



EVERLIGHT ELECTRONICS CO., LTD.

DATA SHEET

Part No. : 67-21/T6C-MU2W1E/2T

Date : 2007.6.3

Department : RD3

Revision : 1.1

Received	
<input type="checkbox"/>	MASS PRODUCTION
<input checked="" type="checkbox"/>	PRELIMINARY
<input type="checkbox"/>	CUSTOMER DESIGN
PAGE : 11	

Revised record		
REV.	DESCRIPTION	RELEASE DATE
1.1	New Spec.	2007.6.3

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Technical Data Sheet (Preliminary)

Top View LEDs

67-21/T6C-MU2W1E/2T

Features

- P-LCC-2 package.
- White package.
- Optical indicator.
- Colorless clear window.
- Wide viewing angle.
- Suitable for vapor-phase reflow, Infrared reflow and wave solder processes.
- Computable with automatic placement equipment.
- Available on tape and reel (8mm Tape).
- Pb-free



Descriptions

- The 67-21 series is available for orange, green, blue and yellow or other color due to the different raw material.
- Base on the package design, the device result in wide view angle.

Applications

- Automotive backlighting or indicator : Dashboard, switch, audio and video equipments...etc.
- Backlight : LCD, switches, symbol, mobile phone and illuminated advertising.
- Display for indoor and outdoor application : Traffic...etc.
- Ideal for coupling into light guides.
- Substitution of traditional light
- Optical indicator
- General applications.

Device Selection Guide

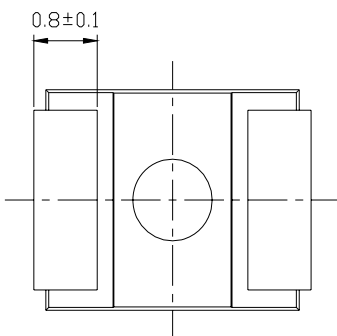
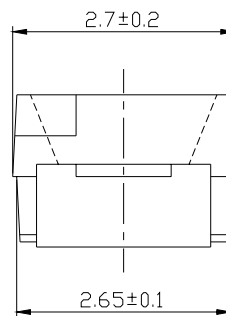
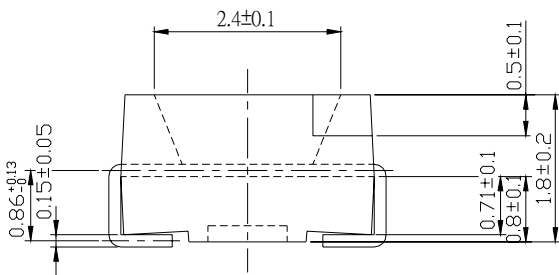
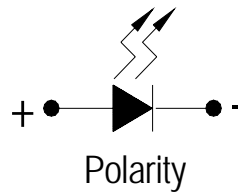
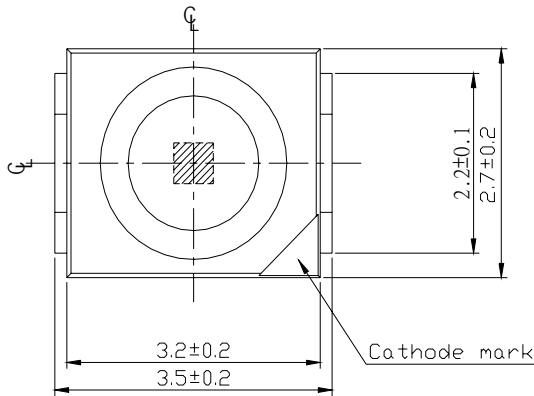
Chip	Emitted Color	Resin Color
Material		
InGaN/SiC	Pure White	Water Clear

Technical Data Sheet (Preliminary)

