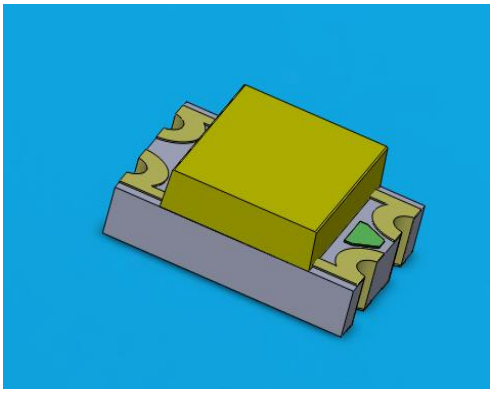
EVERLIGHT AMERICAS

DATASHEET

SMD ▪ B

EAPL3227RWA0



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, highe 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

Code	Chip Materials	Emitted Color	Resin Color
R8	AlGaInP	Deep-Red	Yellow Diffused
T1	InGaN	Pure White	

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Code	Rating	Unit
Reverse Voltage	V_R		5	V
Forward Current	I_F	R8	25	mA
		T1	10	
eak Forward Current (Duty 1/10 @1KHz)	I_{FP}	R8	60	mA
		T1	100	
Power Dissipation	Pd	R8	60	mW
		T1	40	
Electrostatic Discharge	ESD_{HBM}	R8	2000	V
		T1	150	
Operating Temperature	T_{opr}		-40 ~ +85	℃
Storage Temperature	Tstg		-40 ~ +90	℃
Soldering Temperature	Tsol		Reflow Soldering : 260 ℃ for 10 sec. Hand Soldering : 350 ℃ for 3 sec.	

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Code	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	R8	4.50	-----	11.5	mcd	
		T1	36.0	-----	90.0		
Viewing Angle	$2\theta_{1/2}$		-----	150	-----	deg	
Peak Wavelength	λ p	R8	-----	650	-----	nm	
		T1	-----	-----	-----		
Dominant Wavelength	λ d	R8	629.5	-----	645.5	nm	I_F=2mA
		T1	-----	-----	-----		
Spectrum Radiation Bandwidth	△λ	R8	-----	20	-----	nm	
		T1	-----	-----	-----		
Forward Voltage	V_F	R8	1.55	-----	2.15	V	
		T1	2.50	-----	3.50		
Reverse Current	I_R	R8	-----	-----	10	μA	V_R=5V
		T1	-----	-----	50		

Note:
1.Tolerance of Luminous Intensity: ±11%
2. Tolerance of Dominant Wavelength: ±1nm

R8

Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
J0	4.50	7.20	mcd	I_F =2mA
K0	7.20	11.5		

Bin Range of Dominant Wavelength

Bin Code	Min.	Max.	Unit	Condition
E7	629.5	633.5	nm	I_F =2mA
E8	633.5	637.5		
E9	637.5	641.5		
E10	641.5	645.5		

Note:
1.Tolerance of Luminous Intensity: ±11%
2. Tolerance of Dominant Wavelength: ±1nm

T1

Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
NA	36.0	57.0	mcd	I_F =2mA
PA	57.0	90.0		

