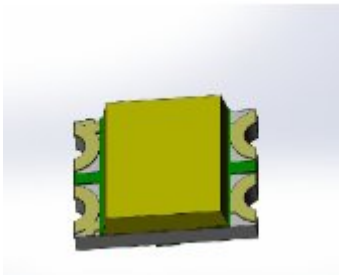
EVERLIGHT AMERICAS

DATASHEET

SMD ▪ B

EAST1613RWA0



Features

- Package in 8mm tape on 7″ diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Mono-color type.
- Pb-free.
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm).

Description

- The SMD LED is much smaller than lead frame type components, thus enable smaller board ize, higher packing density, reduced storage space and finally smaller equipment to be obtained.

- Besides, lightweight makes them ideal for miniature applications. etc.

Applications

- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.

Device Selection Guide

Chip Type	Chip Materials	Emitted Color	Resin Color
R7	AlGaInP	Dark - Red	Yellow Diffused
T3	InGaN	Pure White	Yellow Diffused

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	R7：25 T3：20	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	R7：60 T3：100	mA
Power Dissipation	Pd	R7：60 T3：75	mW
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +90	℃

Electrostatic Discharge	ESD_{HBM}	R7：2000 T3：150	V
Soldering Temperature	T_{sol}	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	Iv	R7：57 T3：225	----- -----	112 450	mcd	I_F =20mA
Viewing Angle	$2\theta_{1/2}$	-----	130	-----	deg	I_F =20mA
Peak Wavelength	λp	R7：----- T3：-----	639 -----	----- -----	nm	I_F =20mA
Dominant Wavelength	λd	R7：-----	631	-----	nm	I_F =20mA

		T3：-----	-----	-----		
Spectrum Radiation Bandwidth	△λ	R7：----- T3：-----	20 -----	----- -----	nm	I_F =20mA
Forward Voltage	V_F	R7：1.7 T3：2.7	2.0 3.3	2.4 3.7	V	I_F =20mA
Reverse Current	I_R	R7：----- T3：-----	----- -----	10 50	μA	V_R =5V

Note:

1.Tolerance of Luminous Intensity: ±11%

R7

Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
P2	57	72	mcd	I_F =20mA
Q1	72	90		
Q2	90	112		

T3

Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
S2	225	285	mcd	I_F =20mA
T1	285	360		
T2	360	450		

Note:

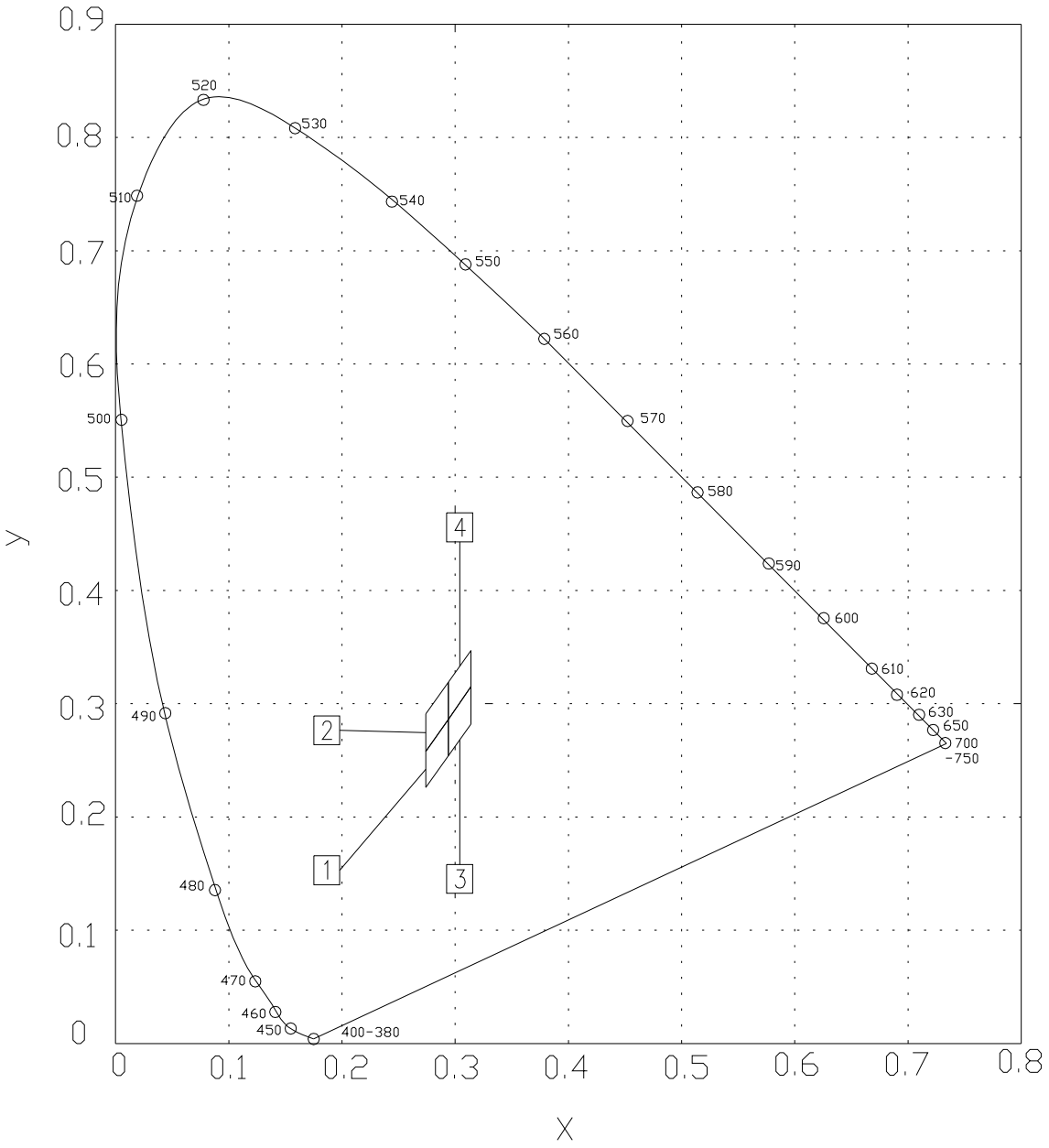
1.Tolerance of Luminous Intensity: ±11%

Chromaticity Coordinates Specifications for Bin Grading

Bin Code	CIE_x	CIE_y	Condition
1	0.274	0.226	I_F =20mA
	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	

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.

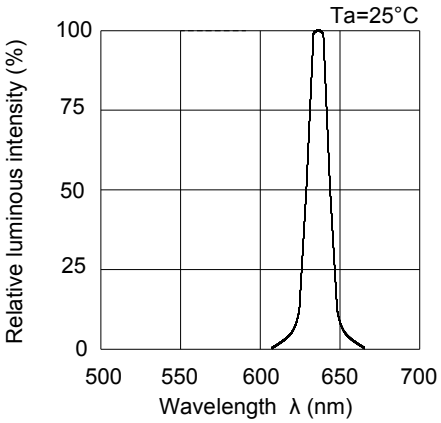
CIE Chromaticity Diagram



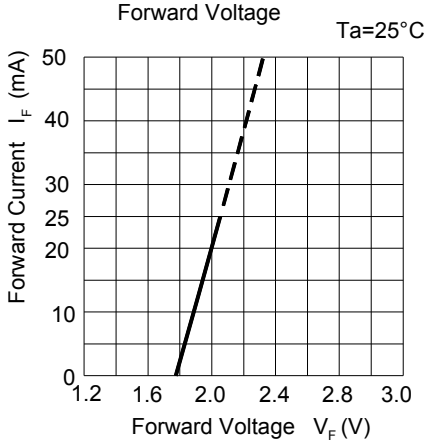
Typical Electro-Optical Characteristics Curves