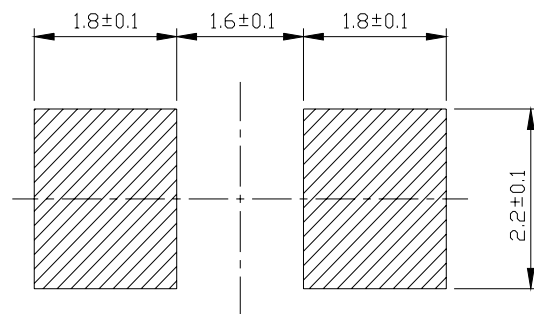
Top View LEDs

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Package Dimensions



For reflow soldering (propose)



Note : Tolerance of Dimension : ± 0.1 mm. Unit = mm

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Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	30	mA
Peak Forward Current (Duty 1/10 @1KHz)	I _{FP}	100	mA
Power Dissipation	P _d	120	mW
Electrostatic Discharge	ESD	1000	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	565	-----	1420	mcd	I _F =20mA
Viewing Angle	2θ _{1/2}	-----	120	-----	deg	I _F =20mA
Forward Voltage	V _F	2.75	----	3.65	V	I _F =20mA
Reverse Current	I _R	-----	-----	50	μA	V _R =5V

Notes :

- 1. Tolerance of Luminous Intensity : ±11%**
- 2. Tolerance of Dominant Wavelength : ±1nm**
- 3. Tolerance of Forward Voltage : ±0.1V**

**Technical Data Sheet (Preliminary)****Top View LEDs****67-21/T6C-MU2W1E/2T****Bin Range of Luminous Intensity**

Bin	Min	Max	Unit	Condition
U2	565	715	mcd	$I_F=20\text{mA}$
V1	715	900		
V2	900	1120		
W1	1120	1420		

Bin Range of Forward Voltage

Group	Bin Code	Min.	Max.	Unit	Condition
E	5	2.75	3.05	V	$I_F=20\text{mA}$
	6	3.05	3.35		
	7	3.35	3.65		

Notes:

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

Technical Data Sheet (Preliminary)

Top View LEDs

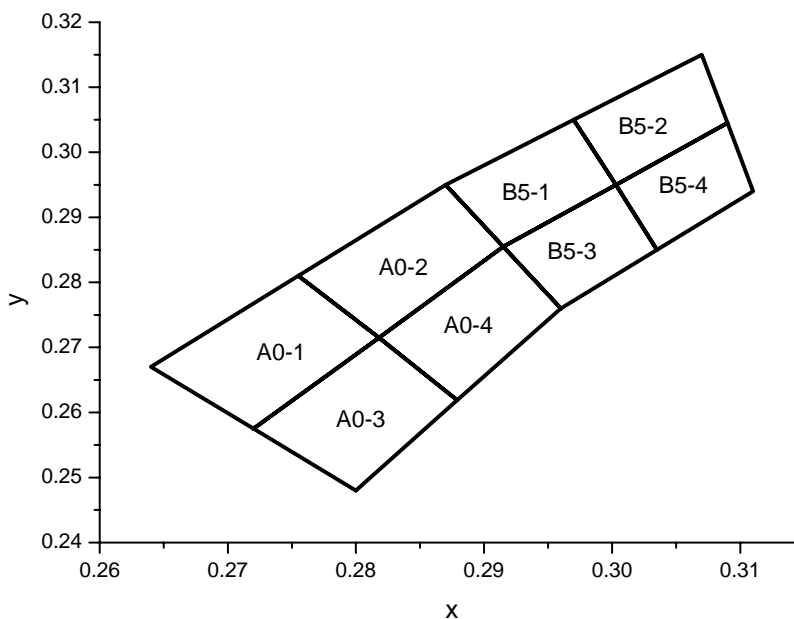
67-21/T6C-MU2W1E/2T

Bin Range of Chromaticity Coordinates

($I_F=20mA$)