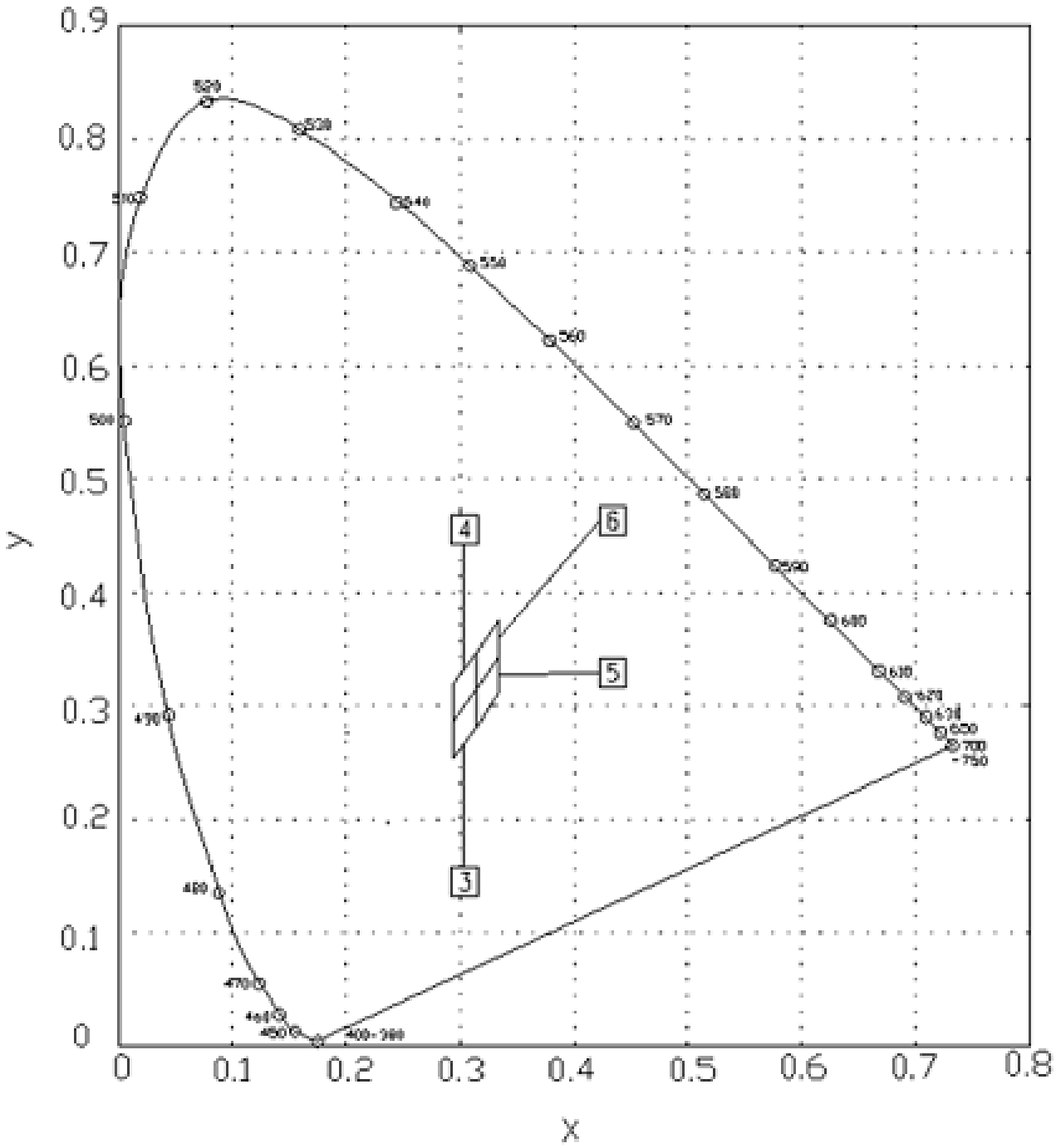
Note:
1.Tolerance of Luminous Intensity: ±11%

Chromaticity Coordinates Specifications for Bin Grading

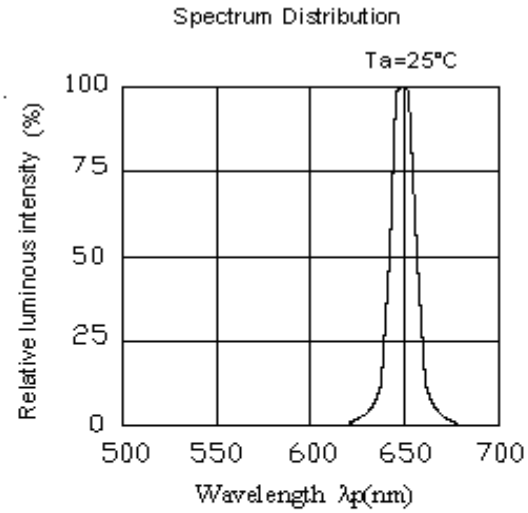
Bin Code	CIE_x	CIE_y	Condition
3	0.294	0.254	I_F =2mA
	0.294	0.286	
	0.314	0.315	
	0.314	0.282	
4	0.294	0.286	
	0.294	0.319	
	0.314	0.347	
	0.314	0.315	
5	0.314	0.282	
	0.314	0.315	
	0.334	0.343	
	0.334	0.311	
6	0.314	0.315	
	0.314	0.347	
	0.334	0.376	
	0.334	0.343	

