

EVERLIGHT**EVERLIGHT ELECTRONICS CO.,LTD.****Technical Data Sheet****Top View LEDs with Black Surface****67-01/YSC-CU1V1/2T/MS****Features**

- Pb-free.
- Inner reflector.
- White package.
- Optical indicator.
- P-LCC-2 package.
- Wide viewing angle.
- Colorless clear resin.
- Precondition : Base on JEDEC Level-2.
- ESD : Up to 2KV. (Base JESD22-A114-B)
- The product itself will remain within RoHS compliant version.
- Suitable for vapor-phase reflow, infrared reflow and wave solder processes.

**Descriptions**

- The 67-01 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

- OA Equipment
- Backlighting of Full Color LCD
- Automotive Equipment
- Replacement of Conventional Light Bulbs and Fluorescent Lamps

Device Selection Guide

Chip	Emitted Color	Resin Color
Material		
AlGaInP	Brilliant Yellow	Water Clear



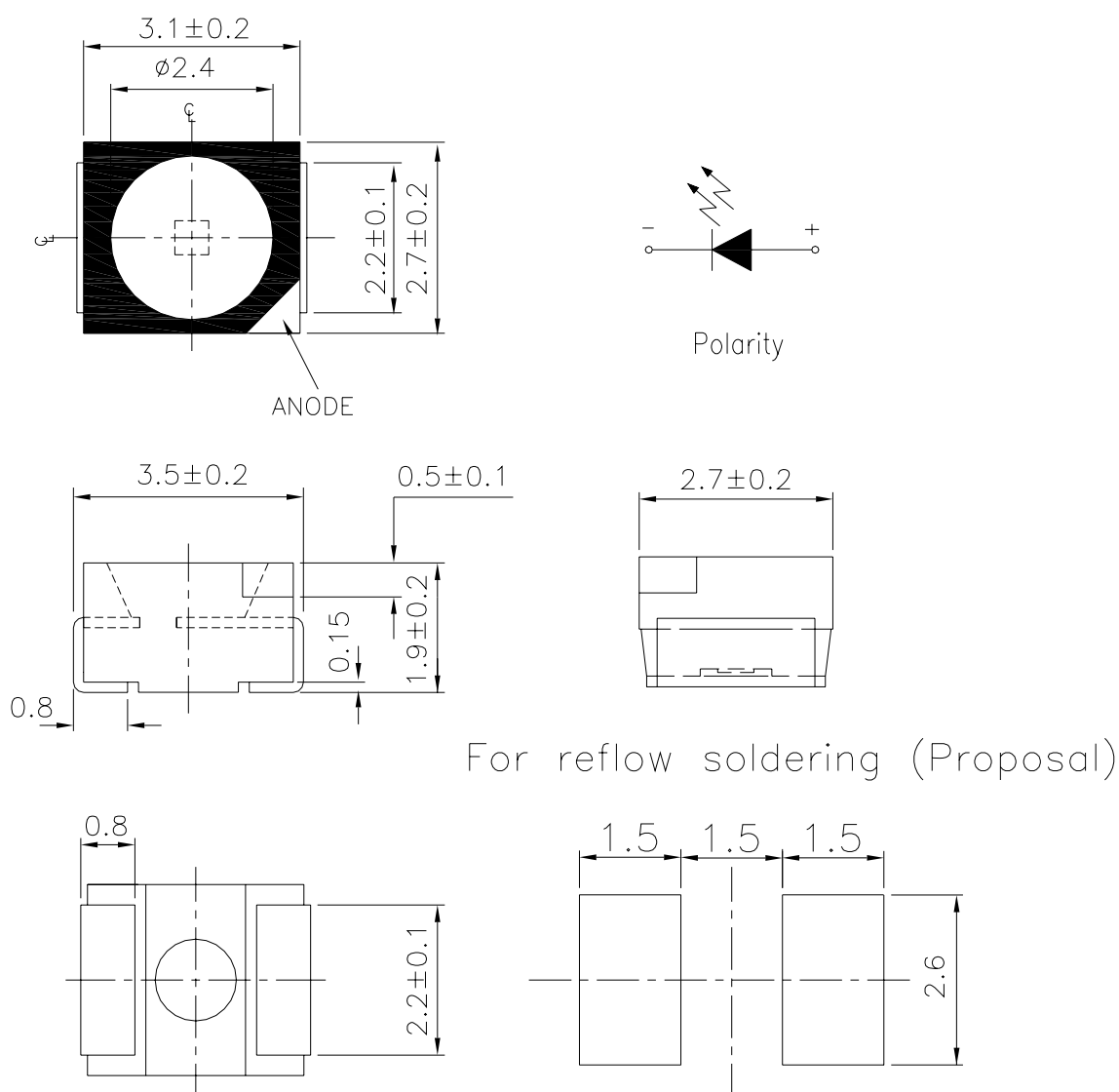
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Package Outline Dimensions



