

SMD- Top view LEDs 67-11U-BUTP-A9U1V2A7E-2T8-CS



Features

- Fluorescence Type
- High Luminous Intensity
- High Efficiency
- Precondition: Bases on JEDEC J-STD 020D Level 3
- 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)

Descriptions

- The white LED which was fabricated using a blue LED and a phosphor, and the phosphor is excited by blue light and emits yellow fluorescence. The mixture of blue light and yellow light results in a white emission.

Applications

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

Device Selection Guide

Chip Materials	Emitted Color	Resin Color
InGaN	Ice Blue	Slightly green dotted

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}	60	mA
Power Dissipation	P _d	114	mW
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +90	°C
ESD	ESD _{HBM}	500	V
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	450	---	1120	mcd	I _F =20mA
Viewing Angle	2θ _{1/2}	---	120	---	deg	I _F =20mA
Forward Voltage	V _F	2.70	---	3.80	V	I _F =20mA

Notes:

1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Chromaticity Coordinates: ±0.01
3. Tolerance of Forward Voltage: ±0.1V

Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
U1	450	560	mcd	$I_F = 20\text{mA}$
U2	560	710		
V1	710	900		
V2	900	1120		

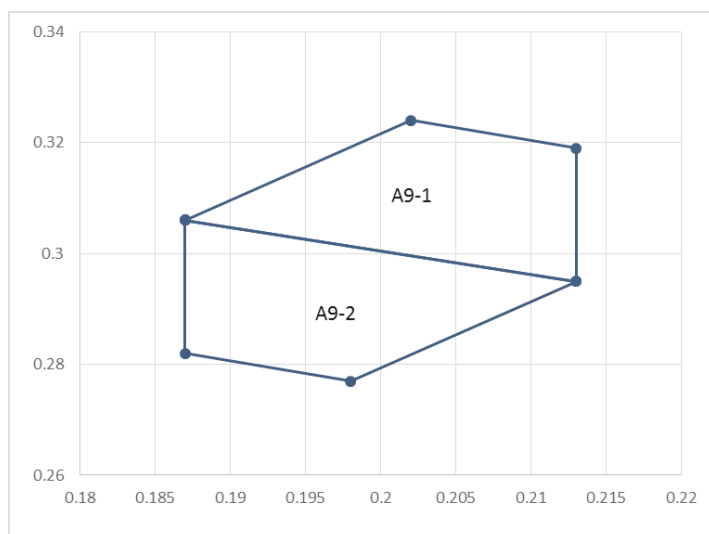
Note:
Tolerance of Luminous Intensity: $\pm 11\%$

Chromaticity Coordinates Specifications for Bin Grading

Bin Code	CIE_x	CIE_y	Condition
A9-1	0.187	0.306	$I_F = 20\text{mA}$
	0.213	0.295	
	0.213	0.319	
	0.202	0.324	
A9-2	0.187	0.306	
	0.187	0.282	
	0.198	0.277	
	0.213	0.295	

