



Technical Data Sheet

0805 Package Chip LED (1.1mm Height)

17-21/B6C-DP2Q2E/3T/AM

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 within RoHS compliant version.



Descriptions

- The 17-21 SMD Taping 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.

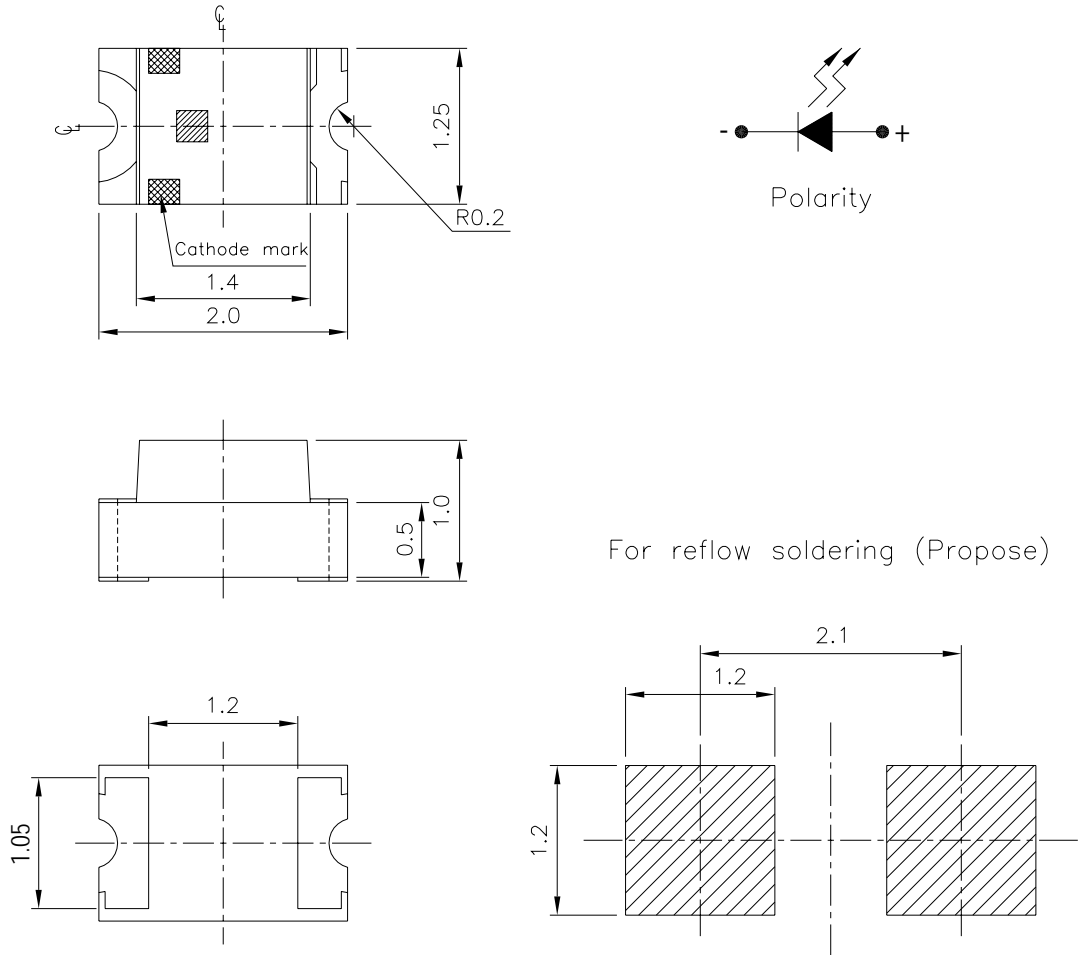
Applications

- 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		Lens Color
	Material	Emitted Color	
17-21/B6C-DP2Q2E/3T/AM	InGaN	Blue	Water Clear

Package Outline Dimensions



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

Absolute Maximum Ratings (Ta=25°C)

