

0.9mm Height PLCC-2 Package Top View
0.5W High Power Warm White LED
Technical Data Sheet

Part No.: DL-TOP5730W30-05W

Double Light

◆ Features:

1. PLCC-2 package.
2. High power LED type.
3. Very long operating life.
4. Instant light(less than 100ns).
5. Designed for high current operation.
6. Low thermal resistance.
7. High reliable
8. The product itself will remain within RoHS compliant Version

◆ Descriptions:

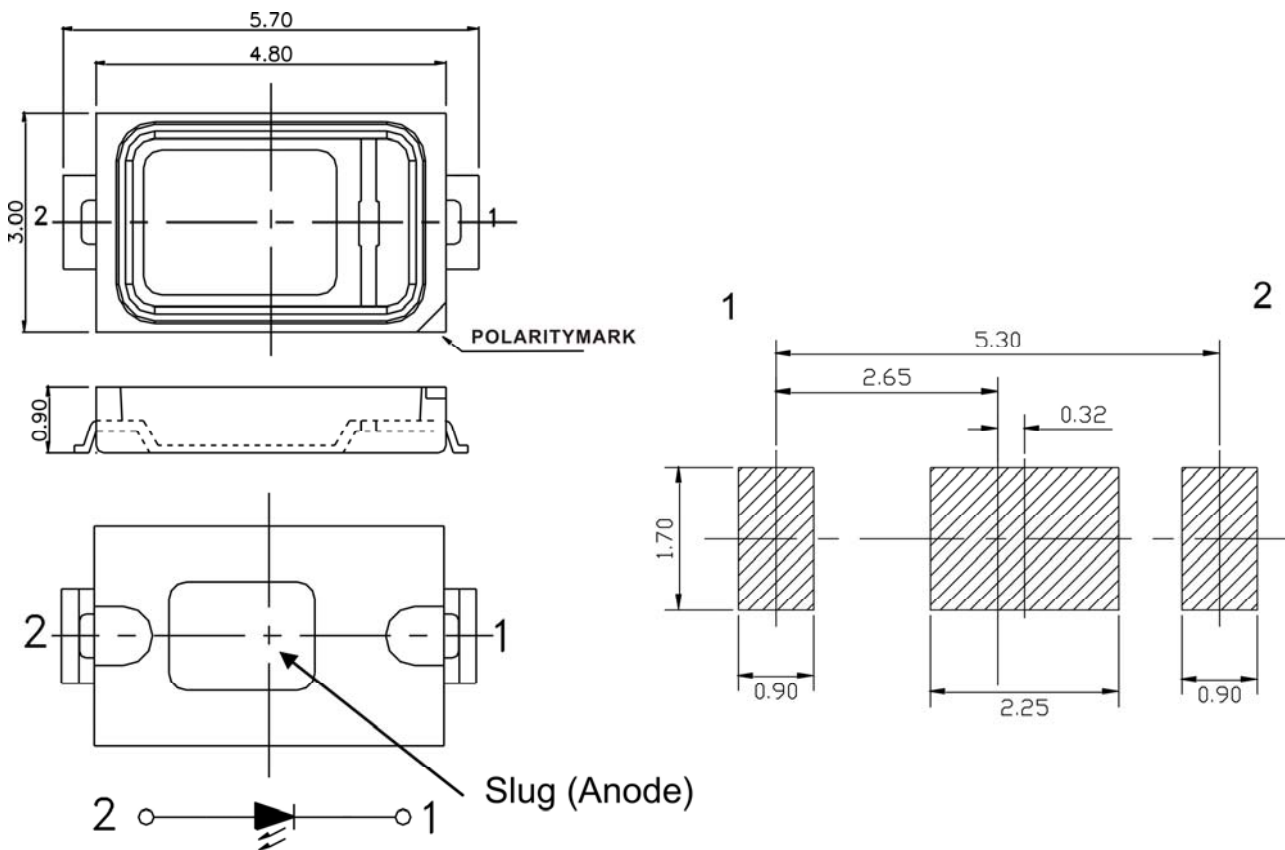
1. The TOP 5730 series is specially designed for applications requiring higher brightness.
2. The LED lamps are available with different colors,intensities.
3. Utilizing advanced Silicon Chip-carrier chip technology.