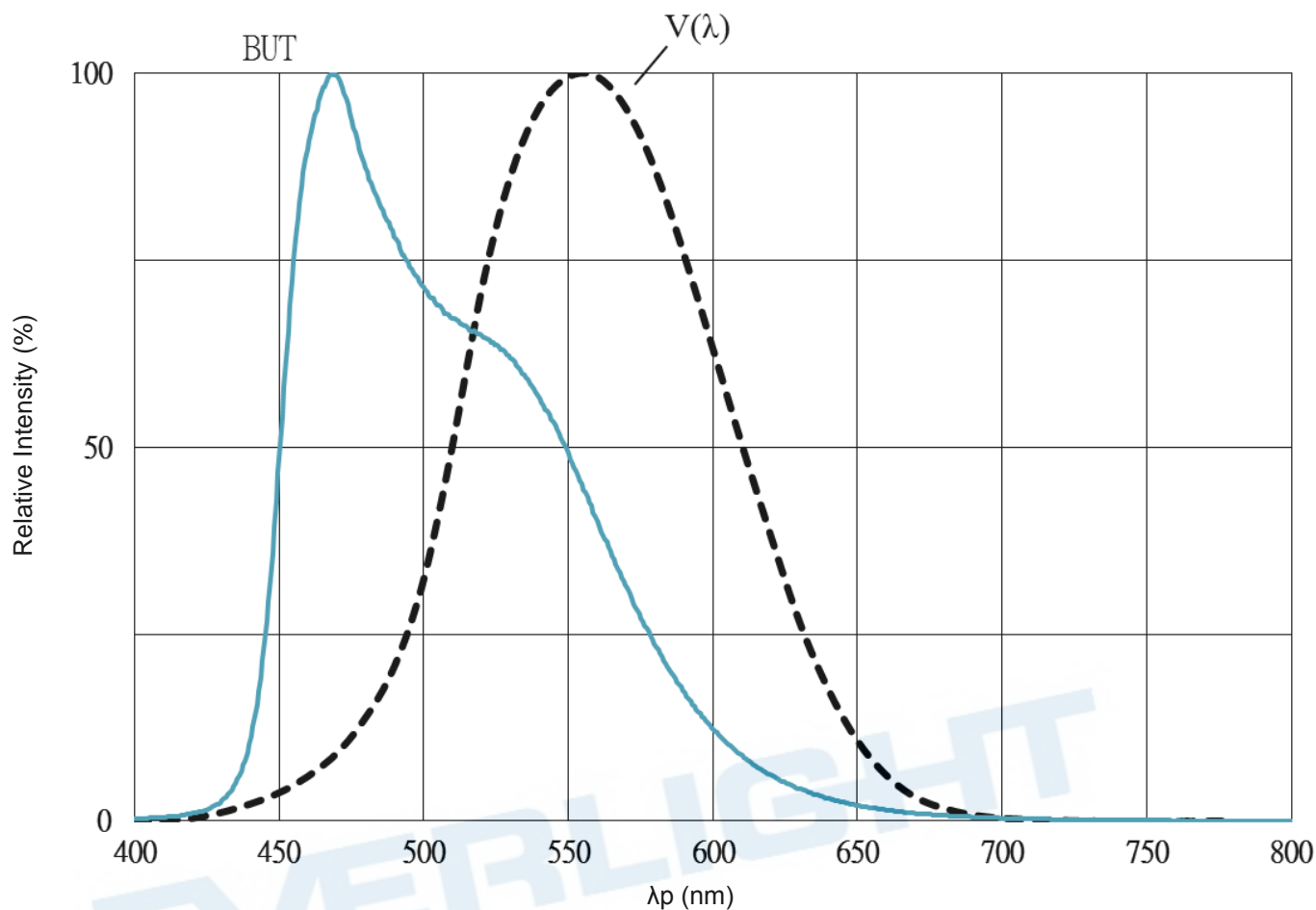
Note: Tolerance of Chromaticity Coordinates: ± 0.01 .