Group	Bin Code	CIE_x	CIE_y	Bin Code	CIE_x	CIE_y
M	B5-1	0.291	0.286	B5-3	0.296	0.276
		0.287	0.295		0.292	0.286
		0.297	0.305		0.300	0.295
		0.300	0.295		0.304	0.285
	B5-2	0.300	0.295	B5-4	0.304	0.285
		0.297	0.305		0.300	0.295
		0.307	0.315		0.309	0.305
		0.309	0.305		0.311	0.294
	A0-1	0.272	0.258	A0-3	0.280	0.248
		0.264	0.267		0.272	0.258
		0.276	0.281		0.282	0.272
		0.282	0.272		0.288	0.262
	A0-2	0.282	0.272	A0-4	0.288	0.262
		0.276	0.281		0.282	0.272
		0.287	0.295		0.292	0.286
		0.292	0.286		0.296	0.276

Notes : *The C.I.E. 1931 chromaticity diagram (Tolerance ± 0.01).

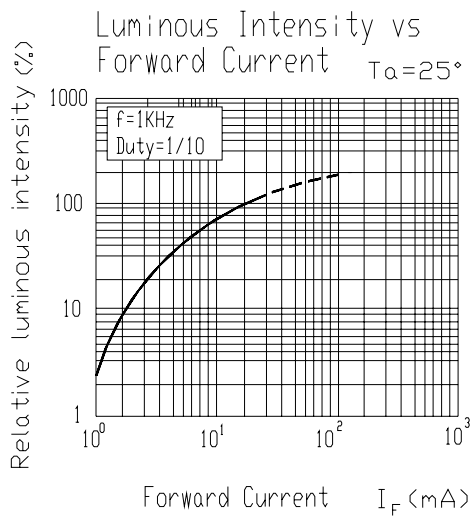
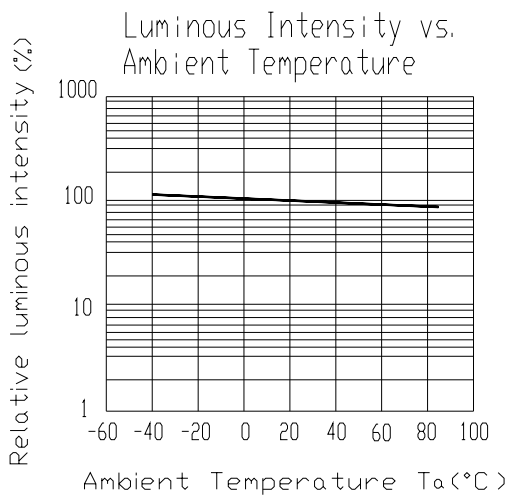
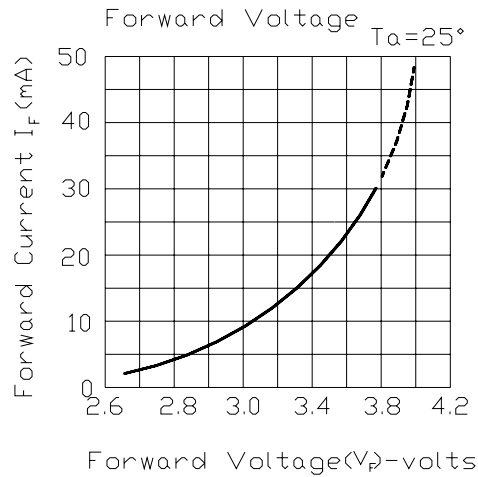
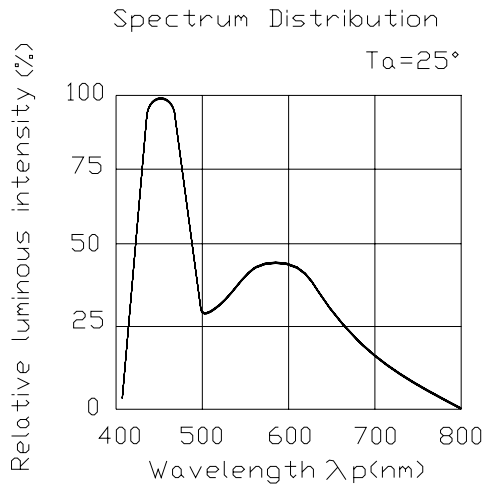


