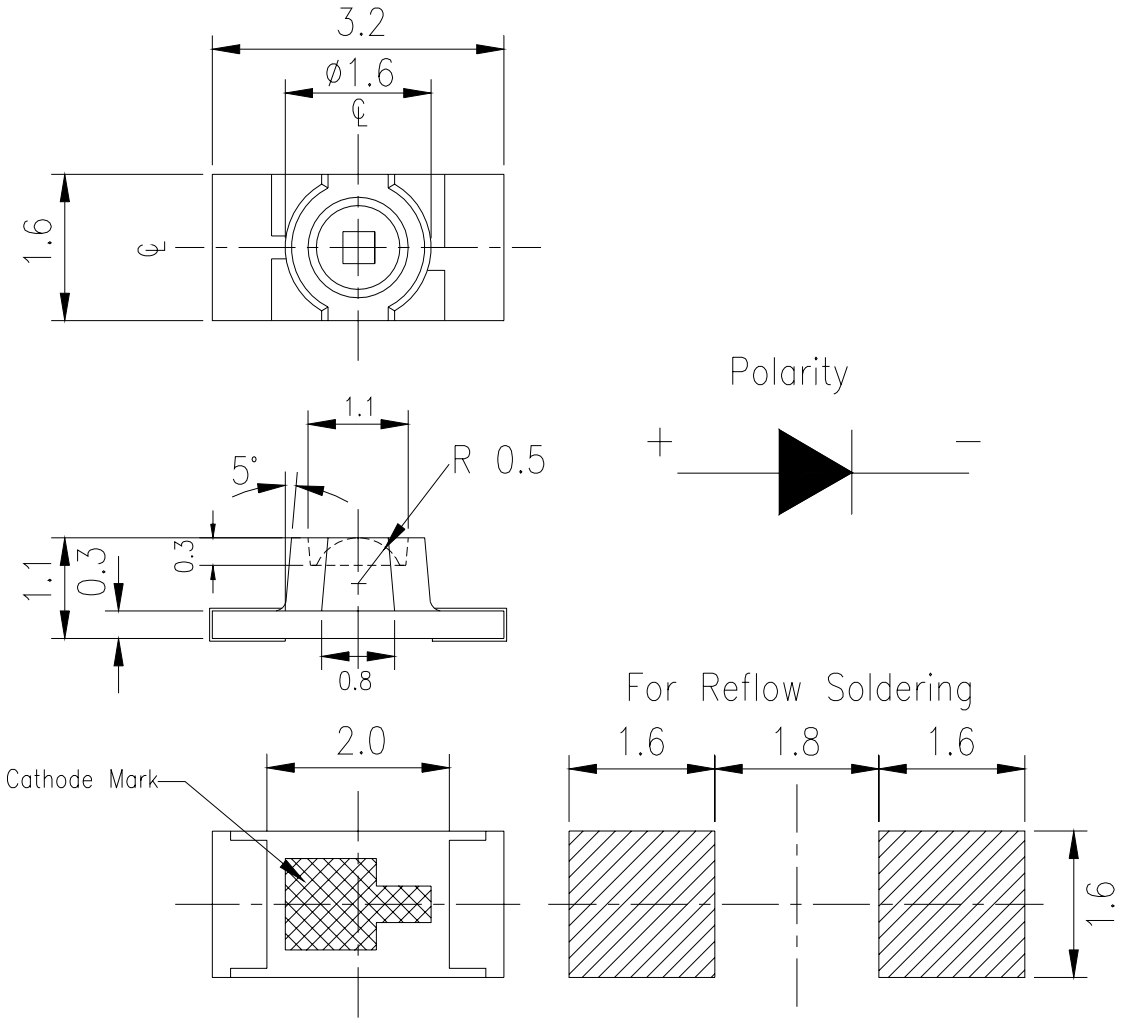
Package Outline Dimensions



Note: The tolerances unless mentioned is ±0.1mm , Angle±0.5°,Unit = mm

Downloaded from Arrow.com.