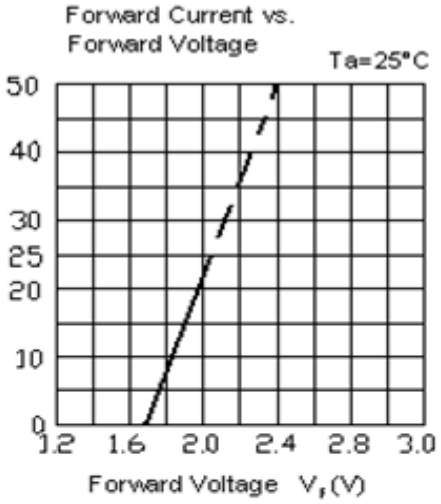
Notes:
1.The C.I.E. 1931 chromaticity diagram (Tolerance ±0.01).
2.The products are sensitive to static electricity and care must be fully taken when handling products.

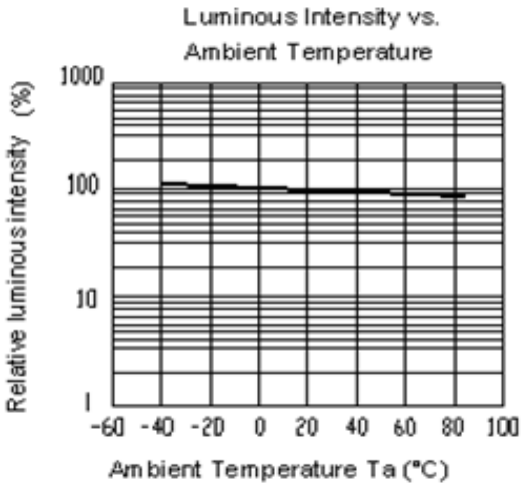
CIE Chromaticity Diagram

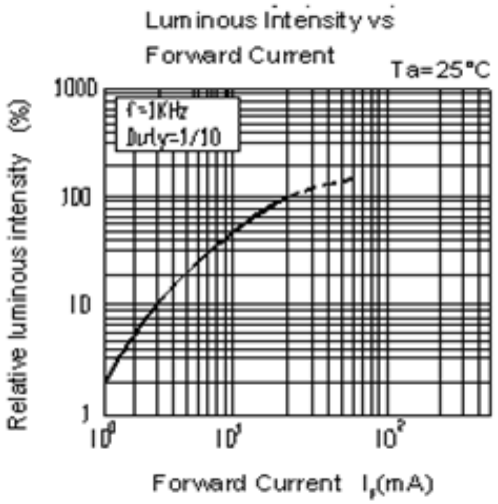


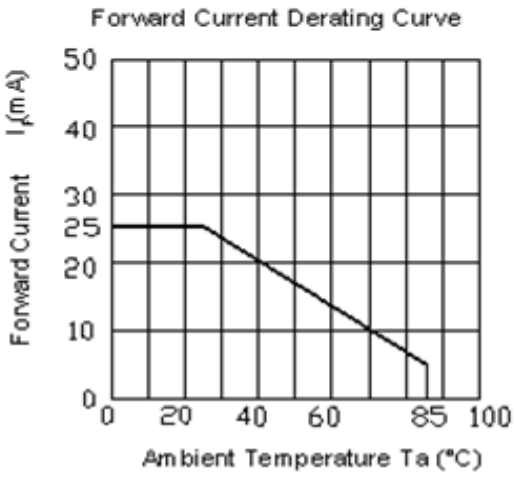
Typical Electro-Optical Characteristics Curves
R8