◆ Applications:

1. Reading lights (car, bus, aircraft).
2. Portable(flashlight,bicycle).
3. Mini accent/Up lighters/Down lighters/Orientation..
4. Bollards/Security/Garden.
5. Cove/Under shelf/Task
6. Automotive rear combination lamps.
7. Indoor/Outdoor Commercial and Residential Architectural.
8. Traffic signaling/Beacons/Rail crossing and Wayside.
9. Edge_ lit signs (Exit, point of sale).
10. LCD Backlights/Light Guides.

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◆ Package Dimension:



Part No.	Chip Material	Lens Color	Source Color
DL-TOP5730W30-05W	InGaN	Yellow Diffused	Warm White

Notes:

1. All dimensions are in millimeters.
2. Tolerance is $\pm 0.10\text{mm}$ (.004") unless otherwise noted.
3. Specifications are subject to change without notice.

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◆ Absolute Maximum Ratings at Ta=25°C

Parameters	Symbol	Max.	Unit
Power Dissipation	PD	600	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	IFP	250	mA
Forward Current	IF	150	mA
Electrostatic Discharge (HBM)	ESD	2000	V
Operating Temperature Range	Topr	-40°C to +80°C	
Storage Temperature Range	Tstg	-40°C to +85°C	
Soldering Temperature	Tsld	260°C for 5 Seconds	

◆ Electrical Optical Characteristics at Ta=25°C

Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	IV	20000	25000	---	mcd	IF=150mA (Note 1)
Luminous Flux	Φ_v	55	60	---	lm	IF=150mA (Note 1)
Viewing Angle	$2\theta_{1/2}$	---	120	---	Deg	IF=150mA (Note 2)
Chromaticity Coordinates	x	---	0.35	---		IF=150mA (Note 3)
	y	---	0.37	---		
Forward Voltage	VF	3.00	3.30	---	V	IF=150mA
Reverse Current	IR	---	---	10	μ A	$V_R=5V$