25-21/T1D-APQHY/2A

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	25	mA
Operating Temperature	Topr	-40 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +90	℃
Power Dissipation	Pd	110	mW
Electrostatic Discharge	ESD	150	V
Peak Forward Current (Duty 1/10 @1KHz)	I_F	100	mA
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	I_V	45.0	-----	112.0	mcd	I_F=5mA
Viewing Angle	$2\theta 1/2$	-----	70	-----	deg	
Forward Voltage	V_F	2.70	-----	3.15	V	
Reverse Current	I_R	-----	-----	50	μA	V_R=5V

Bin Range Of Luminous Intensity & Forward Voltage

Symbol	Bin Code	Min.	Max.	Unit	Condition
	P	45.0	72.0		
	Q	72.0	112		
V_F	15	2.70	2.85	V	I_F=5mA
	16	2.85	3.00		
	17	3.00	3.15		

Notes:

1.Tolerance of Luminous Intensity ±15%

2.Tolerance of Forward Voltage ±0.1V

Downloaded from Arrow.com.

Chromaticity Coordinates Specifications for Bin Grading

Groups	Bin Code	CIE_x	CIE_y	Condition
A	1	0.274	0.226	I_F=5mA
		0.274	0.258	
		0.294	0.286	
		0.294	0.254	
	2	0.274	0.258	
		0.274	0.291	
		0.294	0.319	
		0.294	0.286	
	3	0.294	0.254	
		0.294	0.286	
		0.314	0.315	
		0.314	0.282	
	4	0.294	0.286	
		0.294	0.319	
		0.314	0.347	
		0.314	0.315	
	5	0.314	0.282	
		0.314	0.315	
		0.334	0.343	
		0.334	0.311	
	6	0.314	0.315	
		0.314	0.347	
		0.334	0.376	
		0.334	0.343	

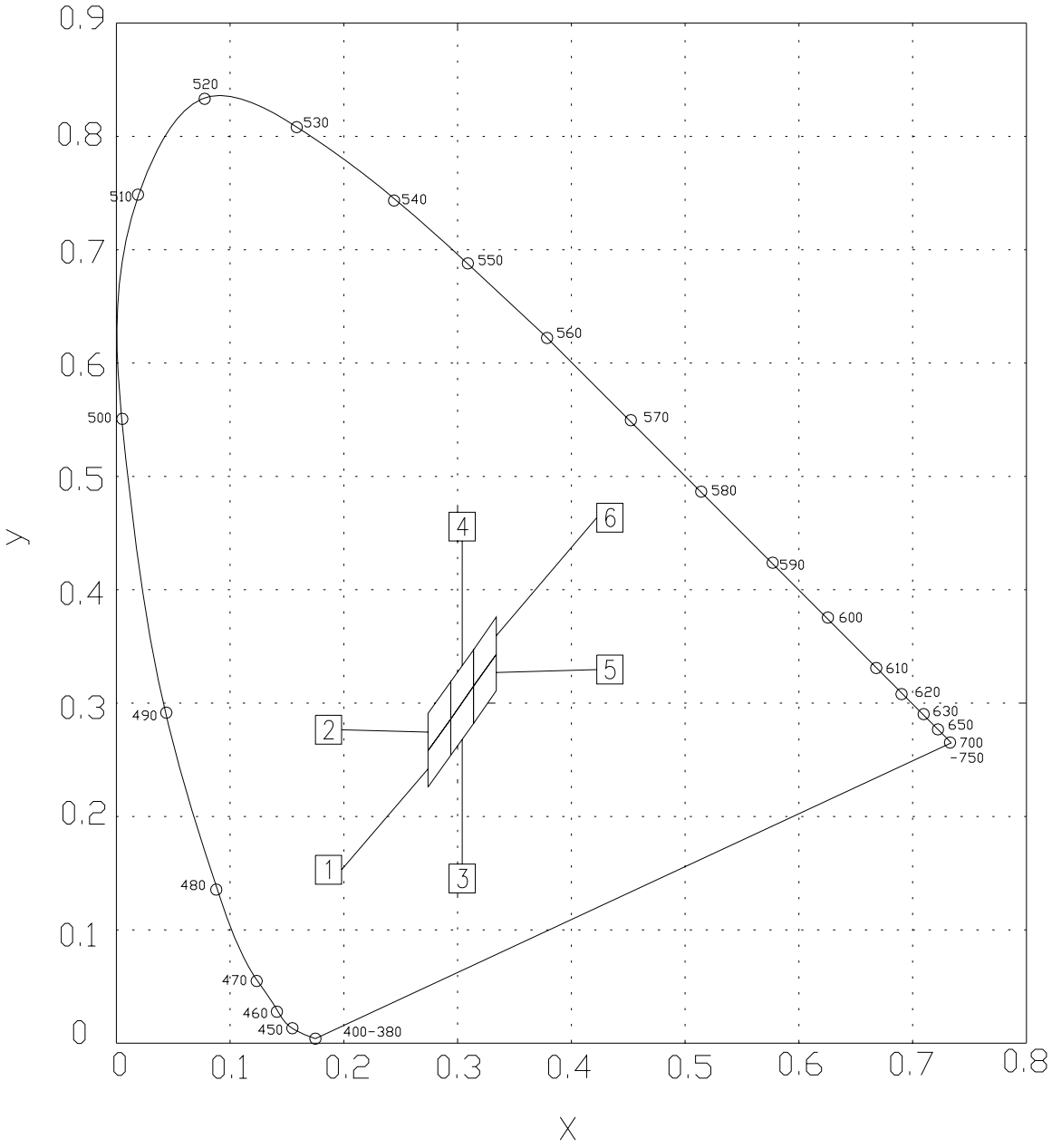
Notes:

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.

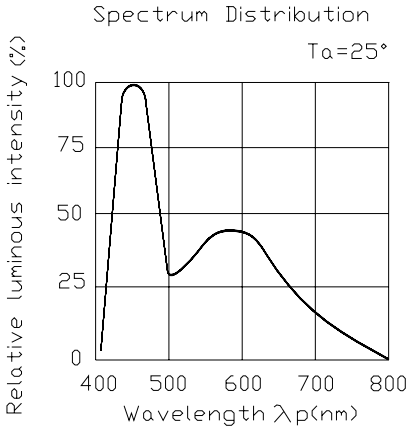
Downloaded from Arrow.com.

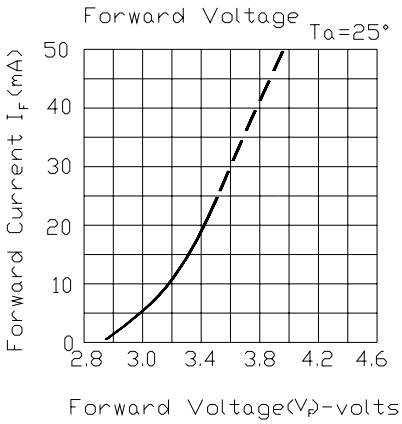
CIE Chromaticity Diagram

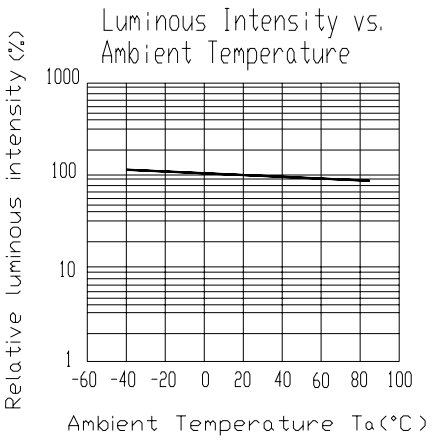


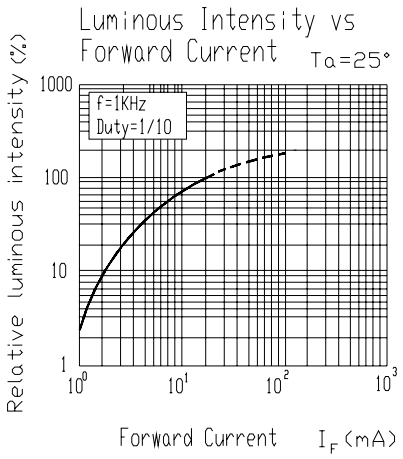
Downloaded from Arrow.com.

