

### SMD ▪ Low Power LED 67-11/T7C-FW1W2B2/2T



#### Features

- PLCC-2 package
- Top view white LED
- High luminous intensity output
- Wide viewing angle
- Pb-free.
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH.
- Compliance Halogen Free .(Br<900ppm,Cl<900ppm,Br+Cl<1500ppm)
- Precondition: Bases on JEDEC J-STD 020D Level 3

#### Description

The Everlight 67-11 package has high efficacy, high CRI, low power consumption, wide viewing angle and a compact form factor make this package an ideal LED for all lighting applications.

#### Applications

- General lighting
- Decorative and Entertainment Lighting
- Indicators
- Illumination
- Switch lights

**Absolute Maximum Ratings (T<sub>Soldering</sub>=25°C)**

Parameter	Symbol	Rating	Unit
Forward Current	I <sub>F</sub>	30	mA
Peak Forward Current (Duty 1/10 @10ms)	I <sub>FP</sub>	100	mA
Power Dissipation	P <sub>d</sub>	110	mW
Operating Temperature	T <sub>opr</sub>	-40 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +100	°C
Thermal Resistance (Junction / Soldering point)	R <sub>th J-S</sub>	95	°C/W
Junction Temperature	T <sub>j</sub>	115	°C
Soldering Temperature	T <sub>sol</sub>	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.	

Note:

The products are sensitive to static electricity and must be carefully taken when handling products

**Electro-Optical Characteristics (T<sub>Soldering</sub>=25°C)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>v</sub>	1120	-----	2800	mcd	I <sub>F</sub> =20mA
Forward Voltage	V <sub>F</sub>	2.9	-----	3.6	V	I <sub>F</sub> =20mA
Viewing Angle	2θ <sub>1/2</sub>	-----	120	-----	deg	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>	-----	-----	50	μA	V <sub>R</sub> =5V

Notes:

1. Tolerance of Luminous intensity: ±11%.
2. Tolerance of Forward Voltage : ±0.1V.
3. Tolerance of Color Rendering Index: ±2
4. Tolerance of Chromaticity Coordinates : ±0.01.

**Bin Range of Luminous Intensity**

Bin Code	Min.	Max.	Unit	Condition
W1	1120	1420	mcd	I <sub>F</sub> =20mA
W2	1420	1800		
BA	1800	2240		
BB	2240	2800		

Note:  
 Tolerance of Luminous Intensity: ±11%

**Bin Range of Forward Voltage**

Group	Bin Code	Min.	Max.	Unit	Condition
B2	36	2.90	3.00	V	I <sub>F</sub> =20mA
	37	3.00	3.10		
	38	3.10	3.20		
	39	3.20	3.30		
	40	3.30	3.40		
	41	3.40	3.50		
	42	3.50	3.60		

Note:  
 Tolerance of Forward Voltage: ±0.1V.



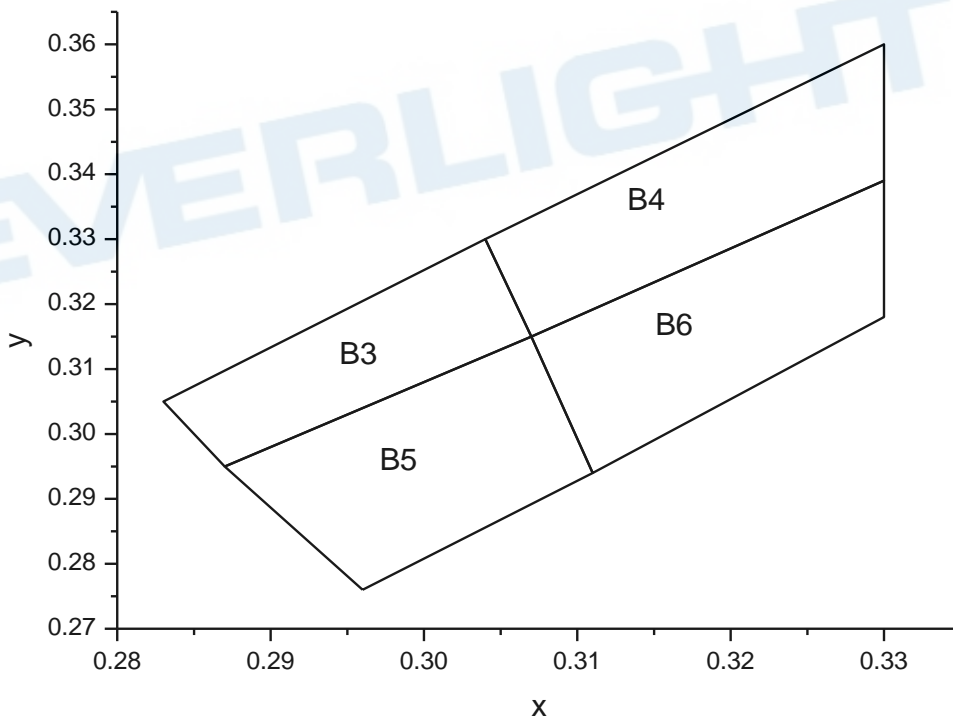
### Bin Range of Chromaticity Coordinate