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	P_d	110	mW
Electrostatic Discharge(HBM)	ESD	150	V
Operating Temperature	T_{opr}	-40 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +90	°C
Soldering Temperature	T_{sol}	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_v	57.0	-----	112	mcd	$I_F=20mA$
Viewing Angle	$2\theta_{1/2}$	----	140	----	deg	
Peak Wavelength	λ_p	----	468	----	nm	
Dominant Wavelength	λ_d	466.0	----	472.0	nm	
Spectrum Radiation Bandwidth	$\Delta\lambda$	----	35	----	nm	
Forward Voltage	V_F	2.75	----	3.65	V	
Reverse Current	I_R	----	----	10	μA	$V_R=5V$

Notes:

- 1.Tolerance of Luminous Intensity $\pm 11\%$**
- 2.Tolerance of Dominant Wavelength $\pm 1nm$**
- 3.Tolerance of Forward Voltage $\pm 0.1V$**

Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition
P2	57.0	72.0	mcd	I _F =20mA
Q1	72.0	90.0		
Q2	90.0	112		

Bin Range Of Dom. Wavelength

Groups	Bin	Min	Max	Unit	Condition
D	AA2	466.0	468.0	nm	I _F =20mA
	AA3	468.0	470.0		
	AA4	470.0	472.0		

Bin Range Of Forward Voltage

Groups	Bin	Min	Max	Unit	Condition
E	5	2.75	3.05	V	I _F =20mA
	6	3.05	3.35		
	7	3.35	3.65		

Notes:

- 1.Tolerance of Luminous Intensity $\pm 11\%$
- 2.Tolerance of Dominant Wavelength $\pm 1\text{nm}$
- 3.Tolerance of Forward Voltage $\pm 0.1\text{V}$

Typical Electro-Optical Characteristics Curves

Typical curve of spectral distribution:

$V(\lambda)$ =Standard eye response curve

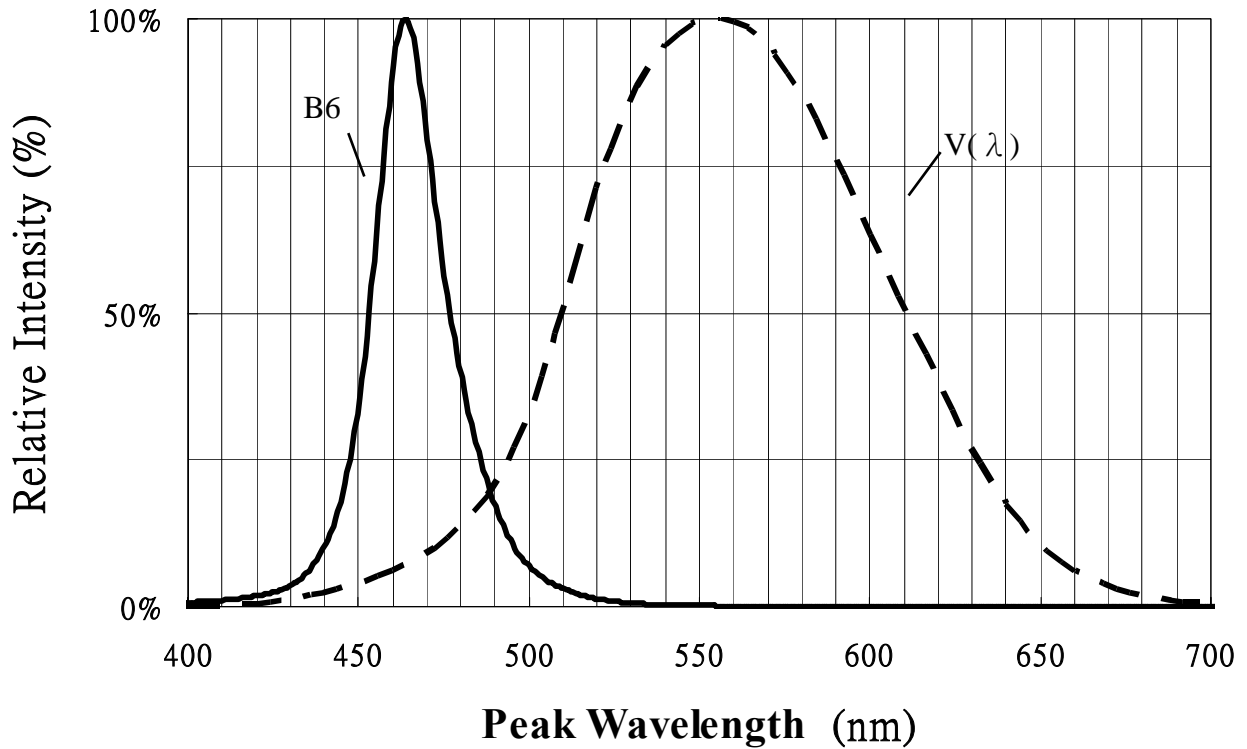
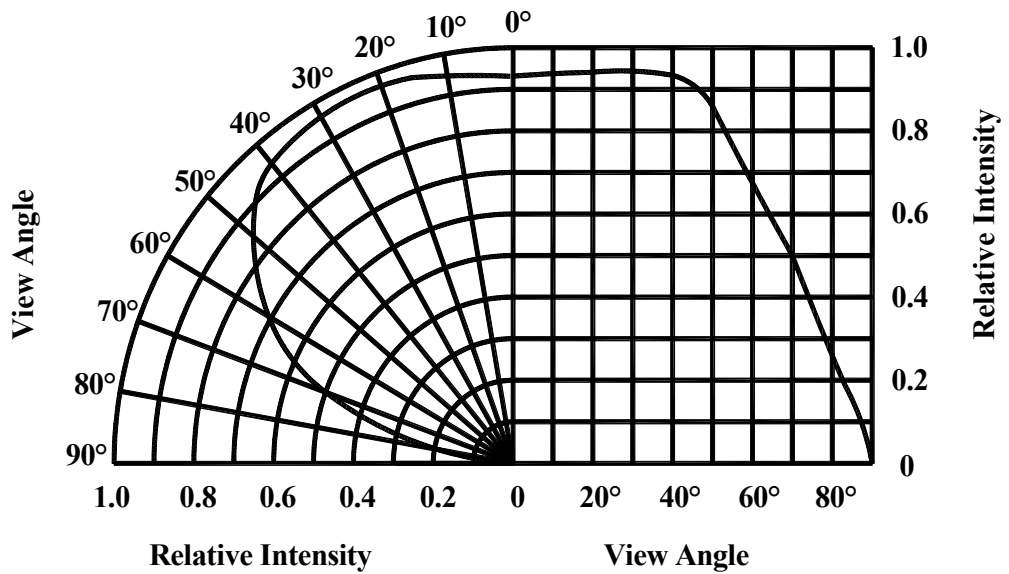
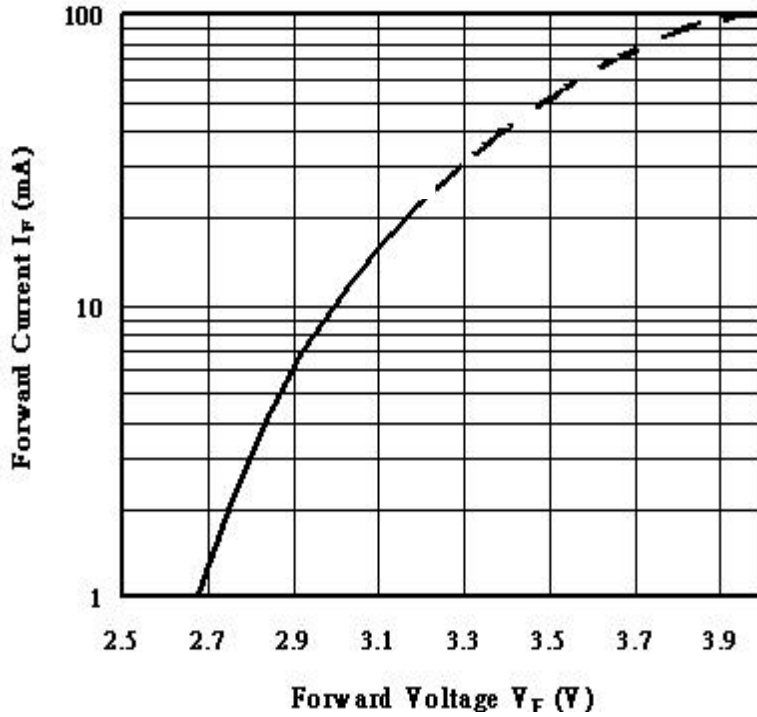