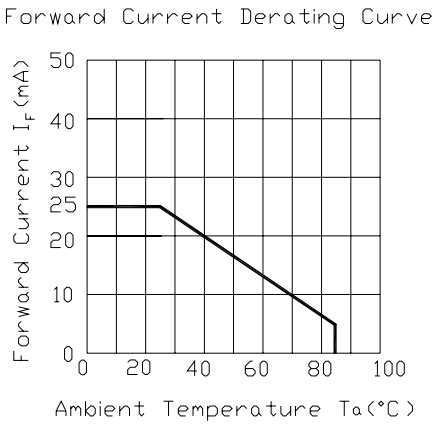
Typical Electro-Optical Characteristics Curves

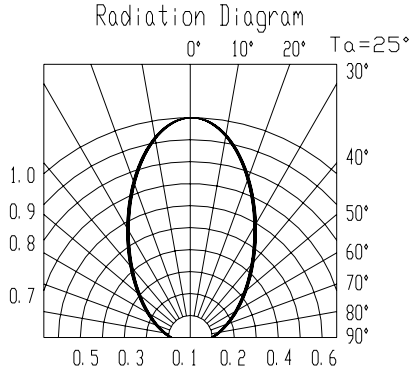








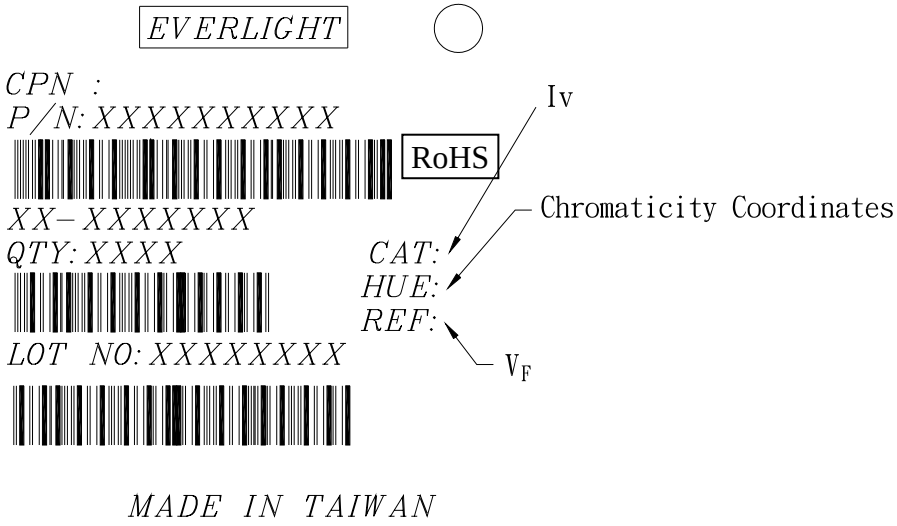




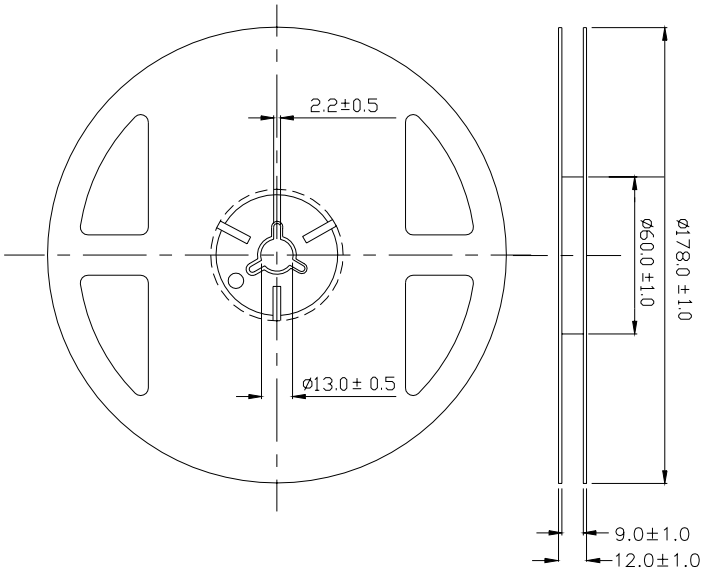
Downloaded from Arrow.com.