CCT	Bin Code	CIE_x	CIE_y	Bin Code	CIE_x	CIE_y
<b>F</b>	<b>B3</b>	0.287	0.295	<b>B4</b>	0.307	0.315
		0.283	0.305		0.304	0.33
		0.304	0.330		0.33	0.36
		0.307	0.315		0.33	0.339
	<b>B5</b>	0.296	0.276	<b>B6</b>	0.311	0.294
		0.287	0.295		0.307	0.315
		0.307	0.315		0.330	0.339
		0.311	0.294		0.330	0.318

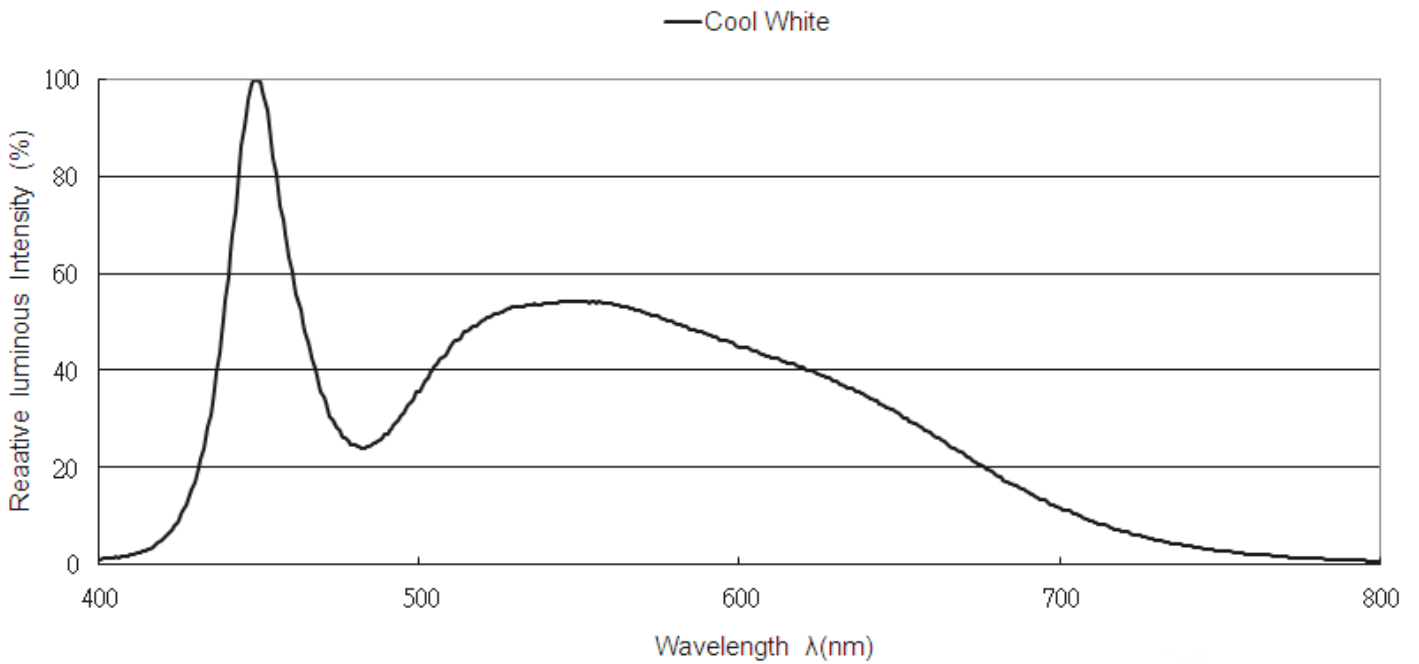
Notes:

1. The value are based on driving current by 20mA.
2. Tolerance of Chromaticity Coordinates :  $\pm 0.01$ .

### The C.I.E. 1931 Chromaticity Diagram



Spectrum Distribution



Typical Electro-Optical Characteristics Curves

Fig.1 - Forward Voltage Shift vs. Junction Temperature

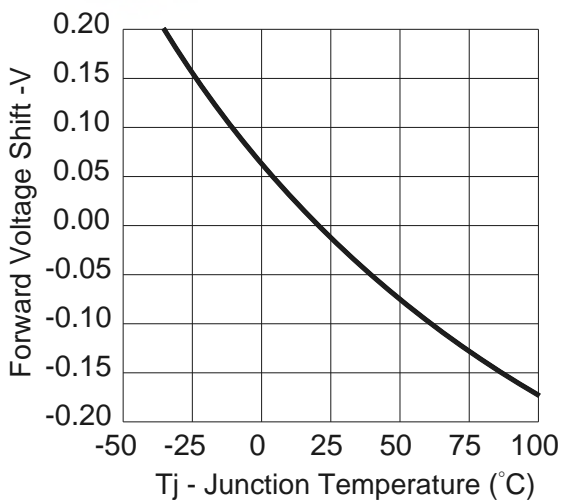
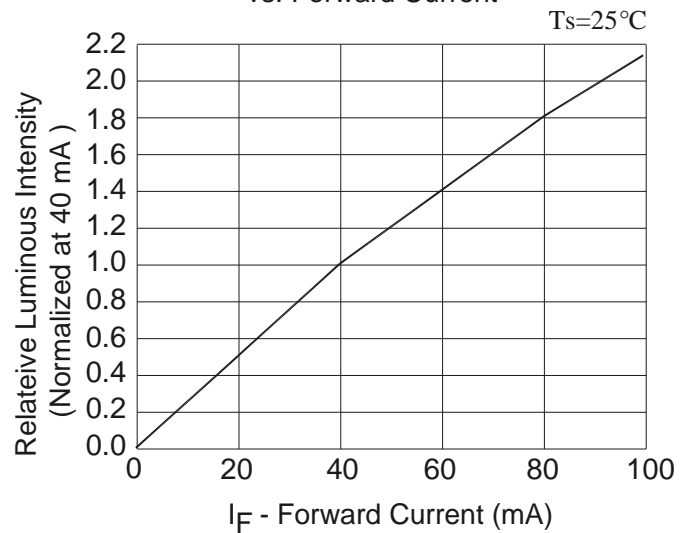