The C.I.E. 1931 Chromaticity Diagram



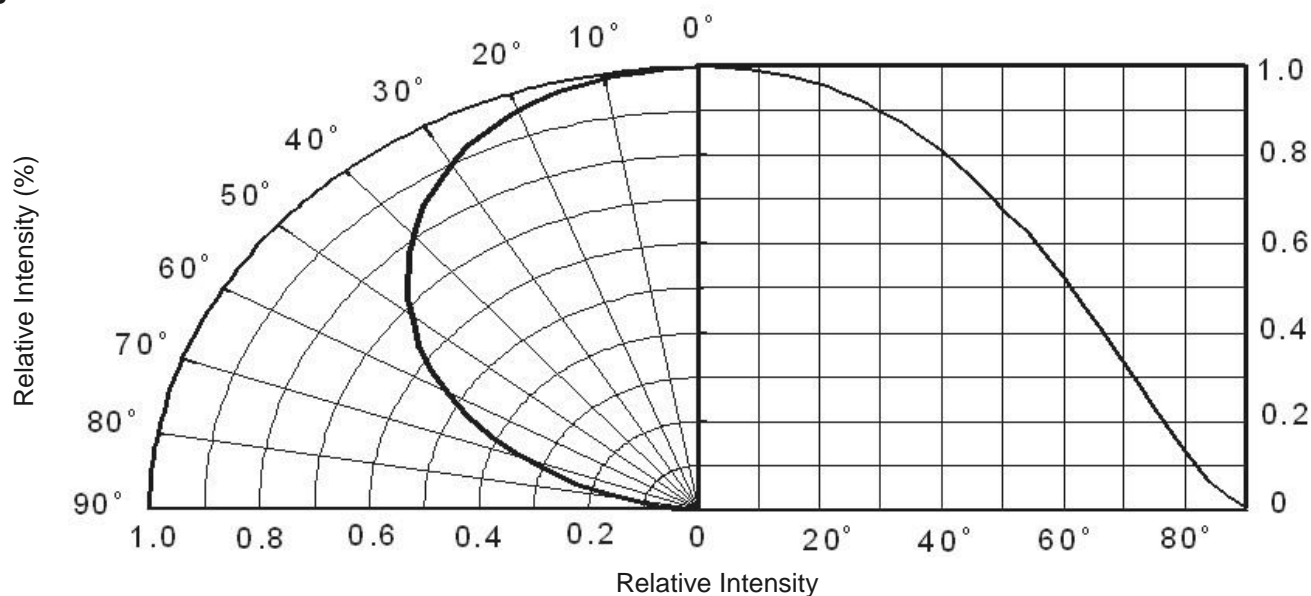
Typical Electro-Optical Characteristics Curves

Typical Curve of Spectral Distribution



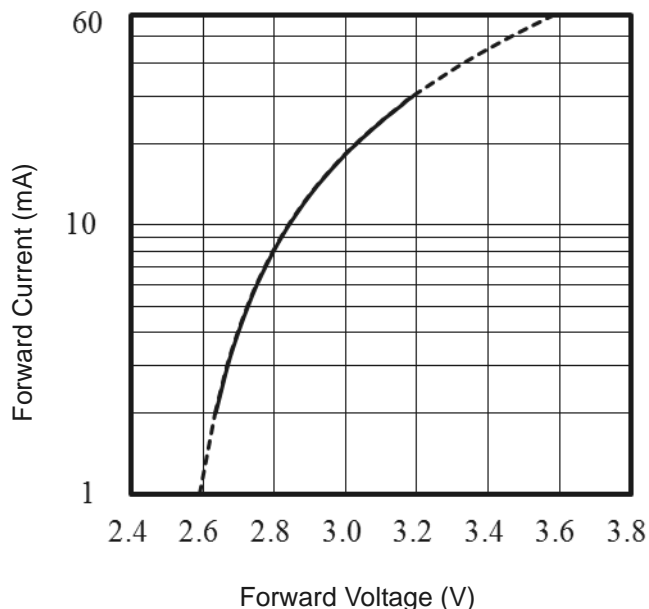
Note: $V(\lambda)$ =Standard eye response curve; $I_F = 20\text{mA}$