Label explanation

CAT: Luminous Intensity (mcd) HUE: Chromaticity Coordinates REF: Forward Voltage (V)



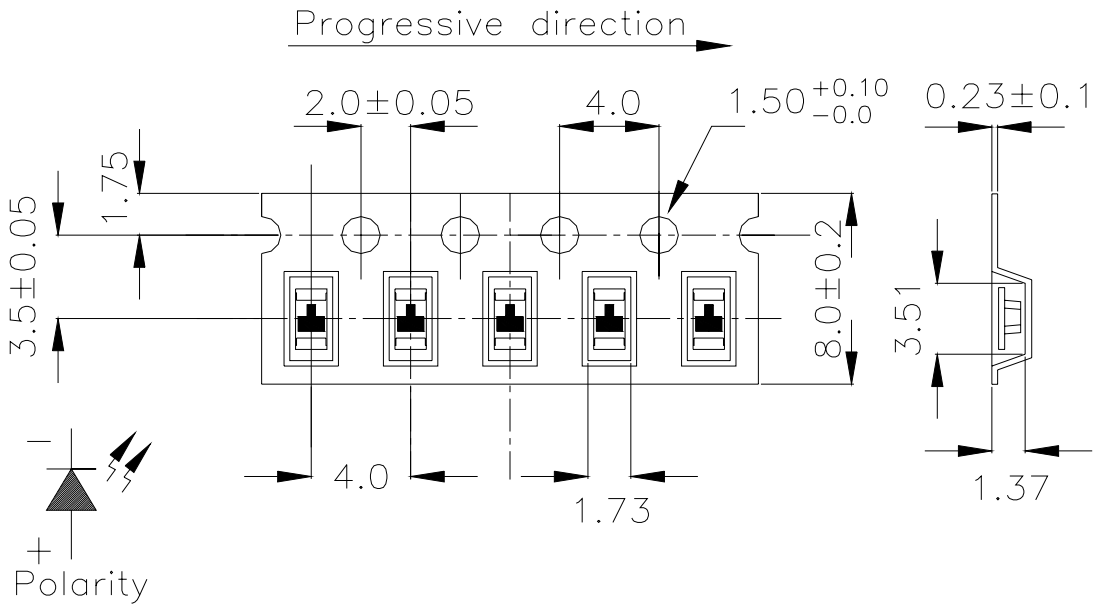
Reel Dimensions



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

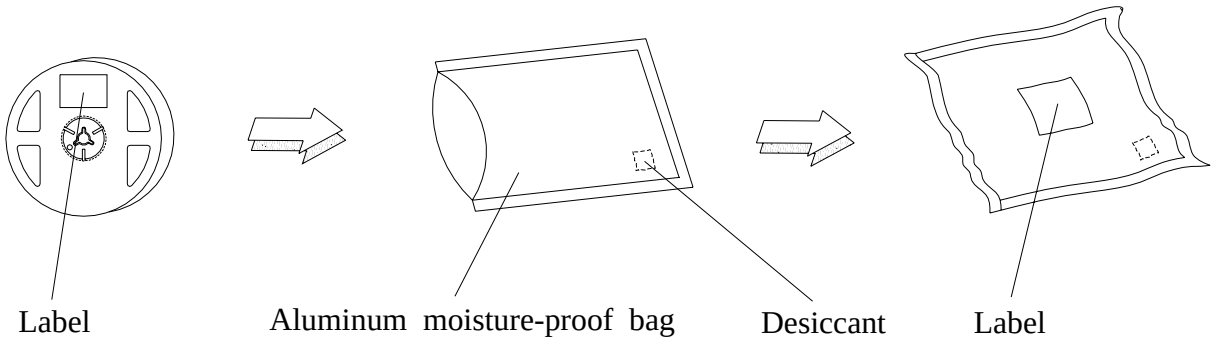
Downloaded from Arrow.com.