Fig.2 - Relative Luminous Intensity vs. Forward Current



Typical Electro-Optical Characteristics Curves

Fig.3 - Relative Luminous Intensity vs. Junction Temperature

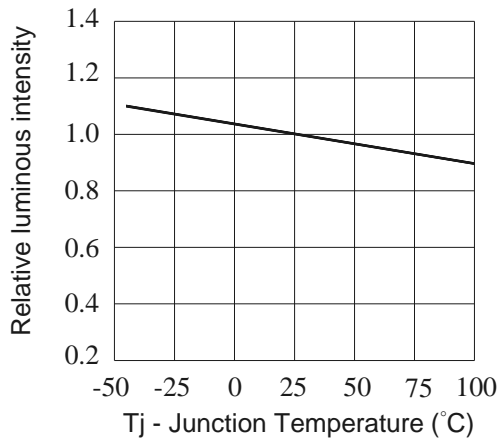


Fig.4 - Forward Current vs. Forward Voltage

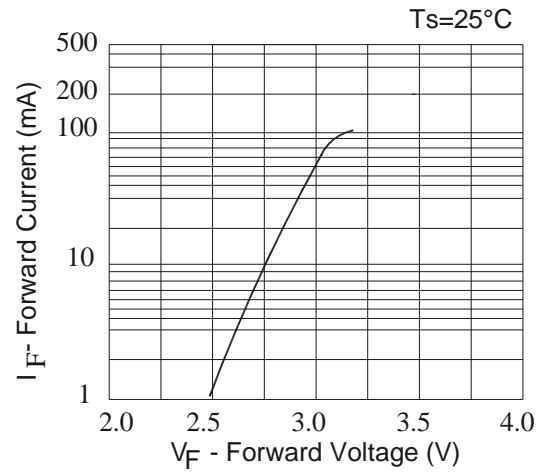


Fig.5 - Max. Driving Forward Current vs. Soldering Temperature

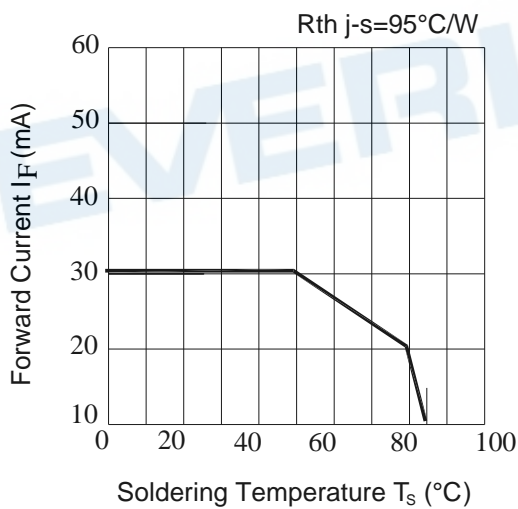
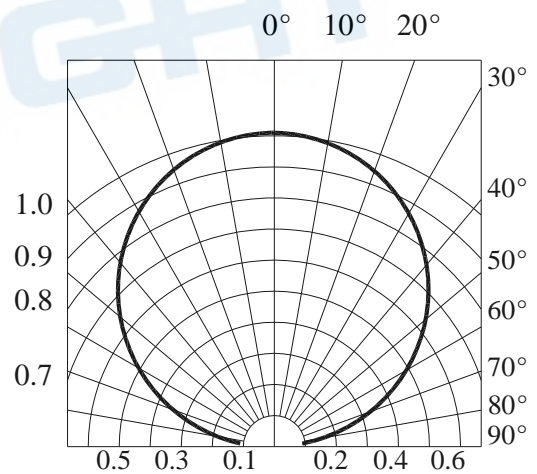
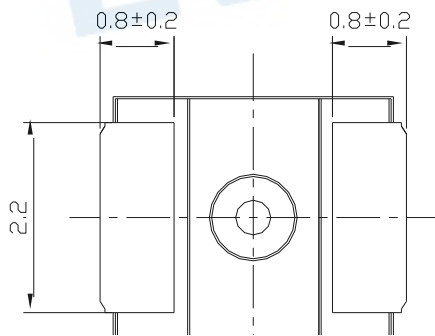
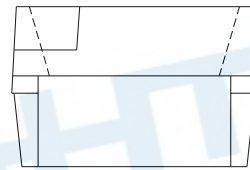
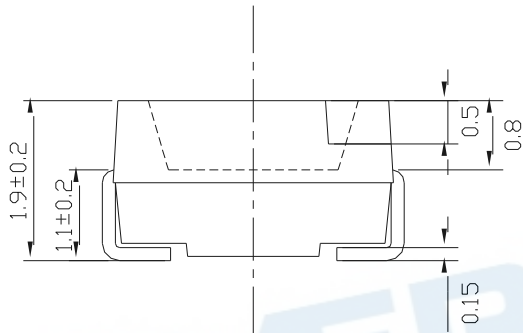
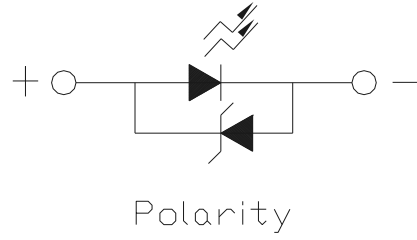
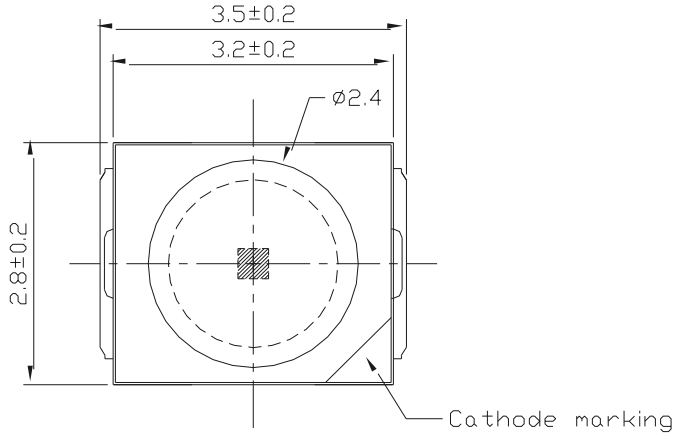