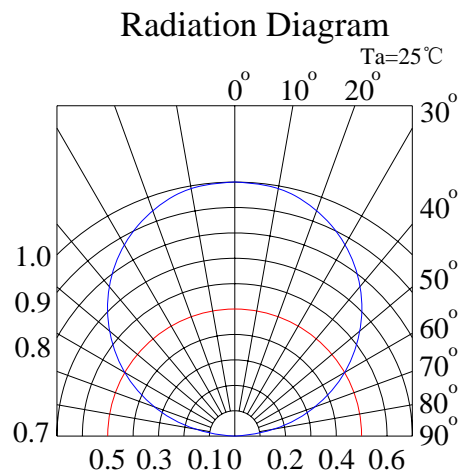
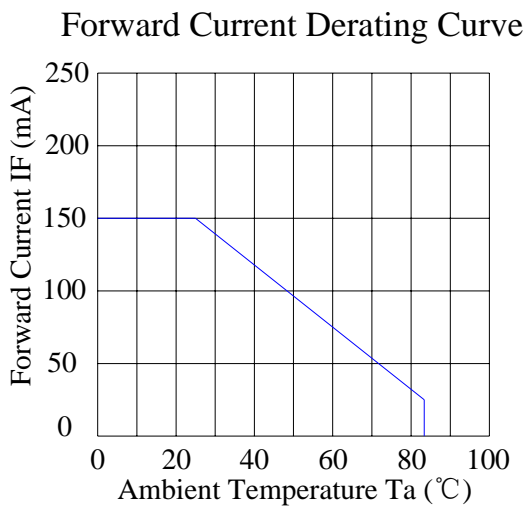
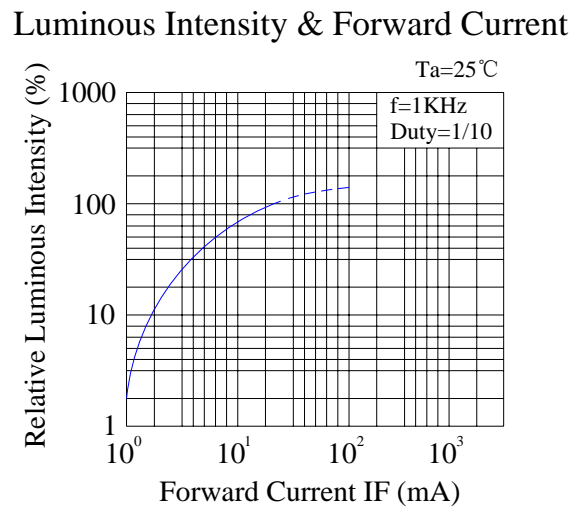
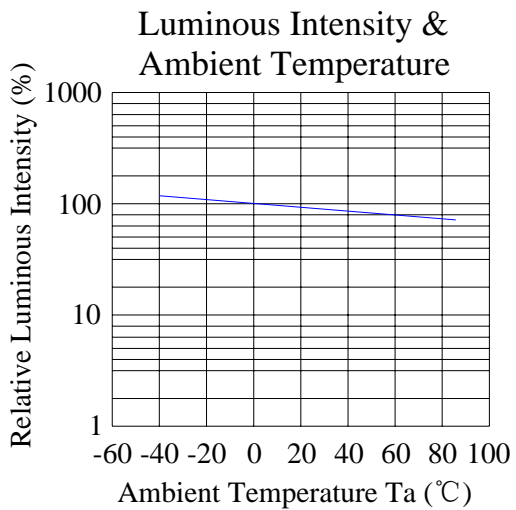
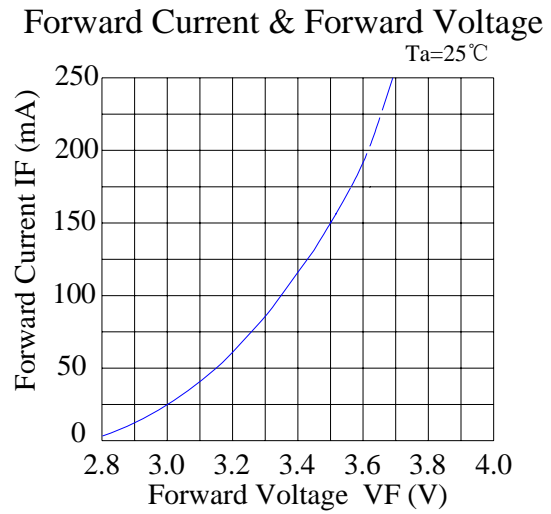
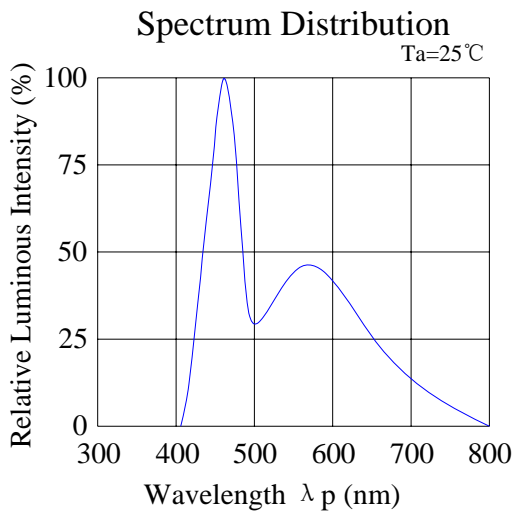
Notes:

1. Luminous Intensity (Flux) Measurement allowance is $\pm 10\%$.
2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. It use many parameters that correspond to the CIE 1931 2°. X, Y, and Z are CIE 1931 2° values of Red, Green and Blue content of the measurement.