Note: The tolerances unless mentioned is ± 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	50	mA
Operating Temperature	Topr	-40 ~ +100	°C
Storage Temperature	Tstg	-40~ +100	°C
Electrostatic Discharge(HBM)	ESD	2000	V
Power Dissipation	P _d	120	mW
Peak Forward Current(Duty 1/10 @ 1KHz)	I _{FP}	100	mA
Soldering Temperature	Tsol	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	450	-----	900	mcd	I _F =20mA
Viewing Angle	2θ _{1/2}	-----	120	-----	deg	I _F =20mA
Peak Wavelength	λ _p	-----	591	-----	nm	I _F =20mA
Dominant Wavelength	λ _d	585.5	-----	591.5	nm	I _F =20mA
Spectrum Radiation Bandwidth	Δλ	-----	20	-----	nm	I _F =20mA
Forward Voltage	V _F	1.95	-----	2.35	V	I _F =20mA
Reverse Current	I _R	-----	-----	10	μA	V _R =5V

Notes:

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



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Bin Range of Luminous Intensity

Bin	Min.	Max.	Unit	Condition
U1	450	565	mcd	IF=20mA
U2	565	715		
V1	715	900		

Bin Range of Dominant Wavelength

Group	Bin Code	Min.	Max.	Unit	Condition
C	D3	585.5	588.5	nm	IF=20mA
	D4	588.5	591.5		

Bin Range of Forward Voltage

Bin	Min.	Max.	Unit	Condition
1	1.95	2.15	V	IF=20mA
2	2.15	2.35		

Notes:

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



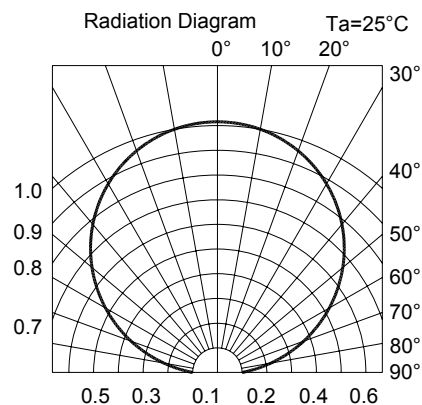
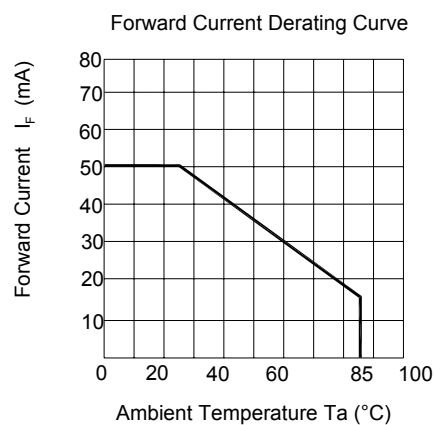
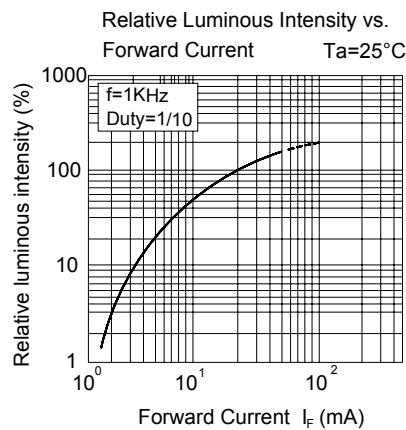
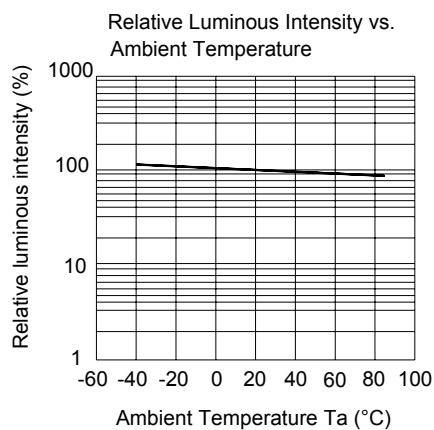
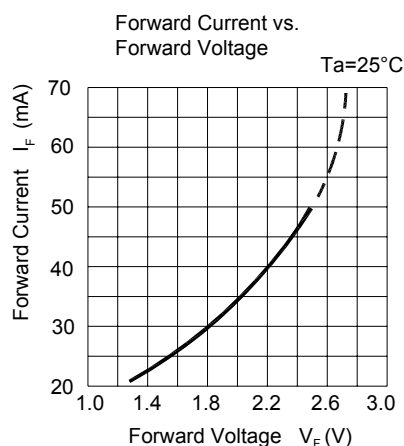
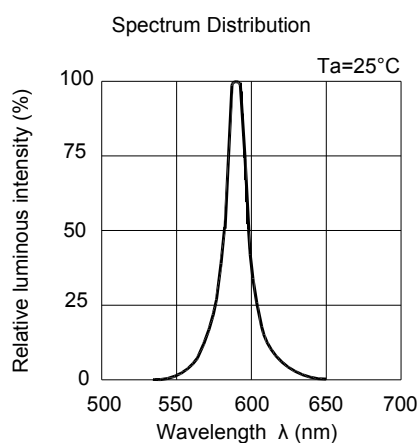
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Typical Electro-Optical Characteristics Curves