R7

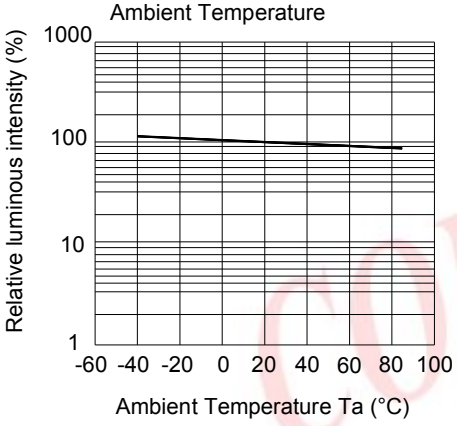
Spectrum Distribution



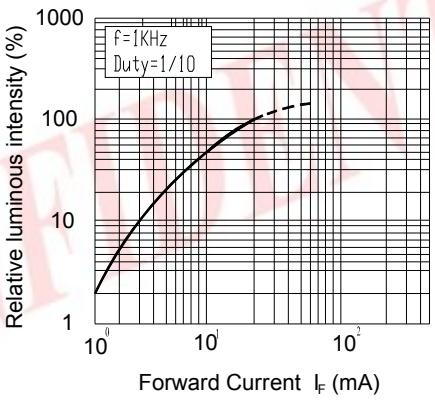
Forward Current vs. Forward Voltage



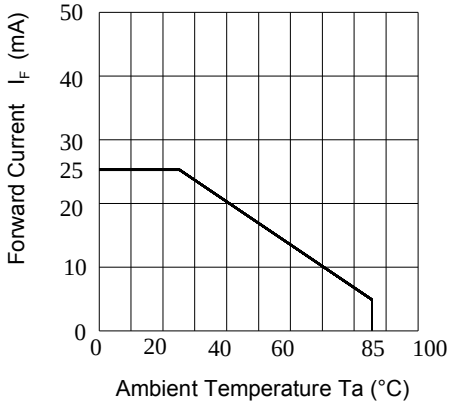
Luminous Intensity vs. Ambient Temperature