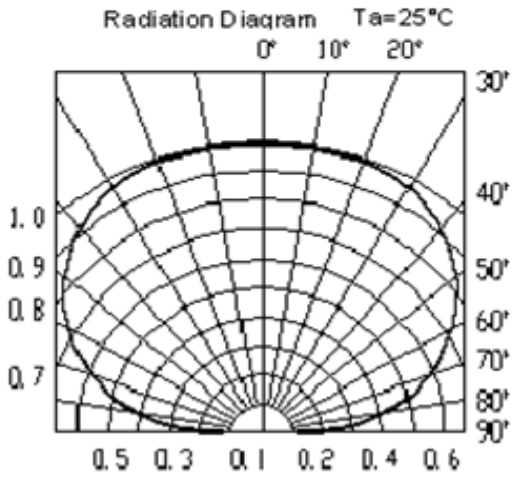




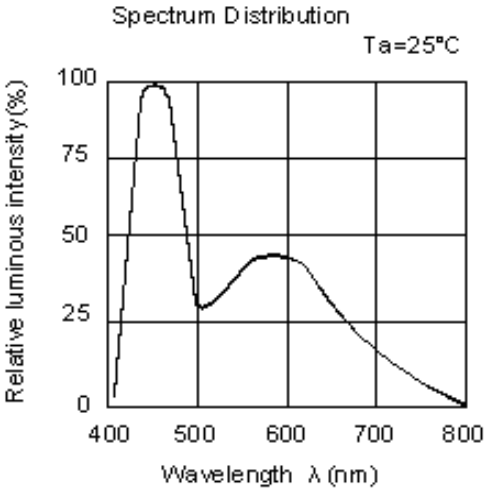


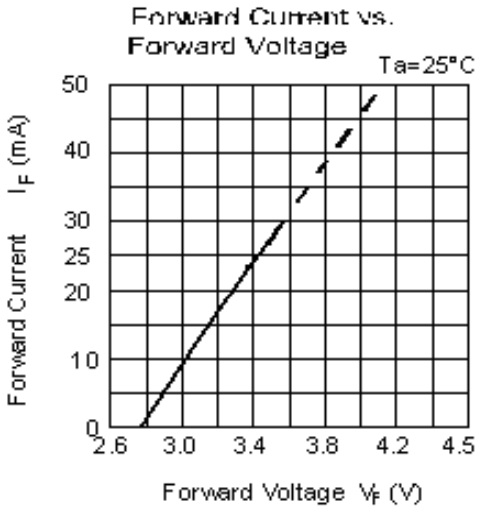


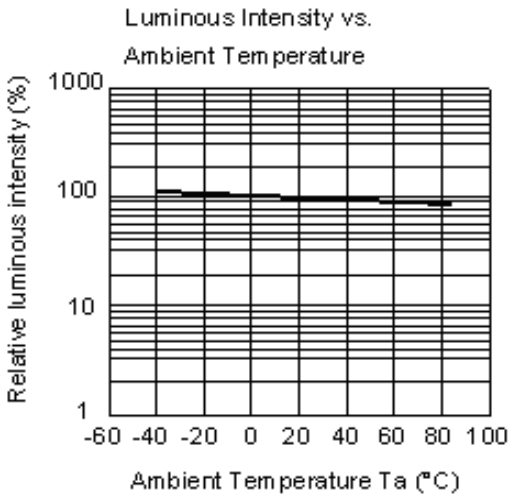


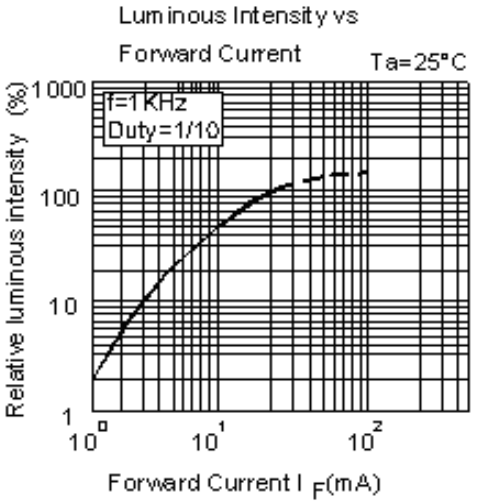


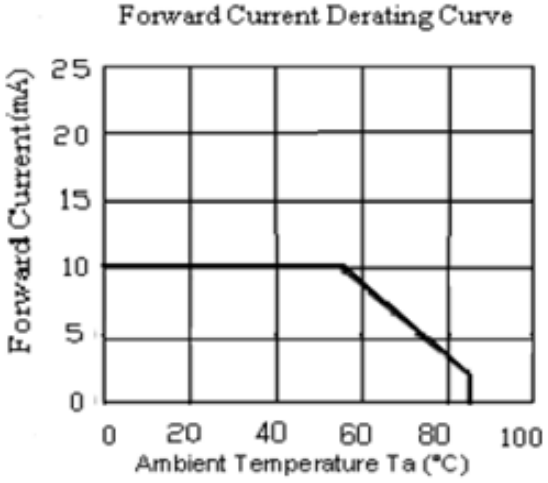
Typical Electro-Optical Characteristics Curves
T1