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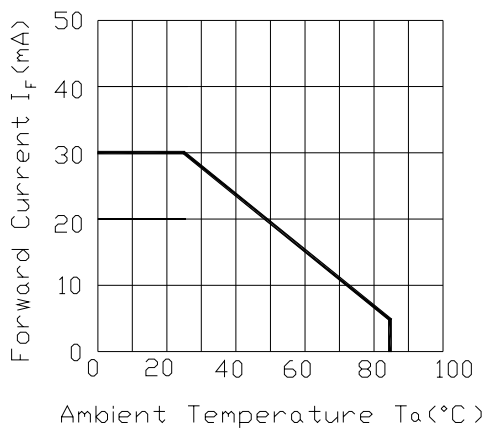
Top View LEDs

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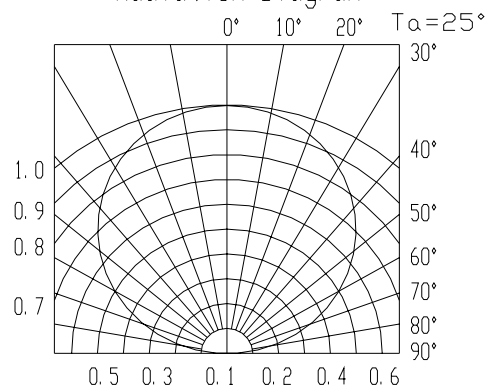
Typical Electro-Optical Characteristics Curves



Forward Current Derating Curve



Radiation Diagram



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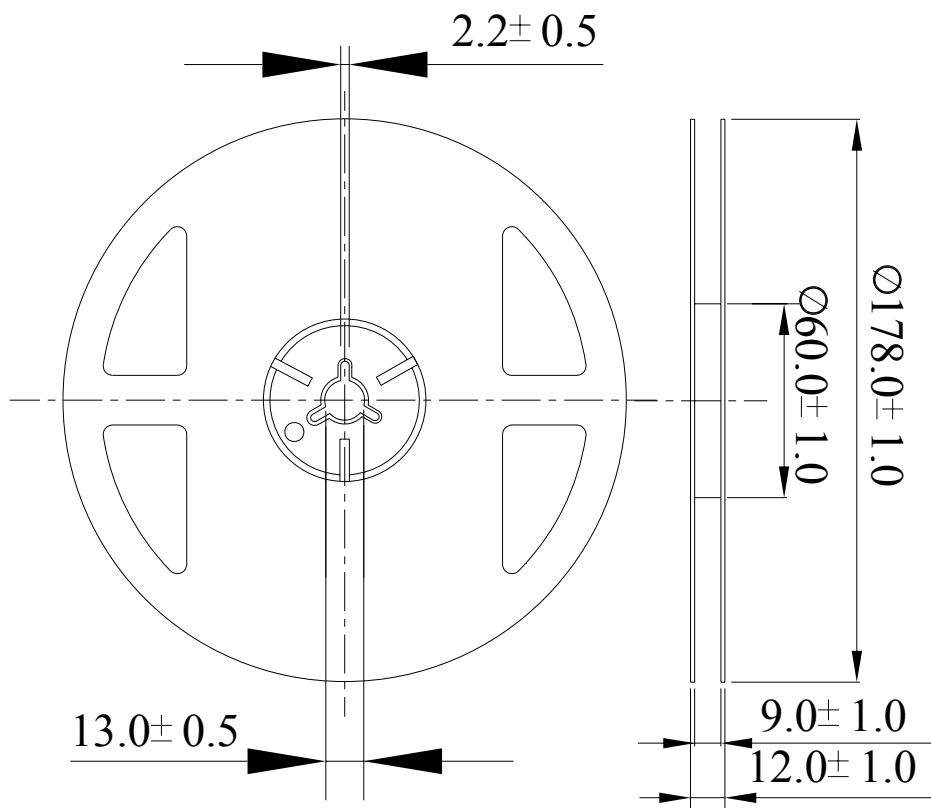
Label explanation

