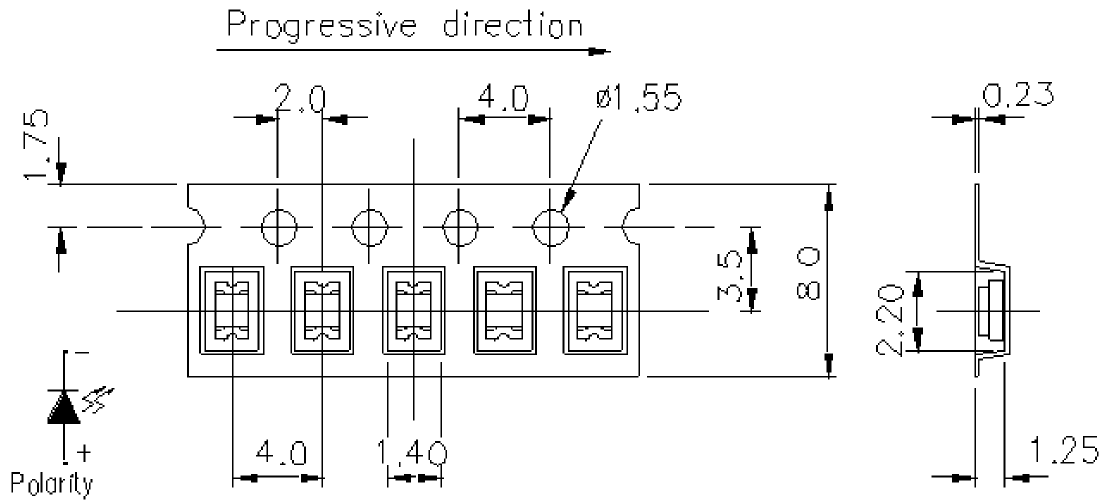
Pb
EVERLIGHT
CPN :
P/N : XXXXXXXXXXX
XXXXXXXXXXX
RoHS
QTY : XXX
CAT : XX
HUE : XX
REF : XX
LOT NO : XXXXXXXXXXX
Reference : XXXXXXXXXX
MADE IN TAIWAN

Reel Dimensions



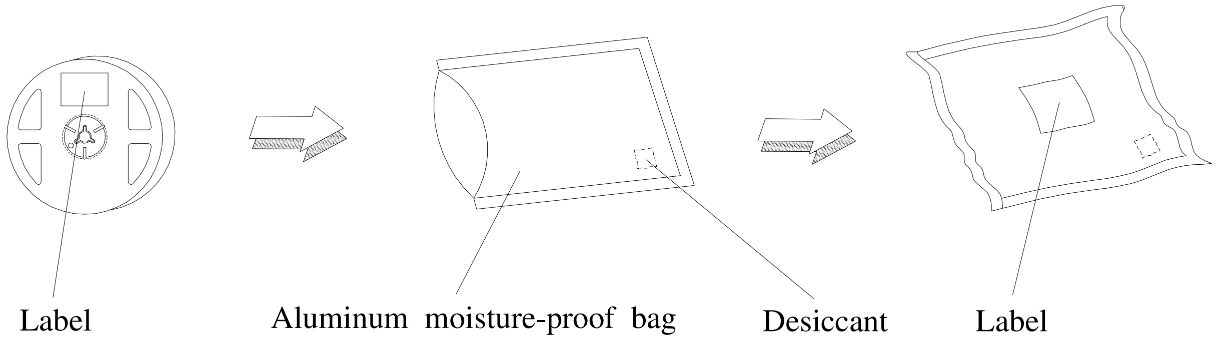
Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Carrier Tape Dimensions: Loaded quantity 3000 PCS per reel



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

Moisture Resistant Packaging



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. 5sec.	6 Min.	22 PCS.	0/1
2	Temperature Cycle	H : +100℃ 15min ∫ 5 min L : -40℃ 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	H : +100℃ 5min ∫ 10 sec L : -10℃ 5min	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	I_F = 20 mA	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 LED's floor life is 1 year under 30℃ or less and 60% RH or less.

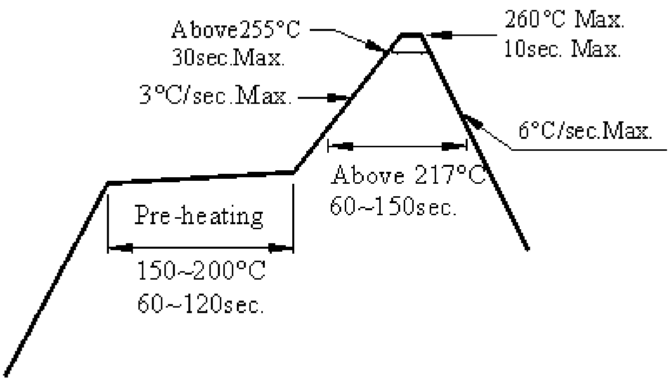
If unused LEDs remain, it should be stored in moisture proof packages.

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.