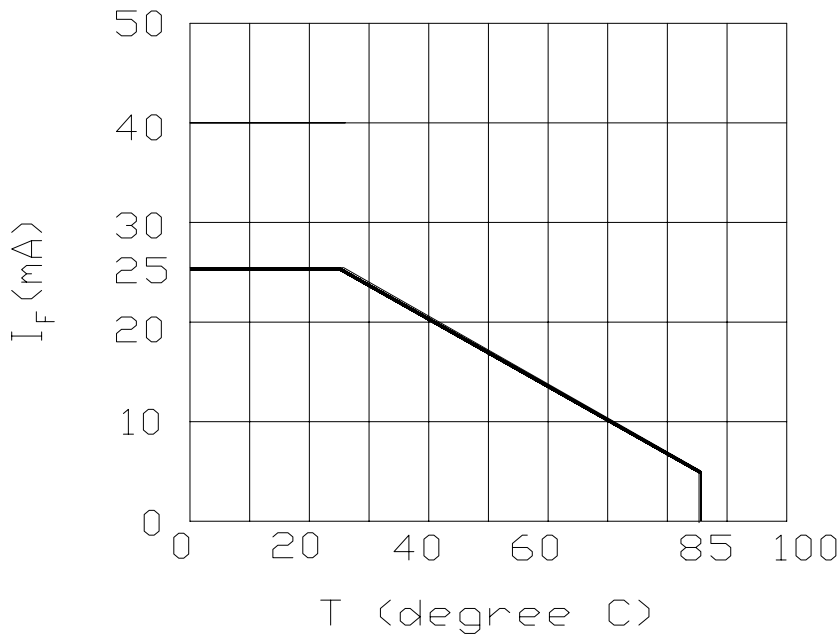
Diagram characteristics of radiation:



Forward Current vs. Forward Voltage Ta=25°C



Forward current v.s. Ambient Temp.