Diagram Characteristics of Radiation

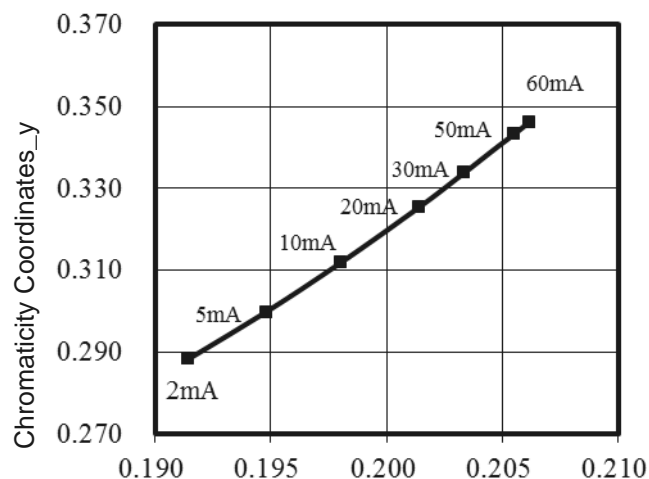


Typical Electro-Optical Characteristics Curves

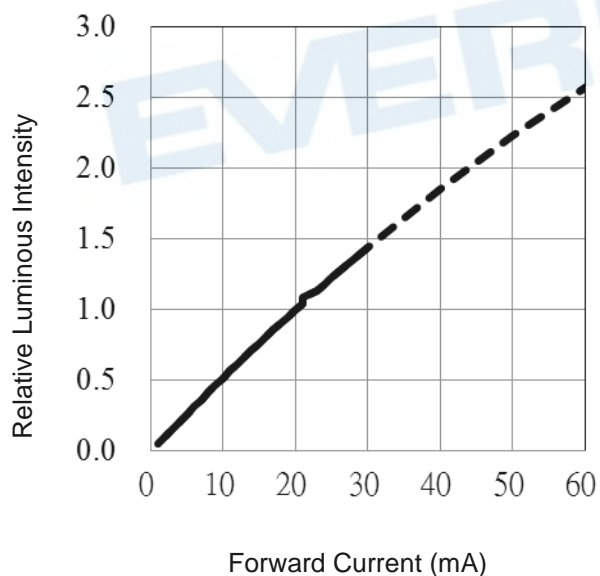
Forward Current vs. Forward Voltage
(Ta=25°C)



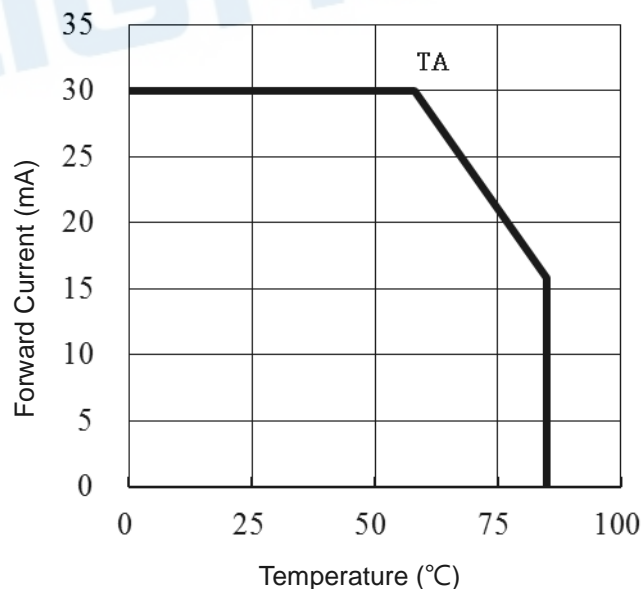
Chromaticity Coordinates vs. Forward Current
(Ta=25°C)