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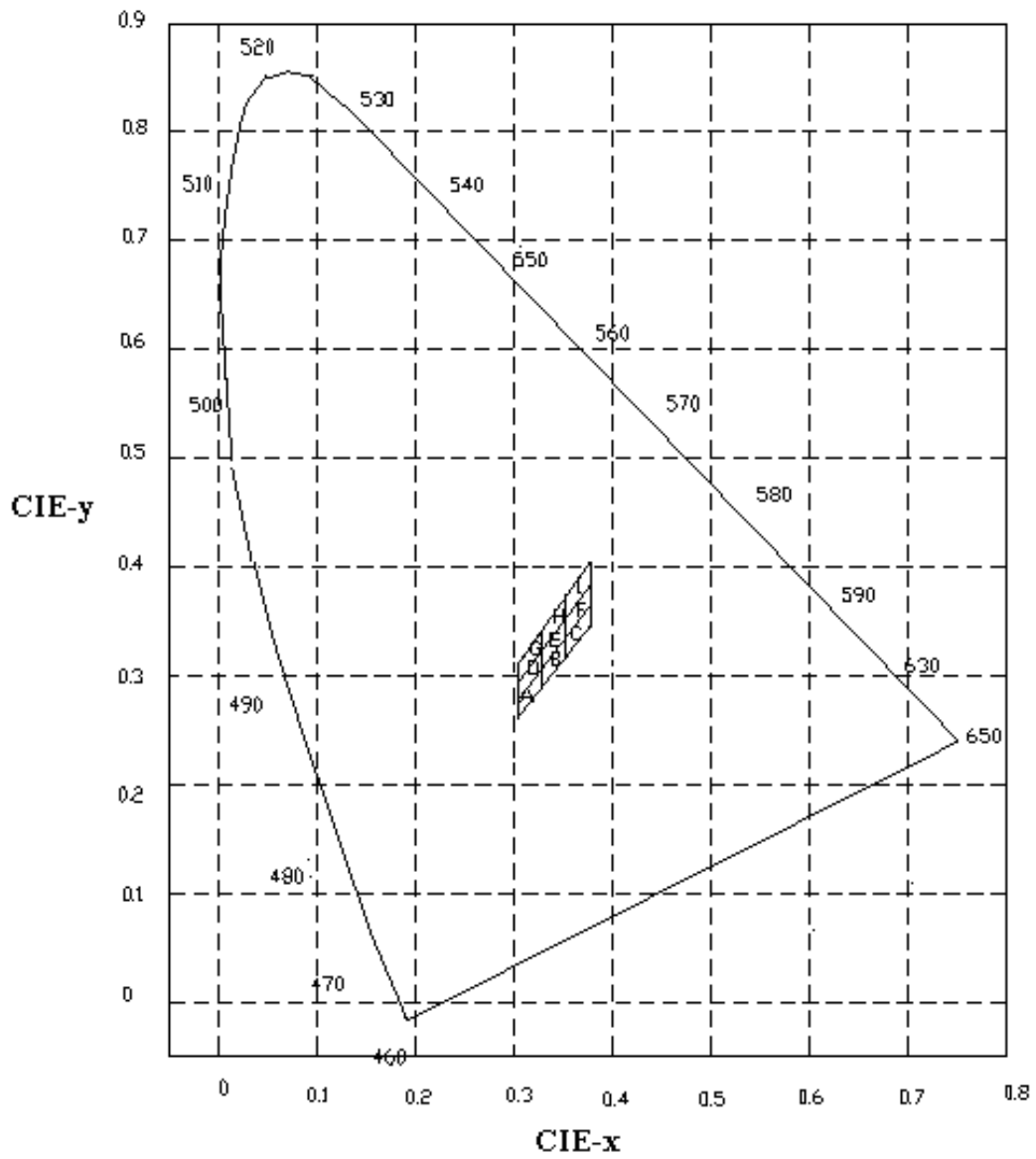
◆ Typical Electrical / Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)



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CIE Chromaticity Diagram:



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◆ Chromaticity Coordinates Specifications for Bin Rank

(IF=20mA, Ta=25°C)

Code	Color Temperature (K)	x	y	x	y	x	y	x	y
R	2580~2870	1		2		3		4	
		0.4813	0.4319	0.4700	0.4126	0.4582	0.4099	0.4687	0.4289
		0.4700	0.4126	0.4593	0.3944	0.4483	0.3919	0.4582	0.4099
		0.4582	0.4099	0.4483	0.3919	0.4373	0.3893	0.4465	0.4071
S	2870~3220	1		2		3		4	
		0.4562	0.4260	0.4465	0.4071	0.4344	0.4032	0.4430	0.4212
		0.4430	0.4212	0.4344	0.4032	0.4221	0.3984	0.4299	0.4165
		0.4344	0.4032	0.4260	0.3853	0.4147	0.3814	0.4221	0.3984
		0.4465	0.4071	0.4373	0.3893	0.4260	0.3853	0.4344	0.4032

Notes:

1. Color coordinates measurement allowance is ± 0.01 .
2. One delivery will include up to two consecutive color ranks and three luminous intensity ranks of the products the quantity-ratio of the ranks is decided by **Double light**.

◆ Reliability Test Items And Conditions:

The reliability of products shall be satisfied with items listed below:

Confidence level: 90%.