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Label Explanation

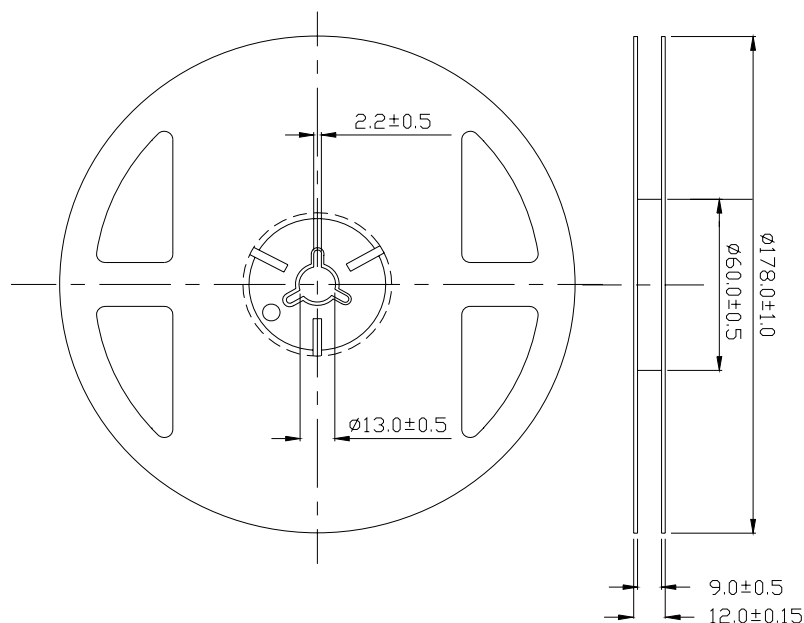
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank

EVERLIGHT		
CPN: XXXXXX		
P/N: XXXXXX		
		RoHS
XXXXXXXXXXXXXXXXXXXX		
QTY: XXXX		
		CAT:
LOT NO: XXXXXXXXXXXX		HUE:
		REF:
MADE IN TAIWAN		