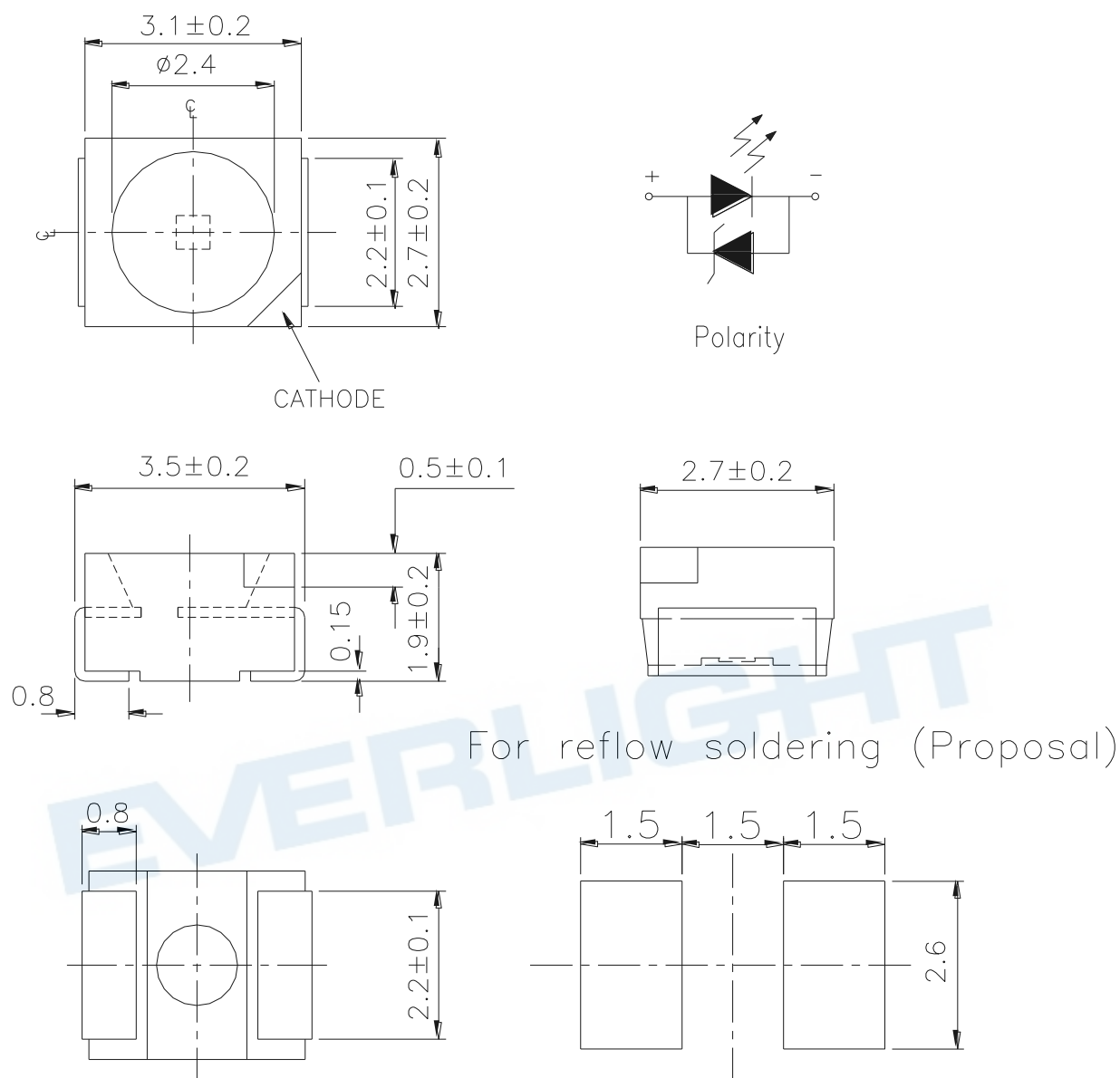
Relative Luminous Intensity vs. Forward Current
(Ta=25°C)



Chromaticity Coordinates_x
Max. Permissible Forwarded Current
(Ta=25°C)