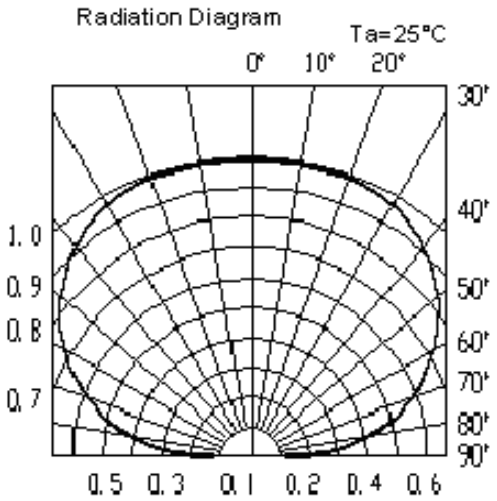




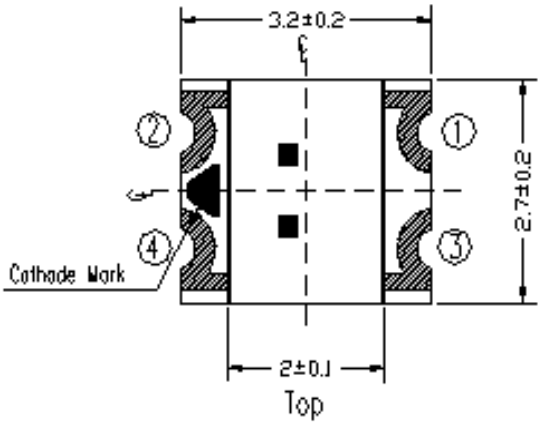


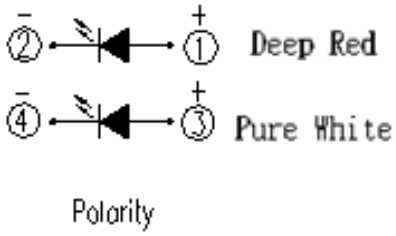


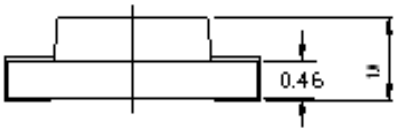


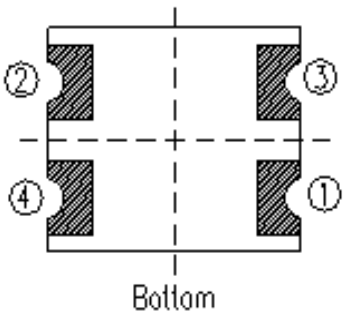


Package Dimension

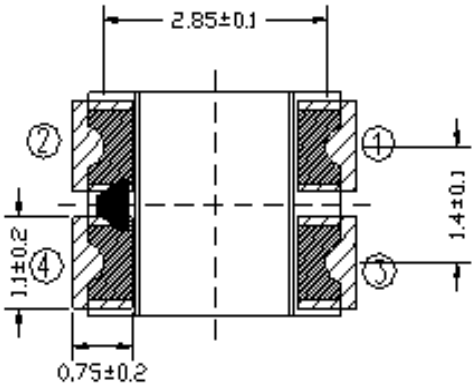








Recommend soldering pad

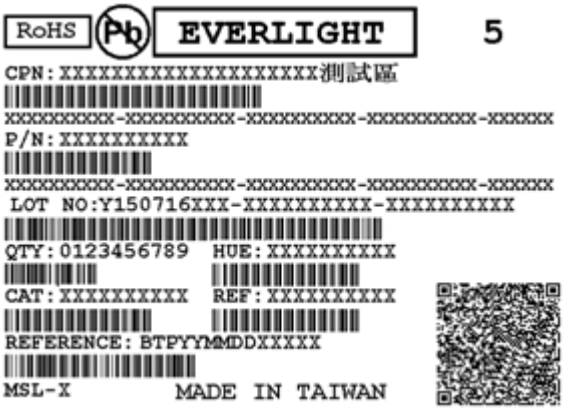


Suggested pad dimension is just for reference only.
Please modify the pad dimension based on individual need.

