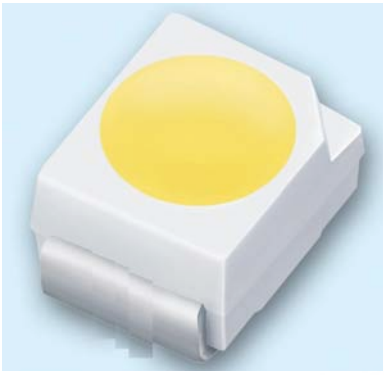
DATASHEET

SMD ▪ Top View LEDs
67-21UWC/S400-XX/TR8



Features

Lead (Pb) Free Product - RoHS Compliant

- P-LCC-2 package.
- Wide viewing angle 120°.
- Fluorescence Type
- Emission Color:x=0.29,y=0.30
- Inner reflector and white package.
- Soldering methods: IR reflow soldering.

Applications

- LCD, switches, symbol, mobile phone and illuminated advertising.
- Display for indoor and outdoor application.
- Ideal for coupling into light guides.
- Substitution of traditional light.
- General applications.
- Optical indicator.

Device Selection Guide

Chip Materials	Emitted Color	Resin Color
InGaN	White	Yellowish

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	25	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	100	mA
Power Dissipation	Pd	100	mW
Junction Temperature	T_j	115	℃
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +90	℃
Electrostatic Discharge (HBM)	ESD	150	V
Soldering Temperature	T_{sol}	Reflow Soldering : 260 ℃ for 30 sec. Hand Soldering : 350 ℃ for 3 sec.	

Electro-Optical Characteristics (Ta=25℃)

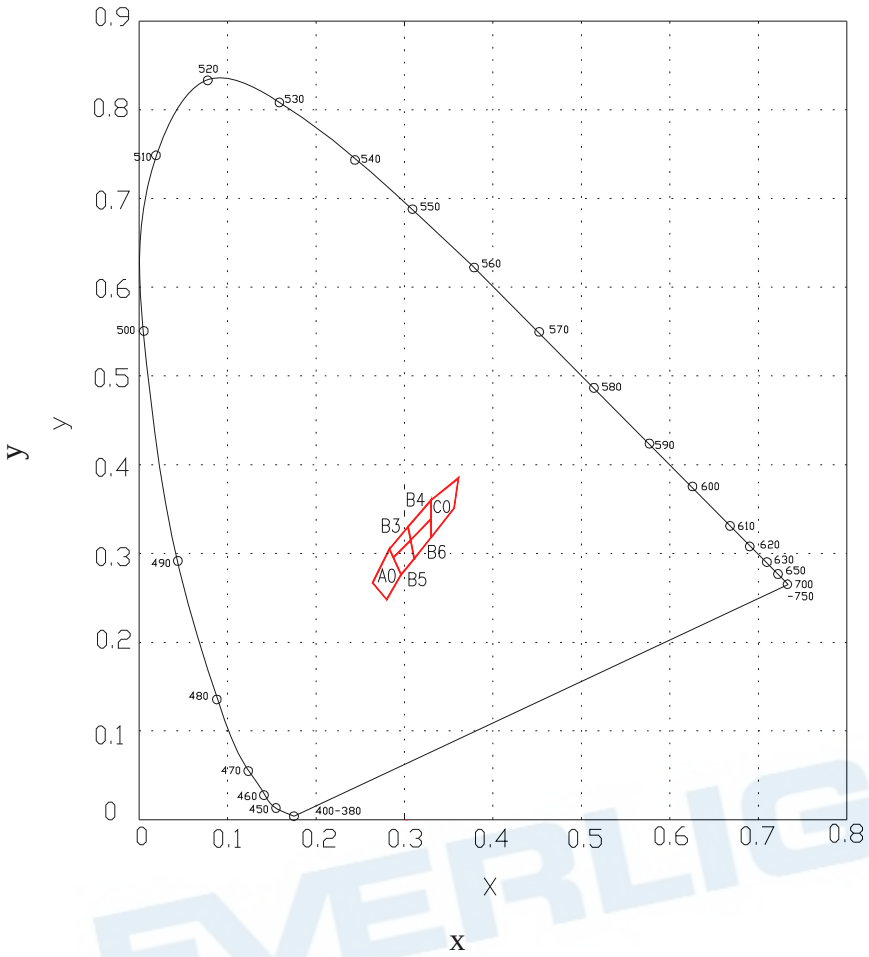
Parameter	Symbol	*Chip Rank	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	A4	100	290	--	mcd	I_F=20mA
		A5	200	360	--		
		A6	240	450	--		
		X7	400	630	--		
		X8	485	750	--		
		X9	600	900	--		
		X10	720	1080	--		
Viewing Angle	$2\theta_{1/2}$		-----	120	-----	deg	
Forward Voltage	V_F		--	3.50	4.30	V	
Reverse Current	I_R		-----	-----	50	μA	V_R=5V