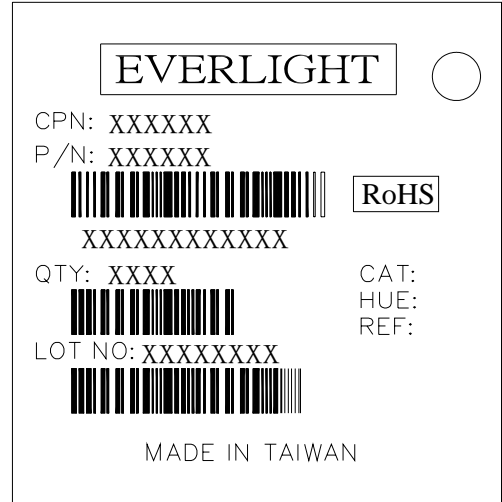


Label explanation

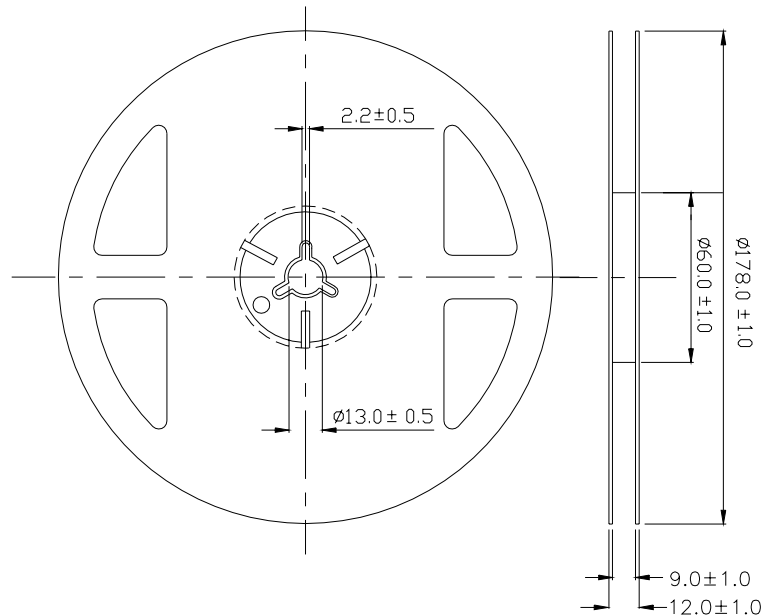
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank