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

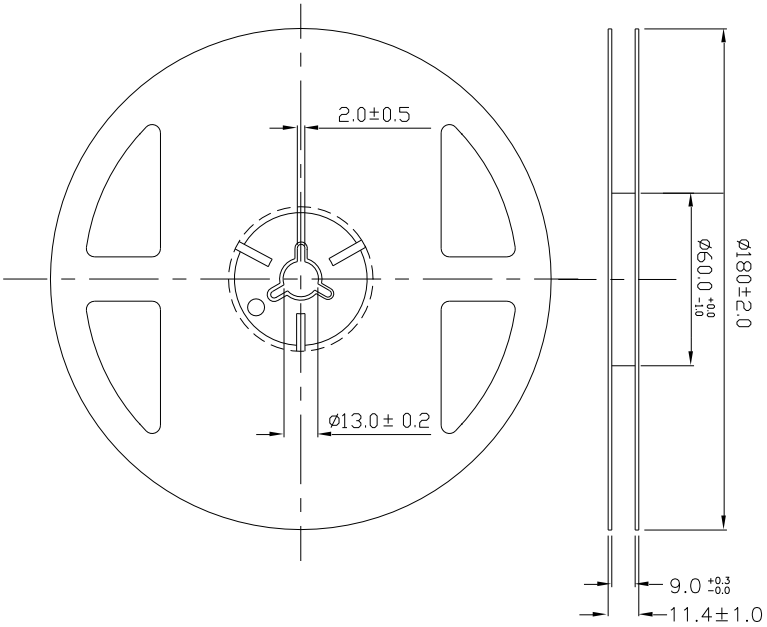
Moisture Resistant Packing Materials

Label Explanation

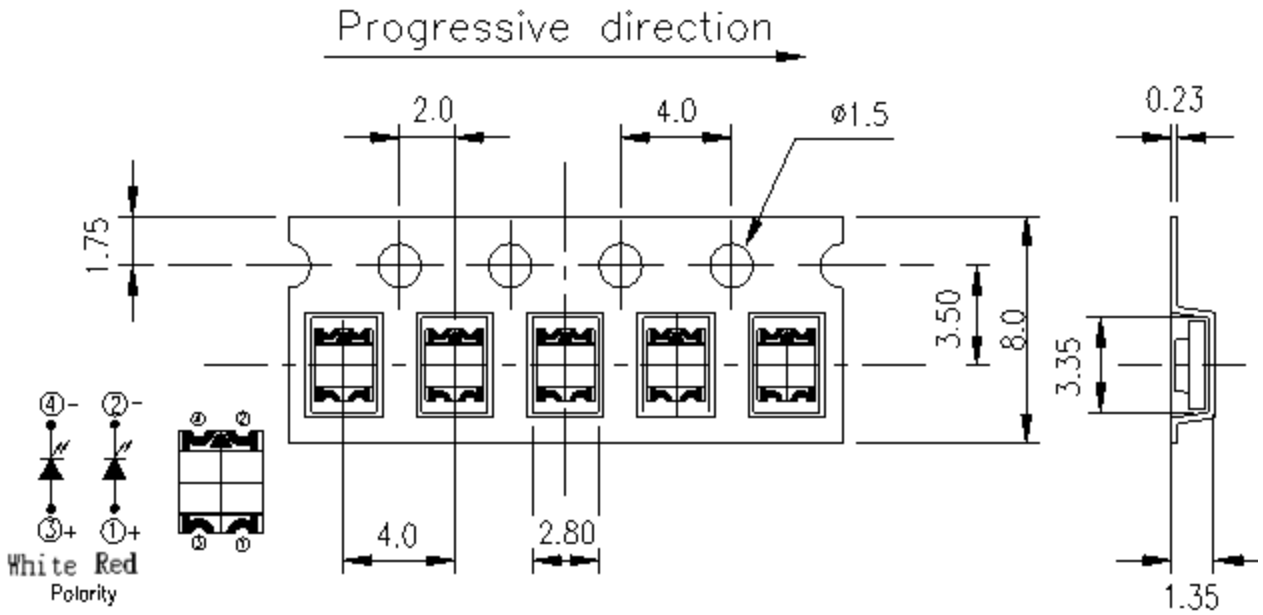


- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Chromaticity Coordinates & Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

Reel Dimensions

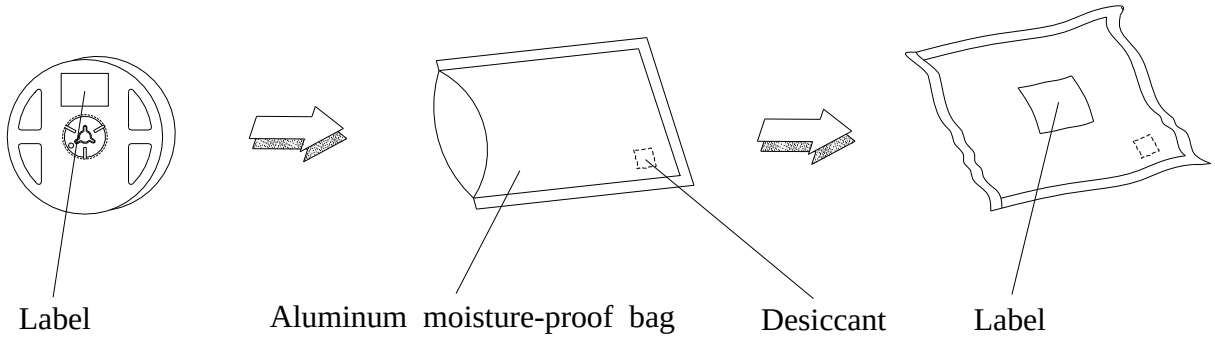