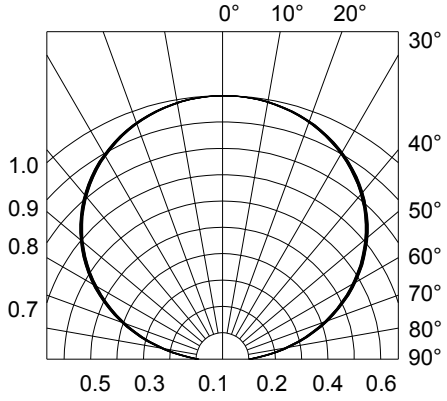
Luminous Intensity vs. Forward Current



Forward Current Derating Curve

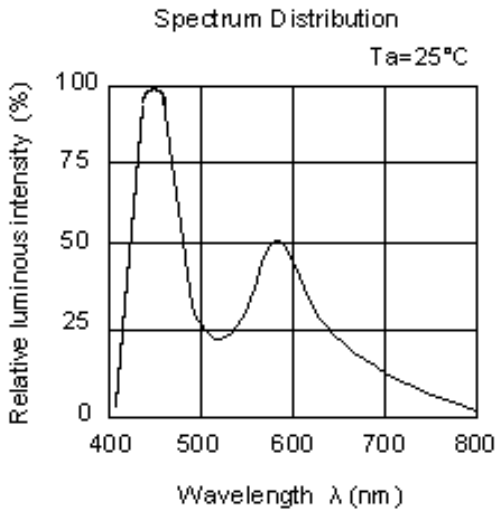


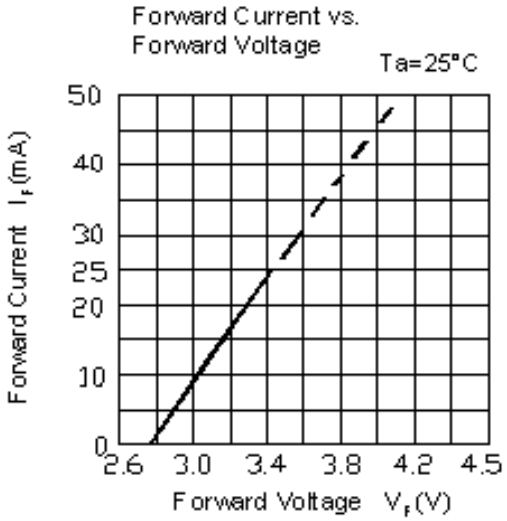
Radiation Diagram

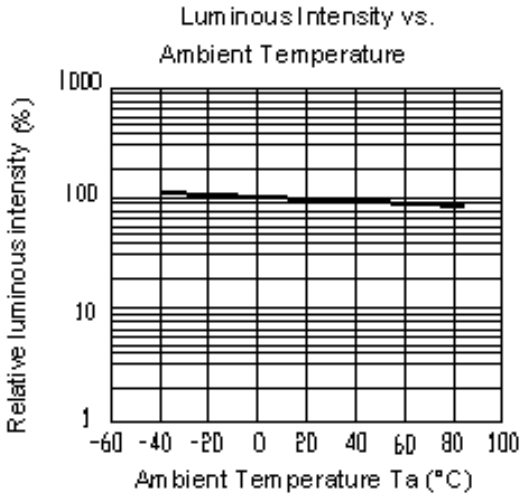


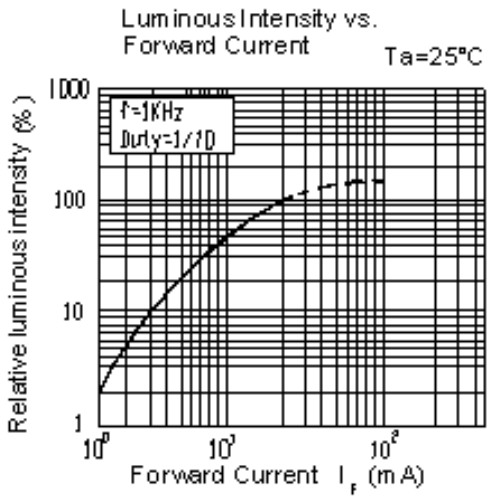
Typical Electro-Optical Characteristics Curves