Package Dimension



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

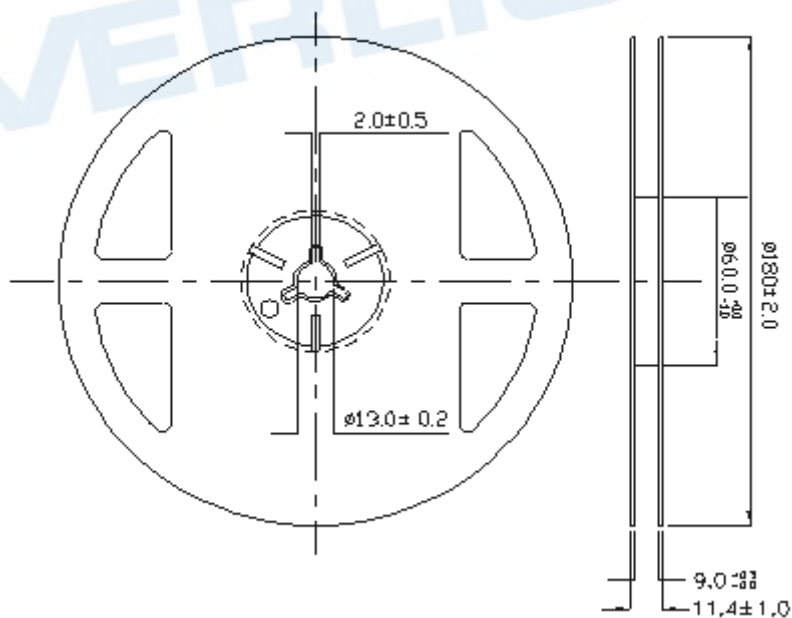
Moisture Resistant Packing Materials

Label Explanation

RoHS	Pb	EVERLIGHT	5
CPN : XXXXXXXXXXXXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX			
P/N : XXXXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX			
LOT NO:Y150716XXX-XXXXXXXXXX-XXXXXXXXXX			
QTY: 0123456789 HUE: XXXXXXXXXXXX			
CAT: XXXXXXXXXXXX		REF: XXXXXXXXXXXX	
REFERENCE: BTPYMMDDXXXXX			
MSL-X		MADE IN XXXXXX	

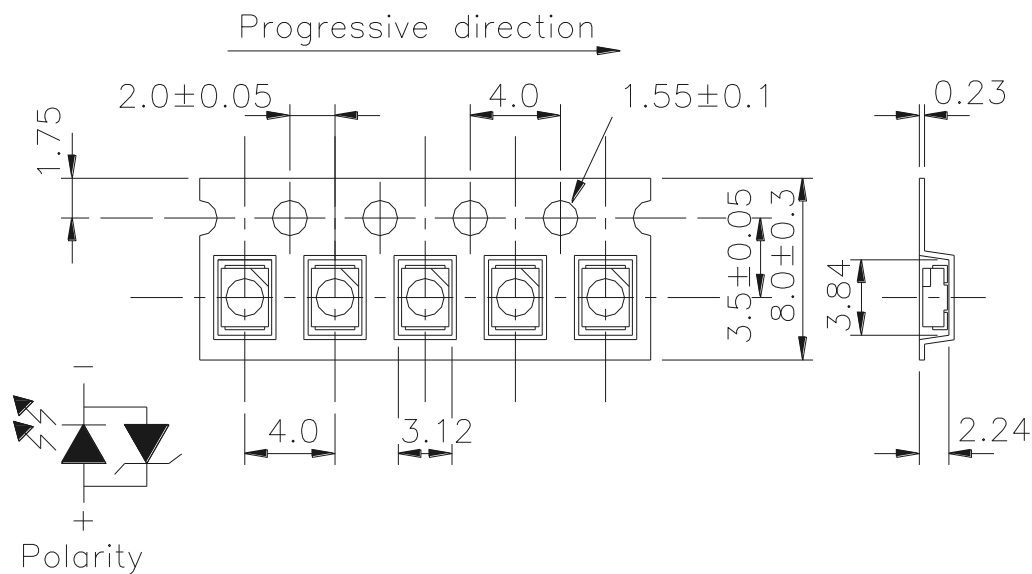
- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