CAT: Luminous Intensity Rank

HUE: Chromaticity Coordinates

REF: Forward Voltage Rank

Reel Dimensions



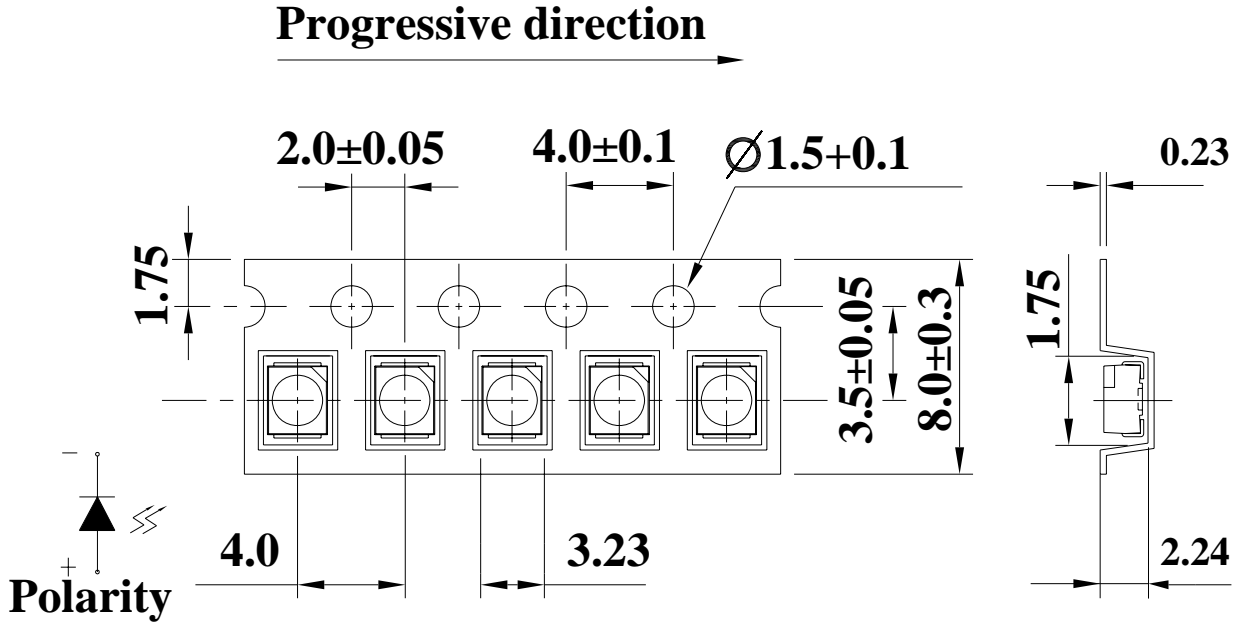
Note : Tolerances unless dimension ± 0.1 mm. Unit = mm

Technical Data Sheet (Preliminary)