Carrier Tape Dimensions: Loaded quantity 2000 PCS per reel



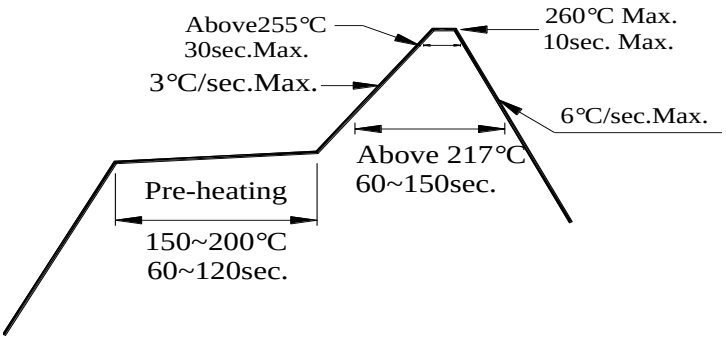
Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Moisture Resistant Packaging



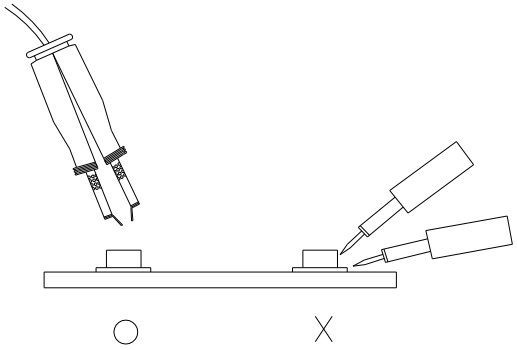
Precautions For Use

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℃ 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.