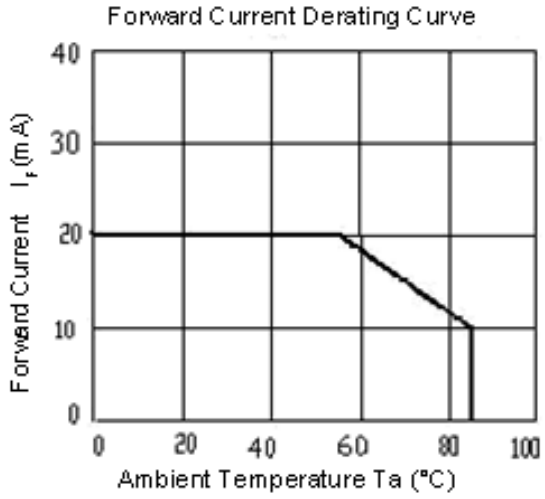
T3

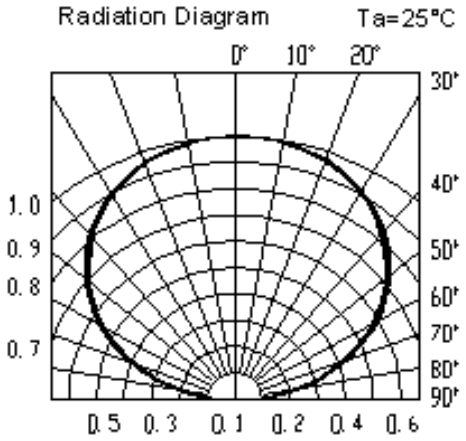




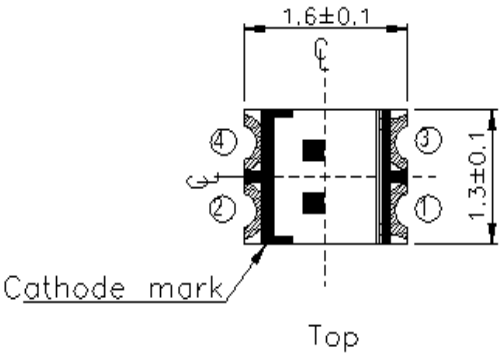




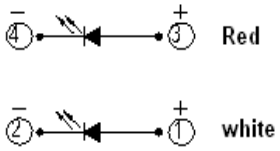




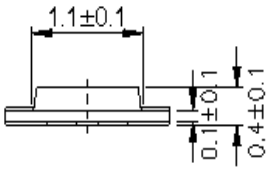
Package Outline Dimensions



Top

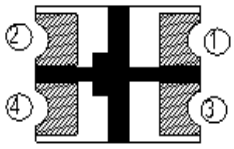


Polarity

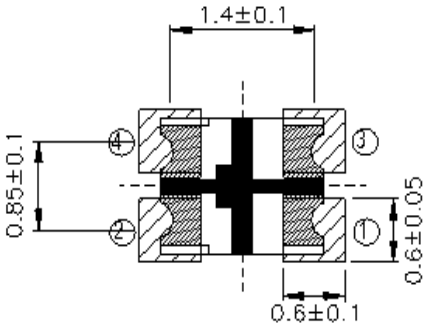


Side

Recommend soldering pad



Bottom



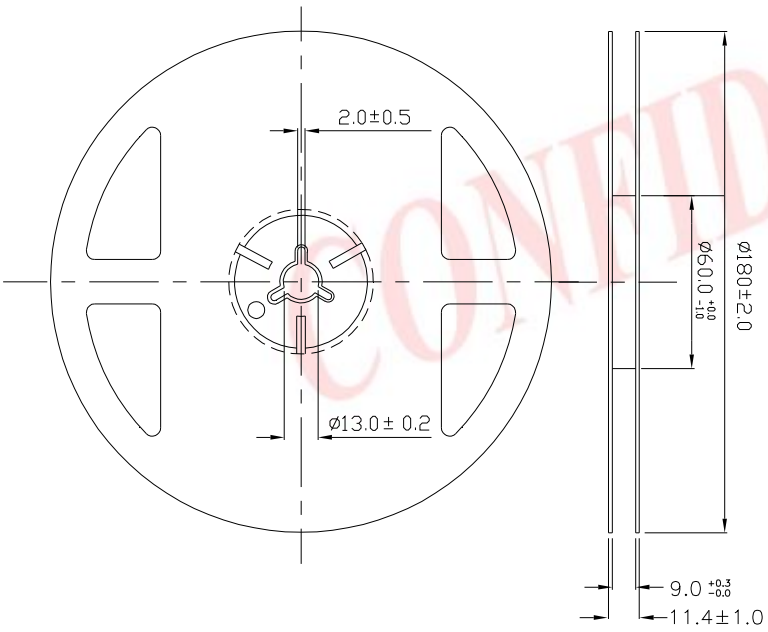
Suggested pad dimension is just for reference only.
Please modify the pad dimension based on individual need.

Note: Tolerances unless mentioned ±0.1mm. Unit = mm
Suggested pad dimension is just for reference only.
Please modify the pad dimension based on individual need.

Label Explanation

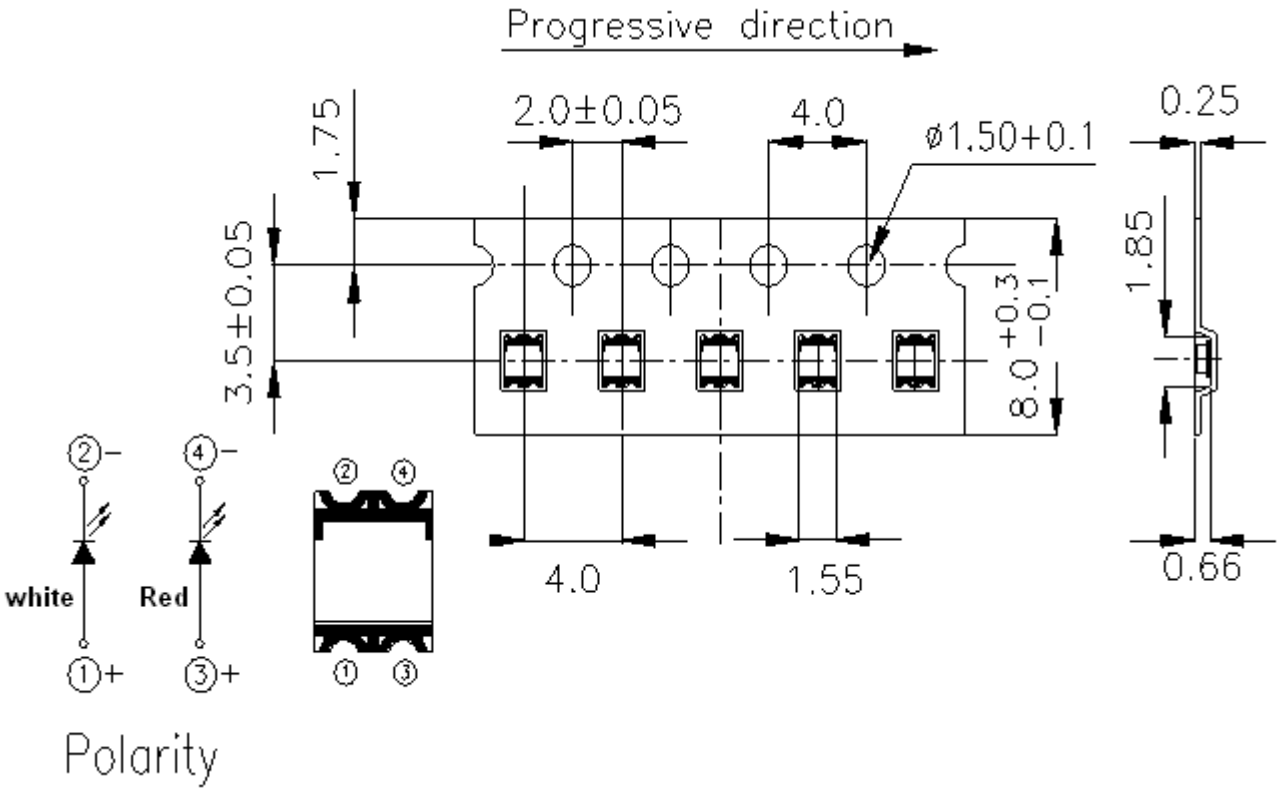
- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Chromaticity Coordinates & Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