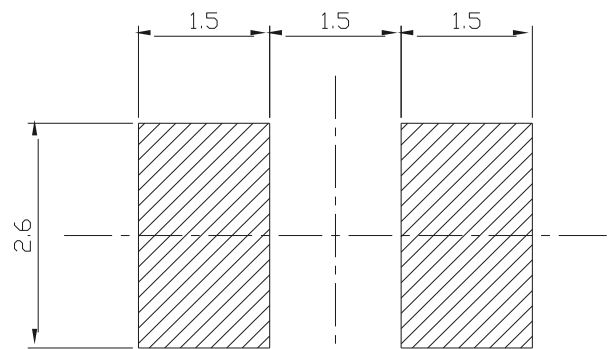
Fig.6 - Radiation Diagram



Package Dimension



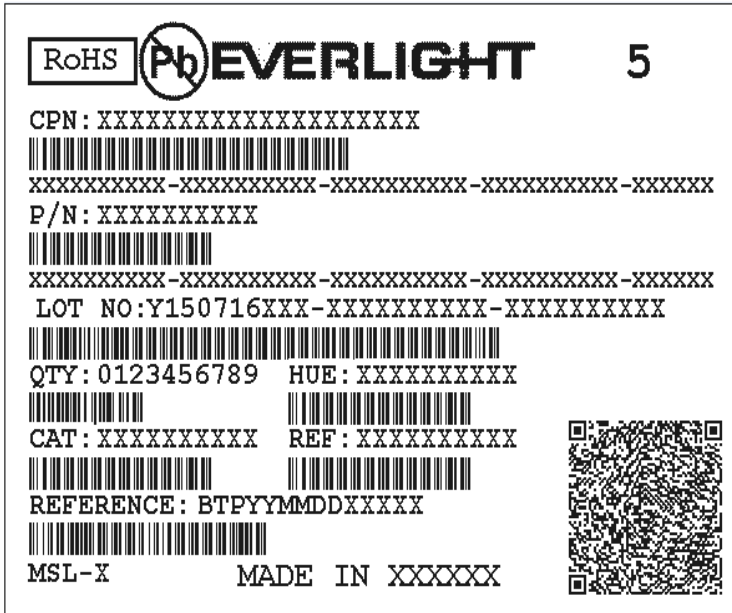
Recommended Solder Pad



Note:  
Tolerance unless mentioned is  $\pm 0.2$ mm; Unit = mm

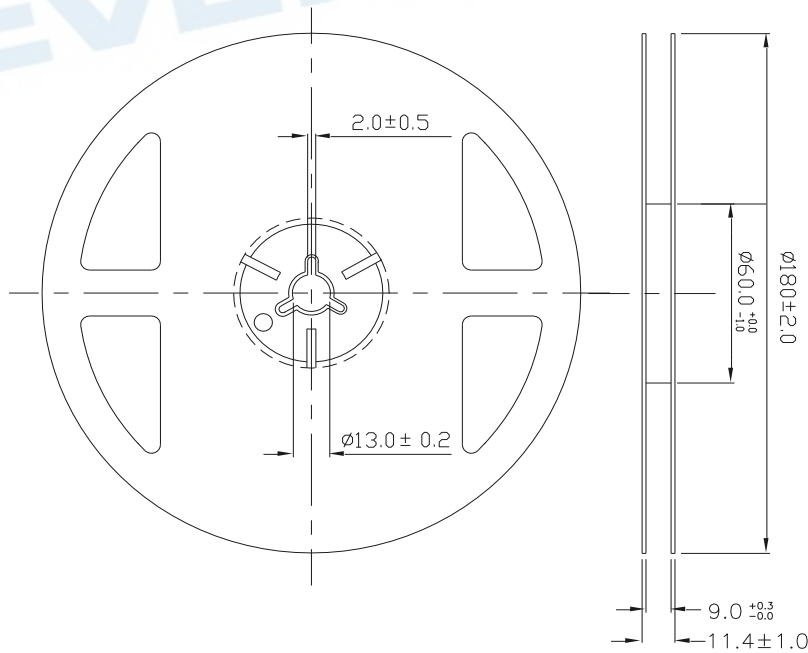
Moisture Resistant Packing Materials

Label Explanation



- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

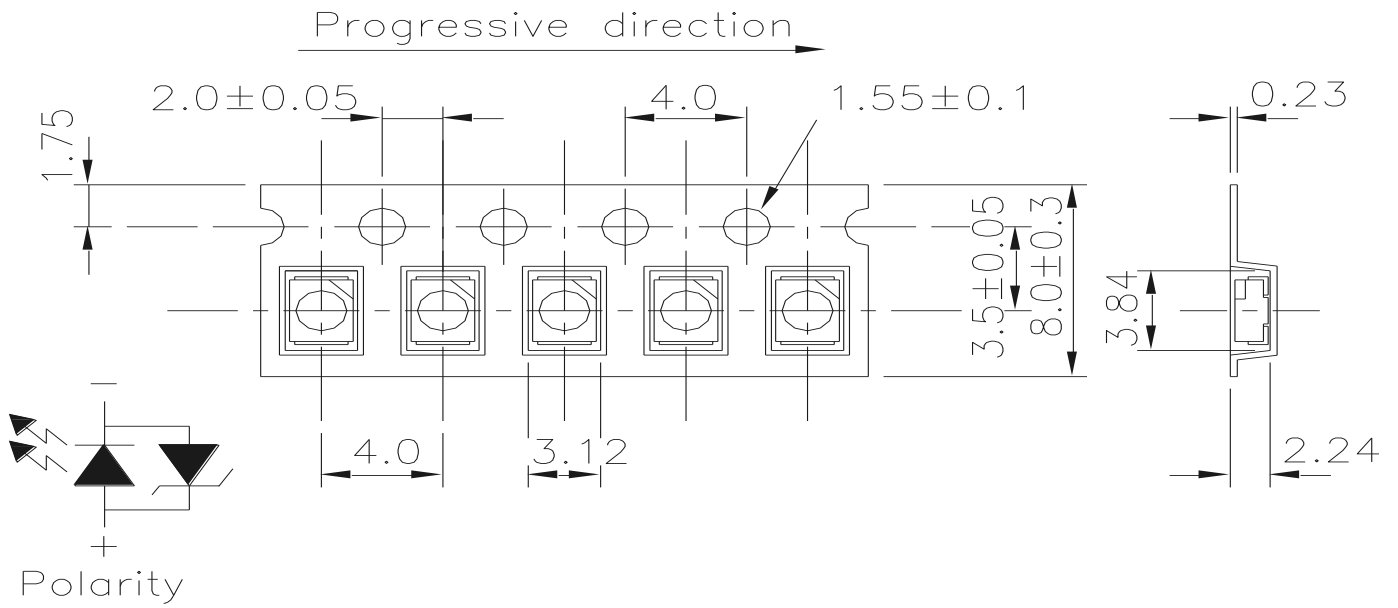
Reel Dimensions



Note:  
 Tolerances unless mentioned  $\pm 0.1$  mm. Unit = mm



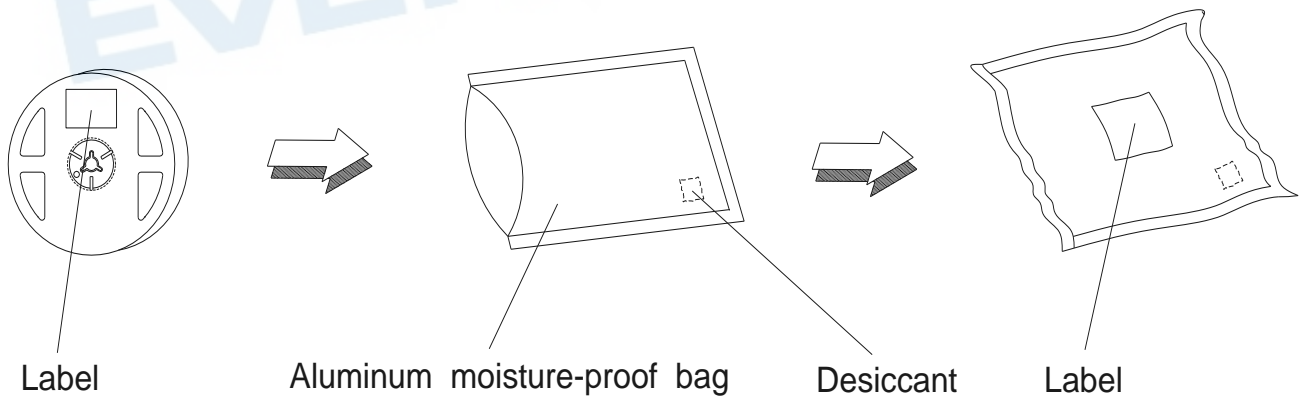
Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