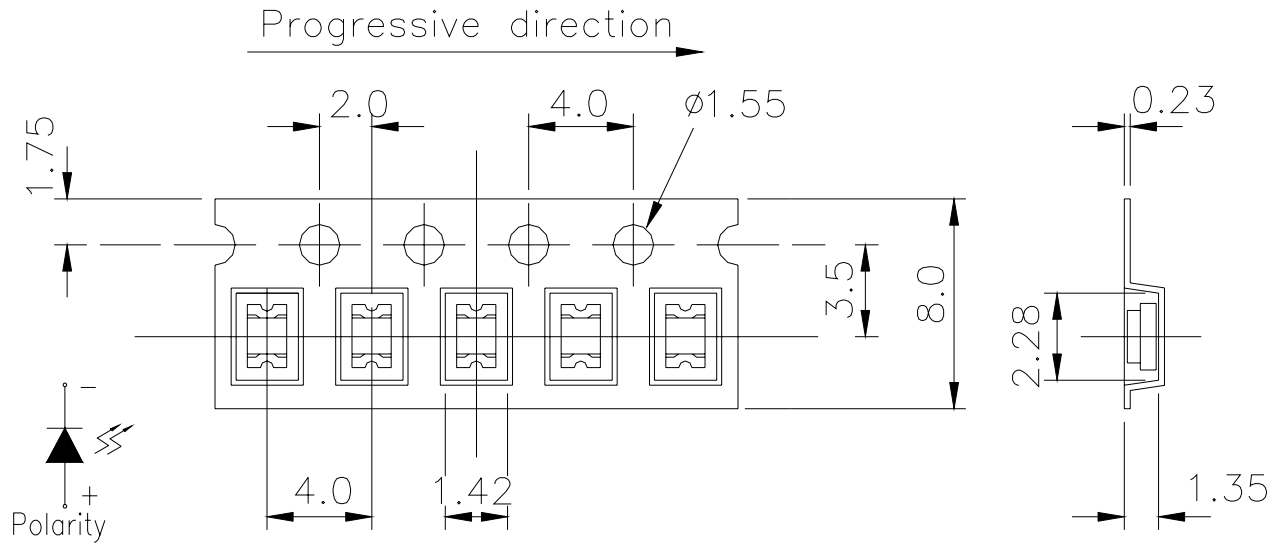


Reel Dimensions



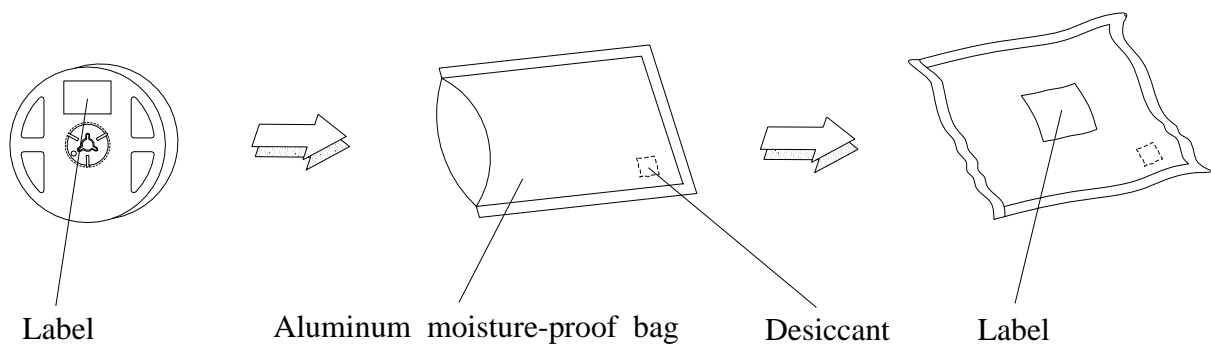
Note: The tolerances unless mentioned is ± 0.1 mm, Unit = mm

Carrier Tape Dimensions: Loaded quantity 3000 PCS per reel



Note: The tolerances unless mentioned is ± 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 time

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°C or less and 60% RH or less.

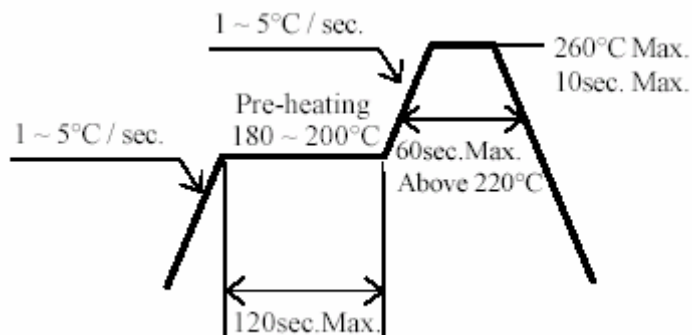
If unused LEDs remain, it should be stored in moisture proof packages.

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 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.

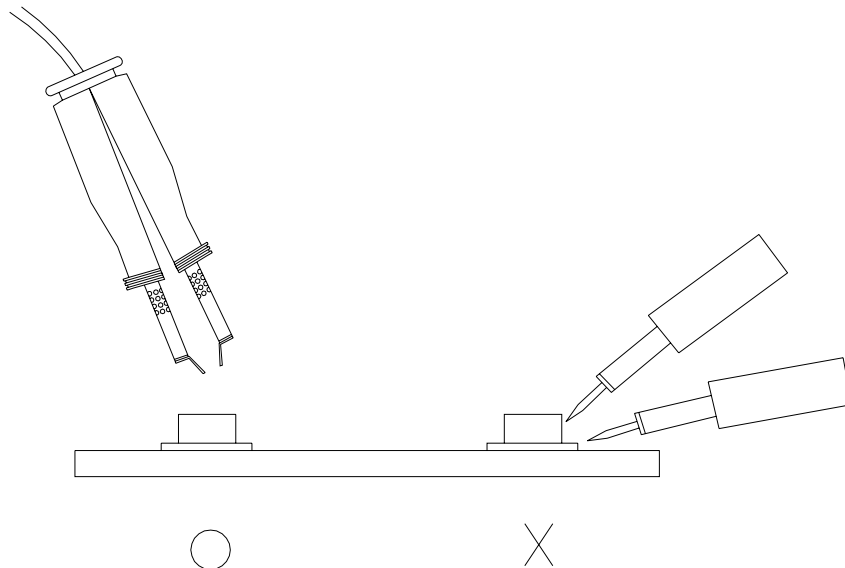
3.4 After soldering, do not warp the circuit board.

4.Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°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.

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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