Reel Dimensions



Note: Tolerance unless mentioned is ± 0.1 mm; Unit = mm

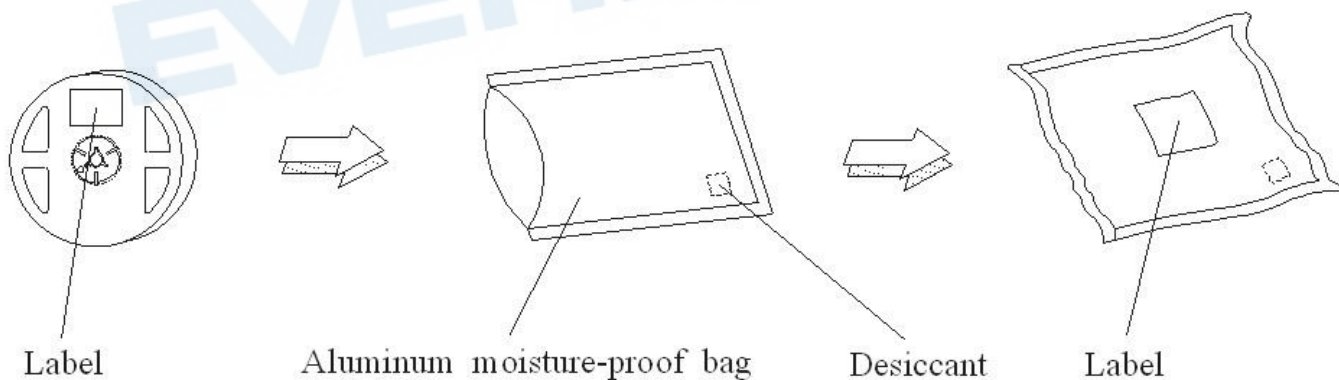
Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



Note:

1. Tolerances unless mentioned ± 0.1 mm. Unit = mm
2. Minimum packing amount is 250/500/1000/2000 pcs per reel

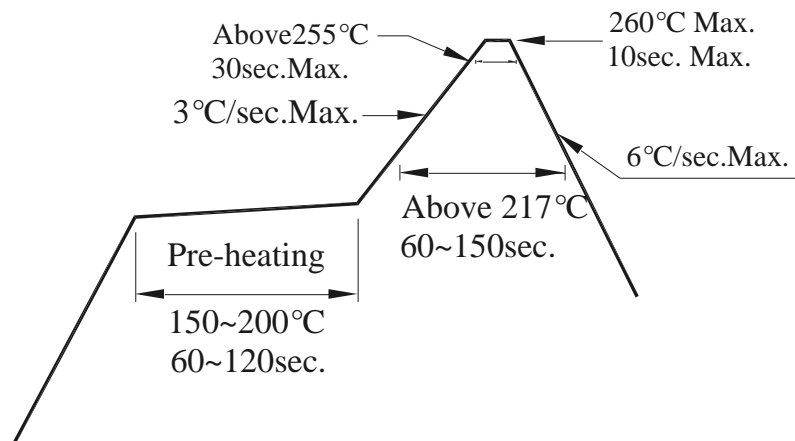
Moisture Resistant Packing Process



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

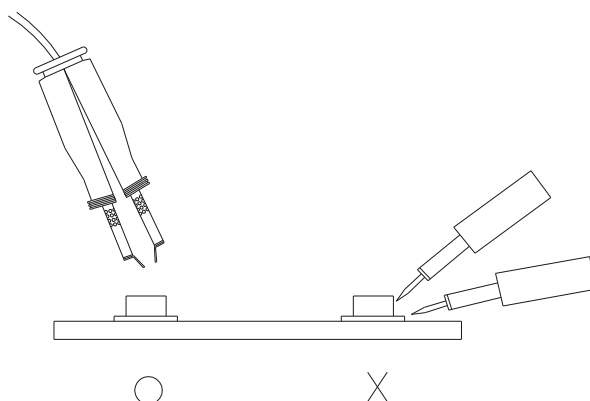
- 3.1 Pb-free solder temperature profile
- 3.2 Reflow soldering should not be done more than two times.
- 3.3 When soldering, do not put stress on the LEDs during heating.
- 3.4 After soldering, do not warp the circuit board.

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.



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 Everlight 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.

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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