Note:

1. Tolerance unless mentioned is  $\pm 0.1$ mm; Unit = mm
2. Minimum packing amount is 250/500/1000/2000 pcs per reel.

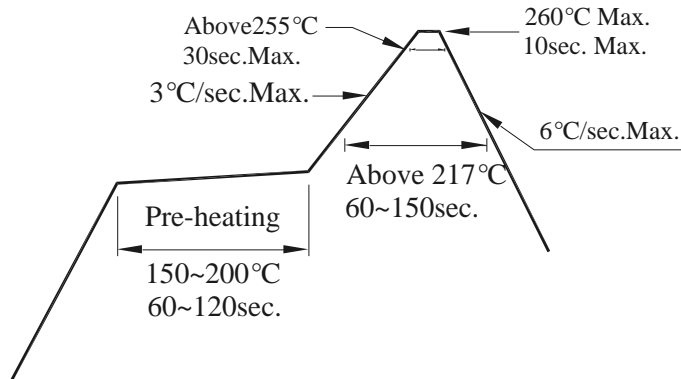
Moisture Resistant Packing Process



## Precautions for Use

### 1. Over-current-proof

1.1 Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change ( Burn out will happen ).



### 2. Storage

2.1 Moisture proof bag should only be opened immediately prior to usage.

2.2 Environment should be less than 30°C and 60% RH when moisture proof bag is opened.

2.3 After opening the package MSL Conditions stated on page 1 of this spec should not be exceeded.

2.4 If the moisture sensitivity card indicates higher than acceptable moisture, the component should be baked at min. 60deg +/-5deg 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.

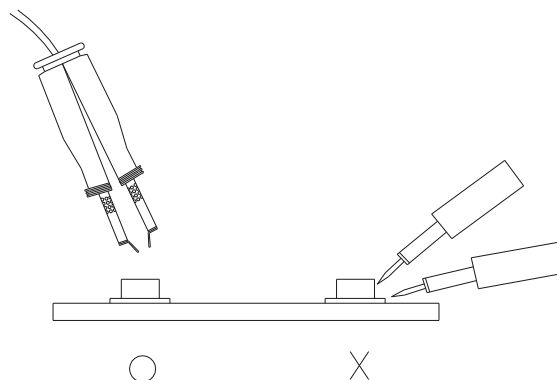
3.4 After soldering, do not warp the circuit board.

### 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.



## DISCLAIMER

1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
4. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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