Carrier Tape Dimensions : Loaded quantity 2000 pcs per reel



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

Moisture Resistant Packaging



Downloaded from Arrow.com.

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

Downloaded from Arrow.com.

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 The LEDs should be used within a year.

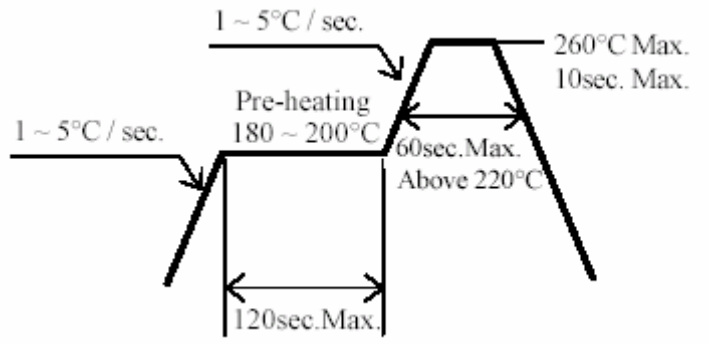
   2.4 After opening the package, the LEDs should be kept at 30℃ or less and 70%RH or less.

   2.5 The LEDs should be used within 168 hours (7 days) after opening the package.

   2.6 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.

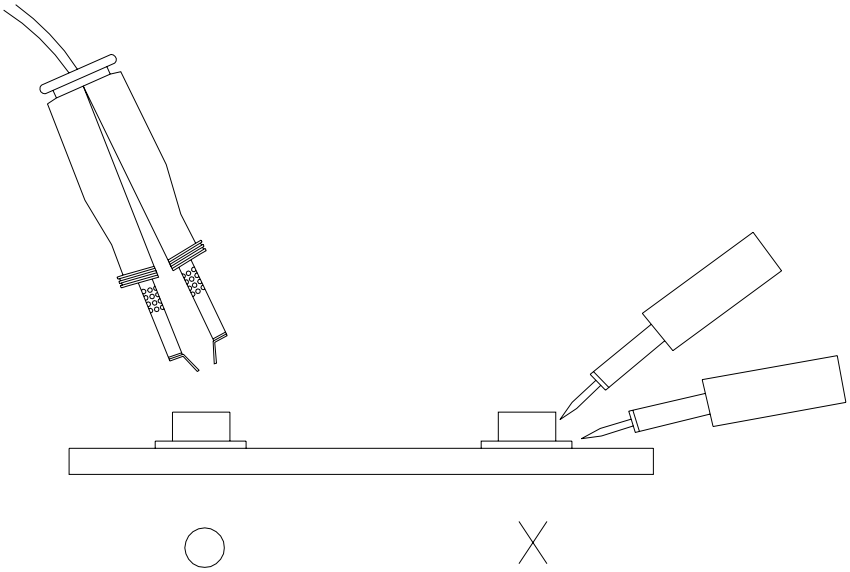
4. Soldering Iron

   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.

Downloaded from Arrow.com.

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.



EVERLIGHT ELECTRONICS CO., LTD.
Office: No 25, Lane 76, Sec 3, Chung Yang Rd,
Tucheng, Taipei 236, Taiwan, R.O.C
Tel: 886-2-2267-2000, 2267-9936
Fax: 886-2267-6244, 2267-6189, 2267-6306
http://www.everlight.com

Downloaded from Arrow.com.