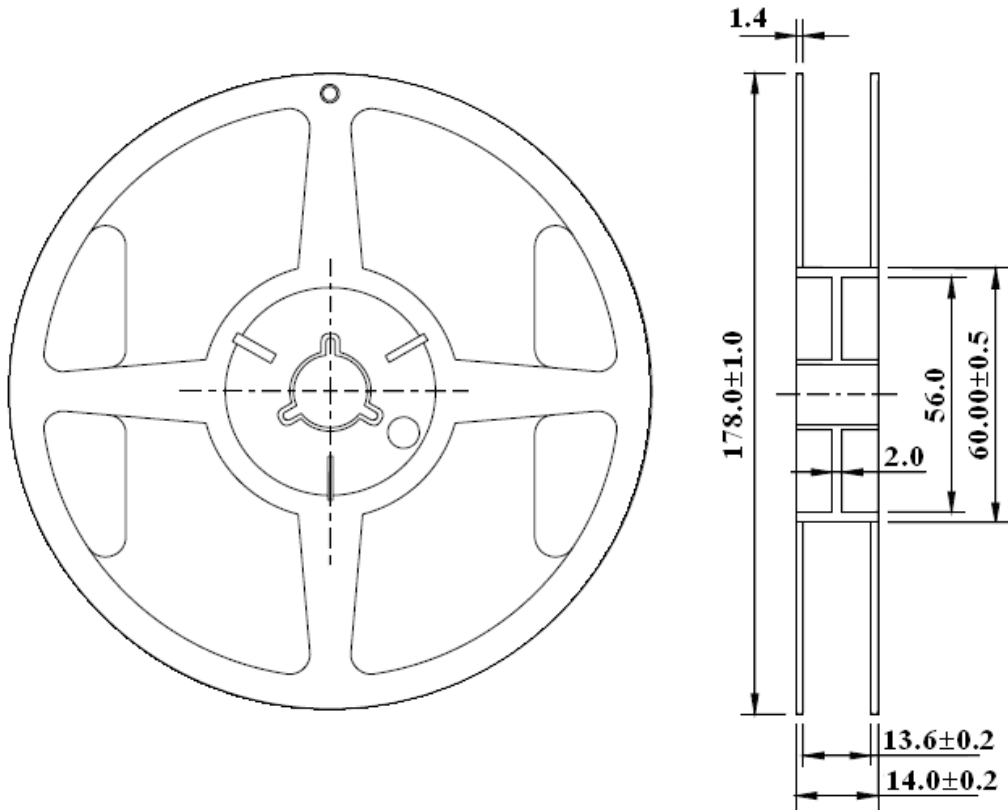
LTPD: 10%.

1) Test Items and Results:

No.	Test Item	Test Hours/Cycles	Test Conditions	Sample Size	Ac/Re
1	Resistance to Soldering Heat	6 Min	Tsld=260 \pm 5°C, Min. 5sec	25pcs	0/1
2	Thermal Shock	300 Cycles	H: +100°C 5min f 10 sec L: -10°C 5min	25pcs	0/1
3	Temperature Cycle	300 Cycles	H: +100°C 15min f 5min L: -40°C 15min	25pcs	0/1
4	High Temperature Storage	1000Hrs.	Temp: 100°C	25pcs	0/1
5	DC Operating Life	1000Hrs.	IF=150mA	25pcs	0/1
6	Low Temperature Storage	1000Hrs.	Temp: -40°C	25pcs	0/1
7	High Temperature/ High Humidity	1000Hrs.	85°C/85%RH	25pcs	0/1