Reel Dimensions



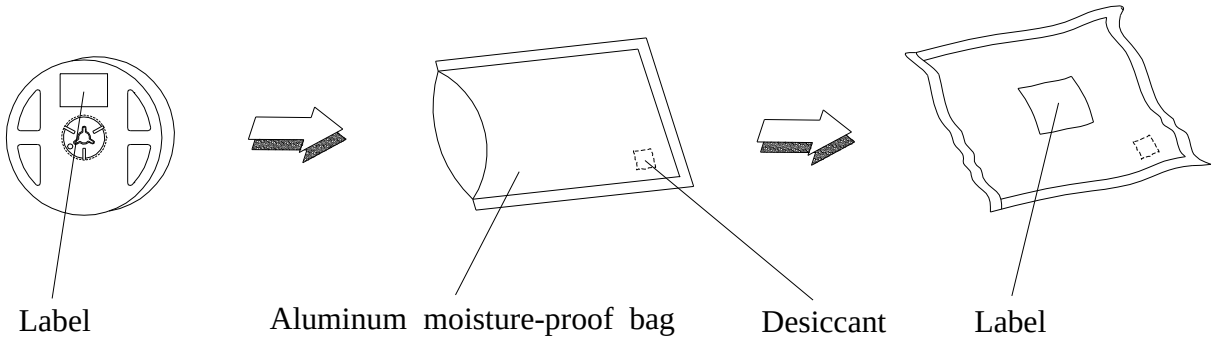
Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Carrier Tape Dimensions: Loaded quantity 2000 PCS per reel



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

Moisture Resistant Packaging



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 After opening the package: The LEDs should be kept at 30°C or less and 60%RH or less.

2.3 The LED's should be used within 168 hours(7 days) after opening the package

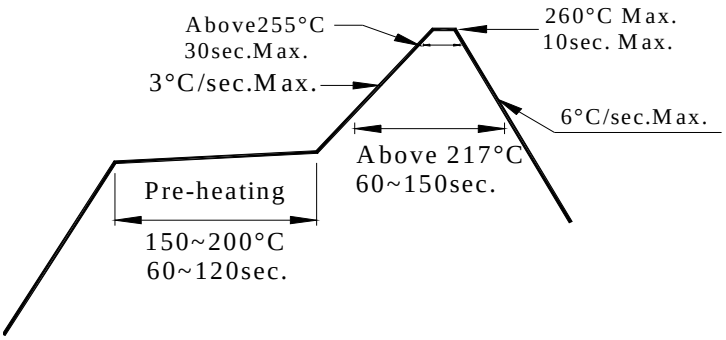
If unused LEDs remain, it should be stored in moisture proof packages.

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℃ 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.

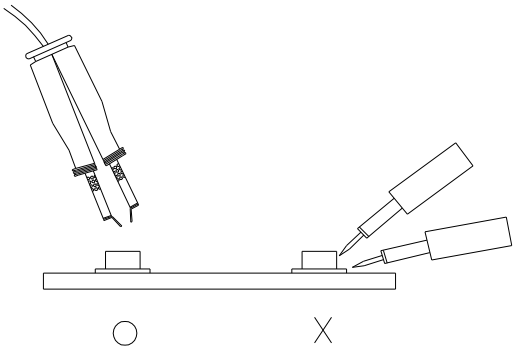
3.4 After soldering, do not warp the circuit board.

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.

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.



Application Restrictions

High reliability applications such as military/aerospace, automotive safety/security systems, and medical equipment may require different product. If you have any concerns, please contact everlightamericas before using this product in your application. This specification guarantees the quality and performance of the product as an individual component. Do not use this product beyond the specification described in this document.