Reel Dimensions



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



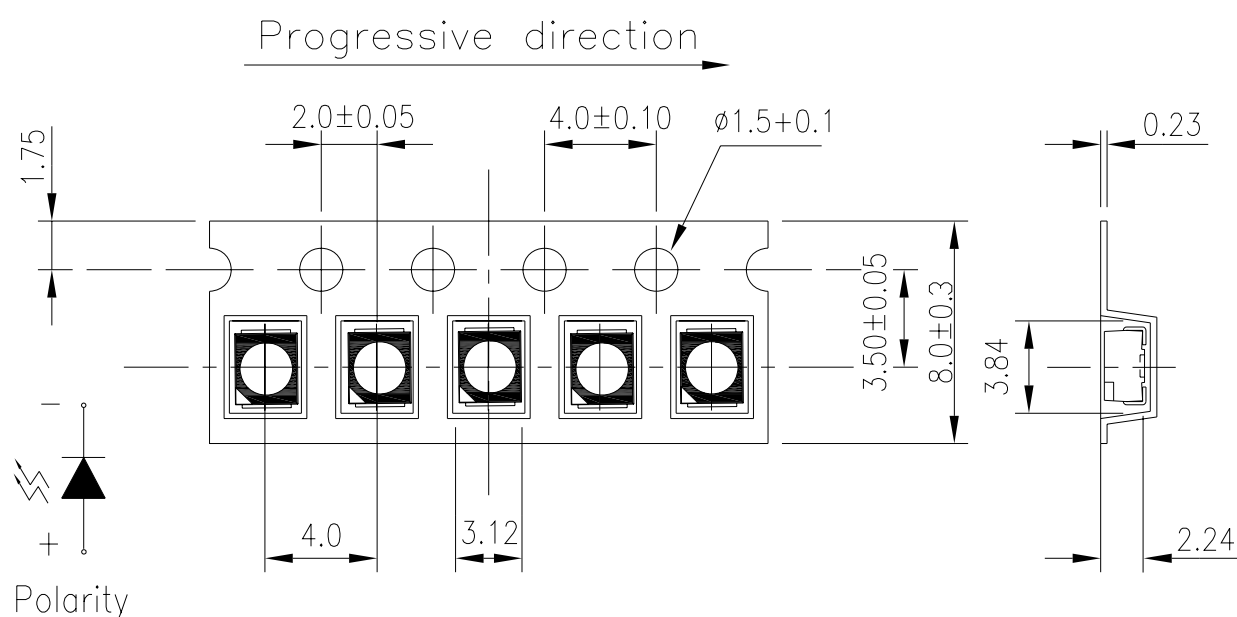
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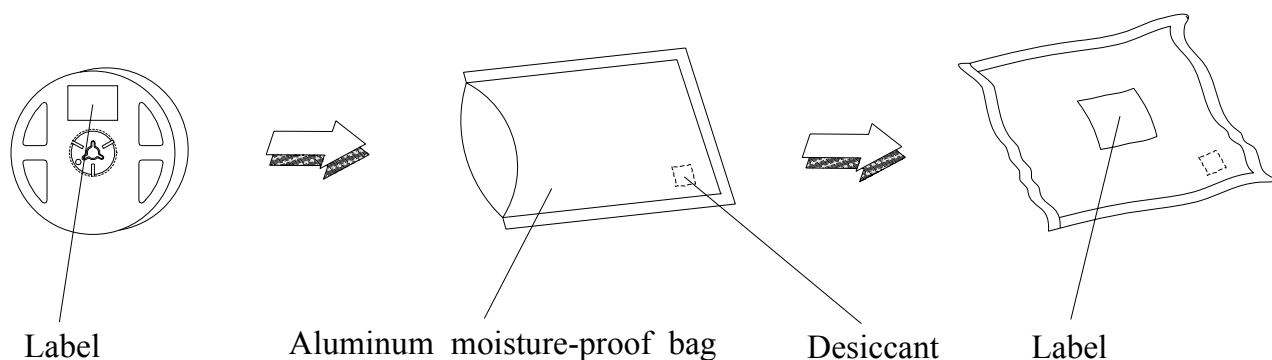
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Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel.



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Moisture Resistant Packaging





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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 5sec.	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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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.

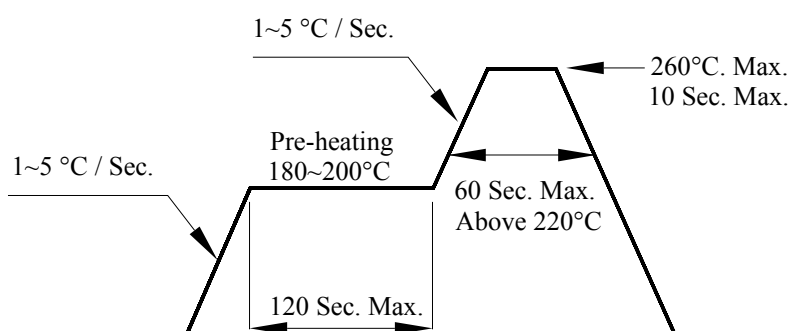
If unused LEDs remain, it should be stored in moisture proof packages.

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.



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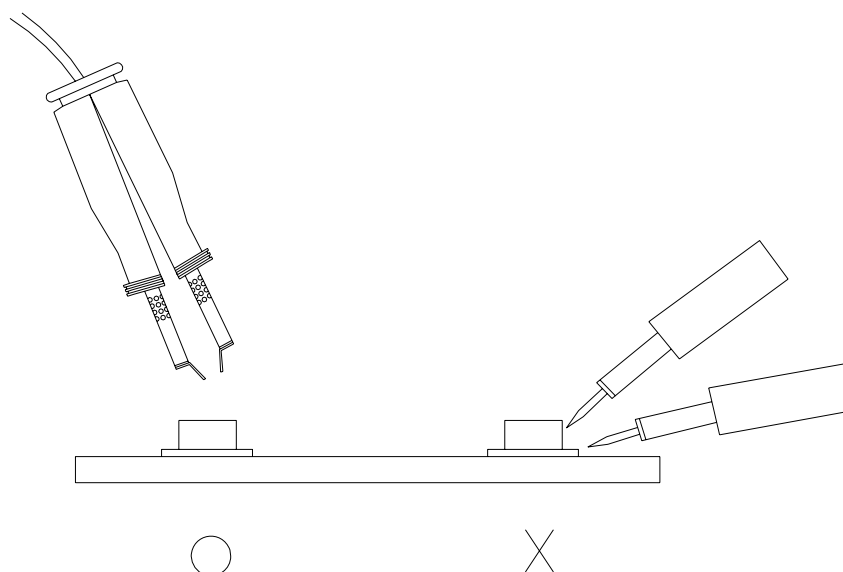
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4. Soldering Iron

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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