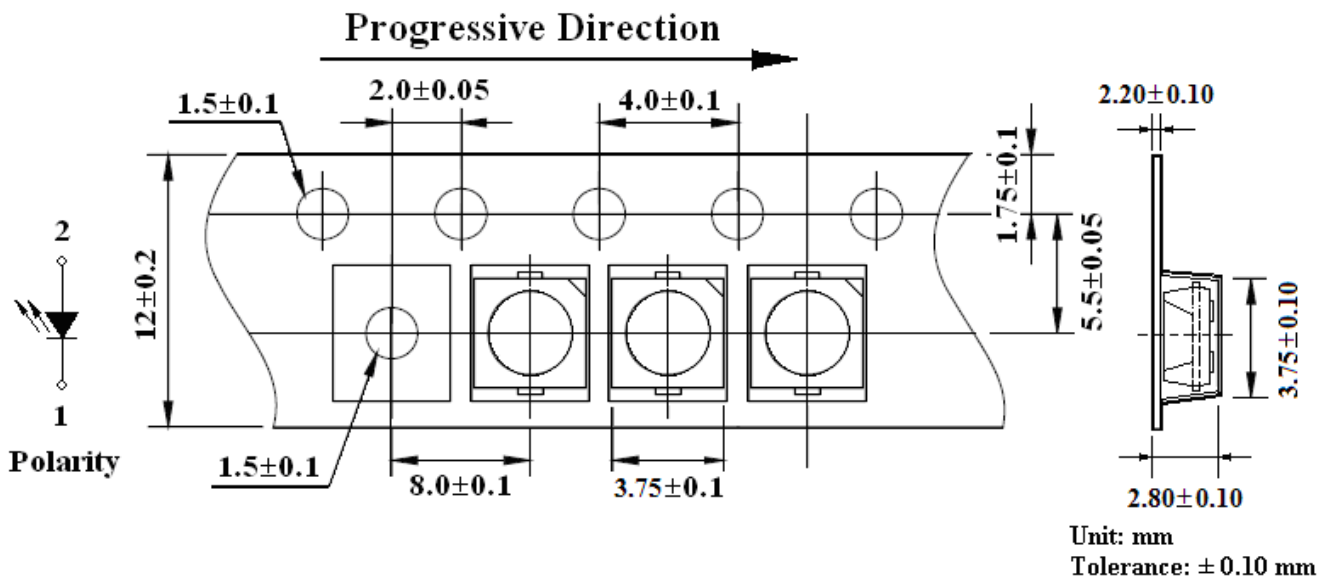
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◆ Reel Dimensions:



Carrier Tape Dimensions:

Loaded quantity 1000 PCS per reel.



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◆ Please read the following notes before using the product:

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 The LEDs should be used within a year.

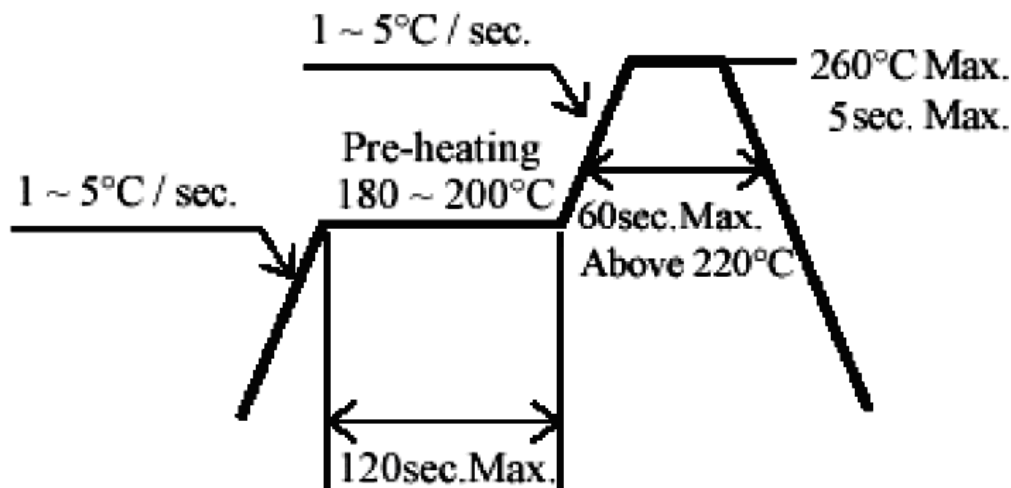
2.4 After opening the package, the LEDs should be kept at 30°C or less and 70%RH or less.

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

2.6 If the moisture adsorbent material (silica gel) has fabled 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.

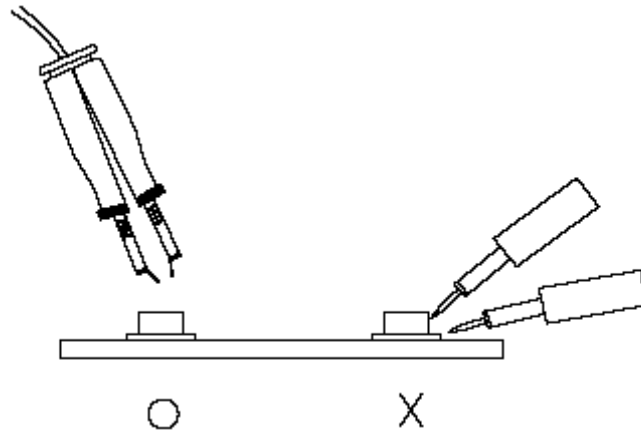
4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 260°C for 5 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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6. Caution in ESD

Static Electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.