Top View LEDs

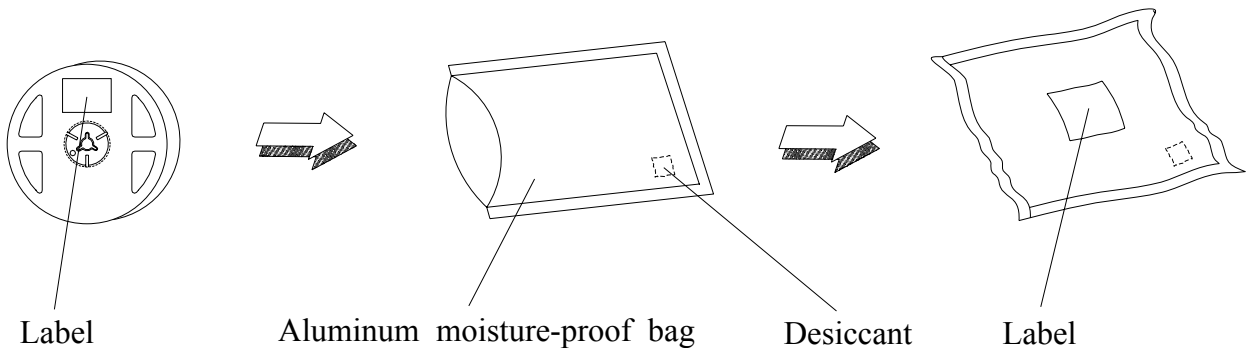
67-21/T6C-MU2W1E/2T

Carrier Tape Dimensions: Loaded quantity 2000 PCS per reel



Note : Tolerances unless dimension $\pm 0.1\text{mm}$. Unit = mm

Moisture Resistant Packing



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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°C±5°C Min. 5 sec.	6 Min.	22 PCS	0/1
2	Temperature Cycle	H : +100°C 15min ↓ 5 min L : -40°C 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	H : +100°C 5min ↓ 10 sec L : -10°C 5min	300 Cycles	22 PCS.	0/1
4	High Temperature Storage	Temp. : 100°C	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Temp. : -40°C	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life	I _F = 20 mA / 25°C	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85°C/85%RH	1000 Hrs.	22 PCS.	0/1

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Top View LEDs

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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°C or less and 90%RH or less.

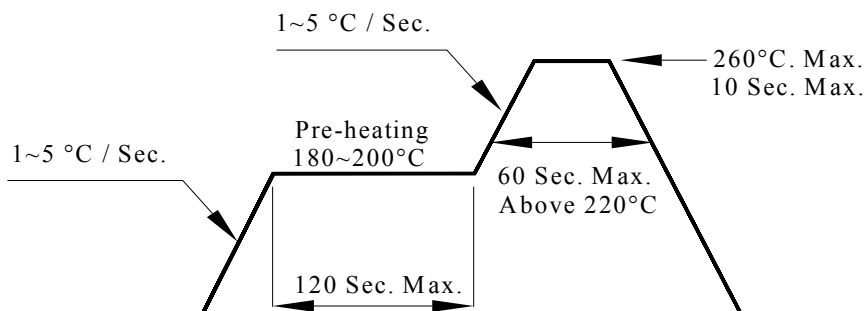
2.3 After opening the package: The LED's floor life is 1 year under 30°C or less and 60% RH or less.
If unused LEDs remain, it should be stored in moisture proof packages.

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.

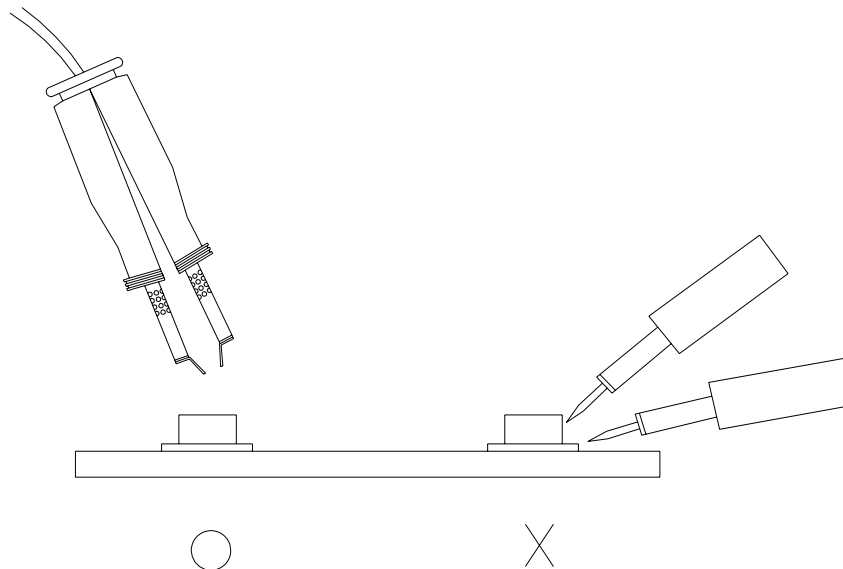
Technical Data Sheet (Preliminary)**Top View LEDs****67-21/T6C-MU2W1E/2T**

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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