*67-21UWC/S400-XX/TR8

Chip Rank

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

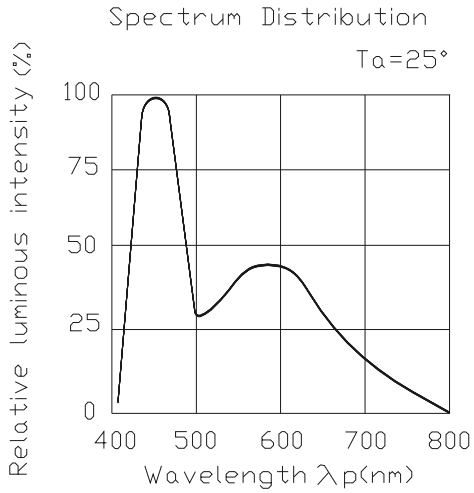
The C.I.E. 1931 Chromaticity Diagram

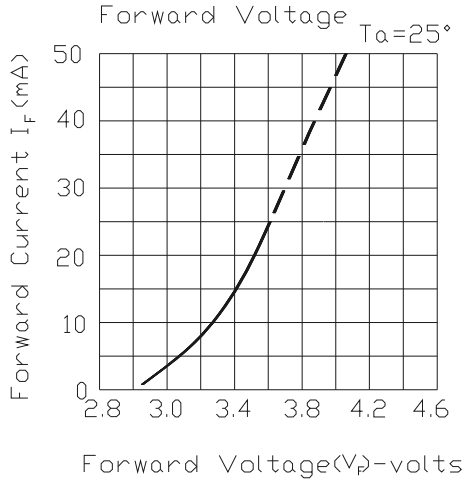


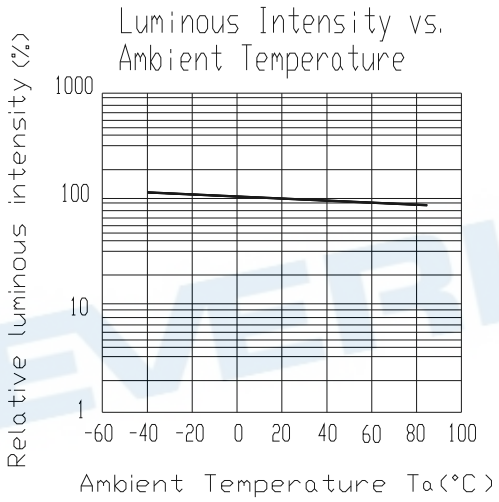
Bin Range of Chromaticity Coordinates

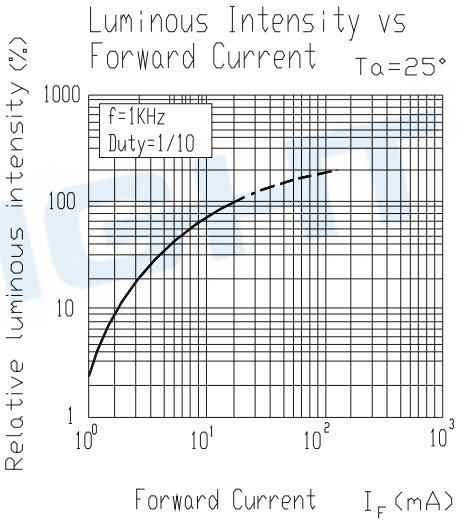
Group	Bin Code	CIE_x	CIE_y	Condition
9F	A0	0.280	0.248	I_F =20mA
		0.264	0.267	
		0.283	0.305	
		0.296	0.276	
	B3	0.287	0.295	
		0.283	0.305	
		0.304	0.330	
		0.307	0.315	
	B4	0.307	0.315	
		0.304	0.330	
		0.330	0.360	
		0.330	0.339	
	B5	0.296	0.276	
		0.287	0.295	
		0.307	0.315	
		0.311	0.294	
	B6	0.311	0.294	
		0.307	0.315	
		0.330	0.339	
		0.330	0.318	
	C0	0.330	0.318	
		0.330	0.360	
		0.361	0.385	
		0.356	0.351	

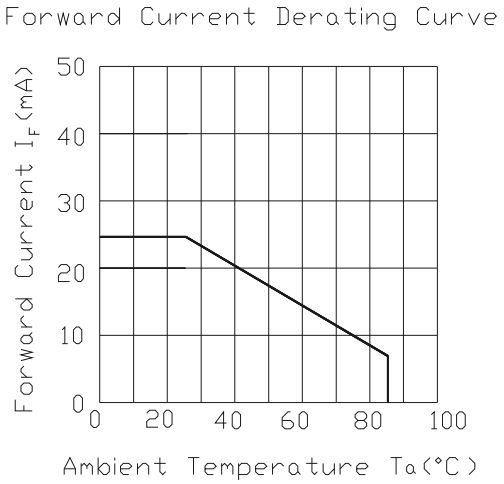
Typical Electro-Optical Characteristics Curves

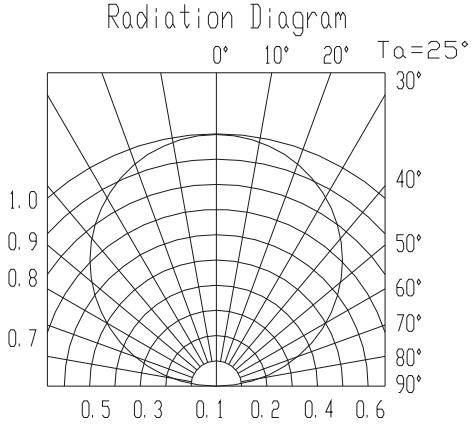




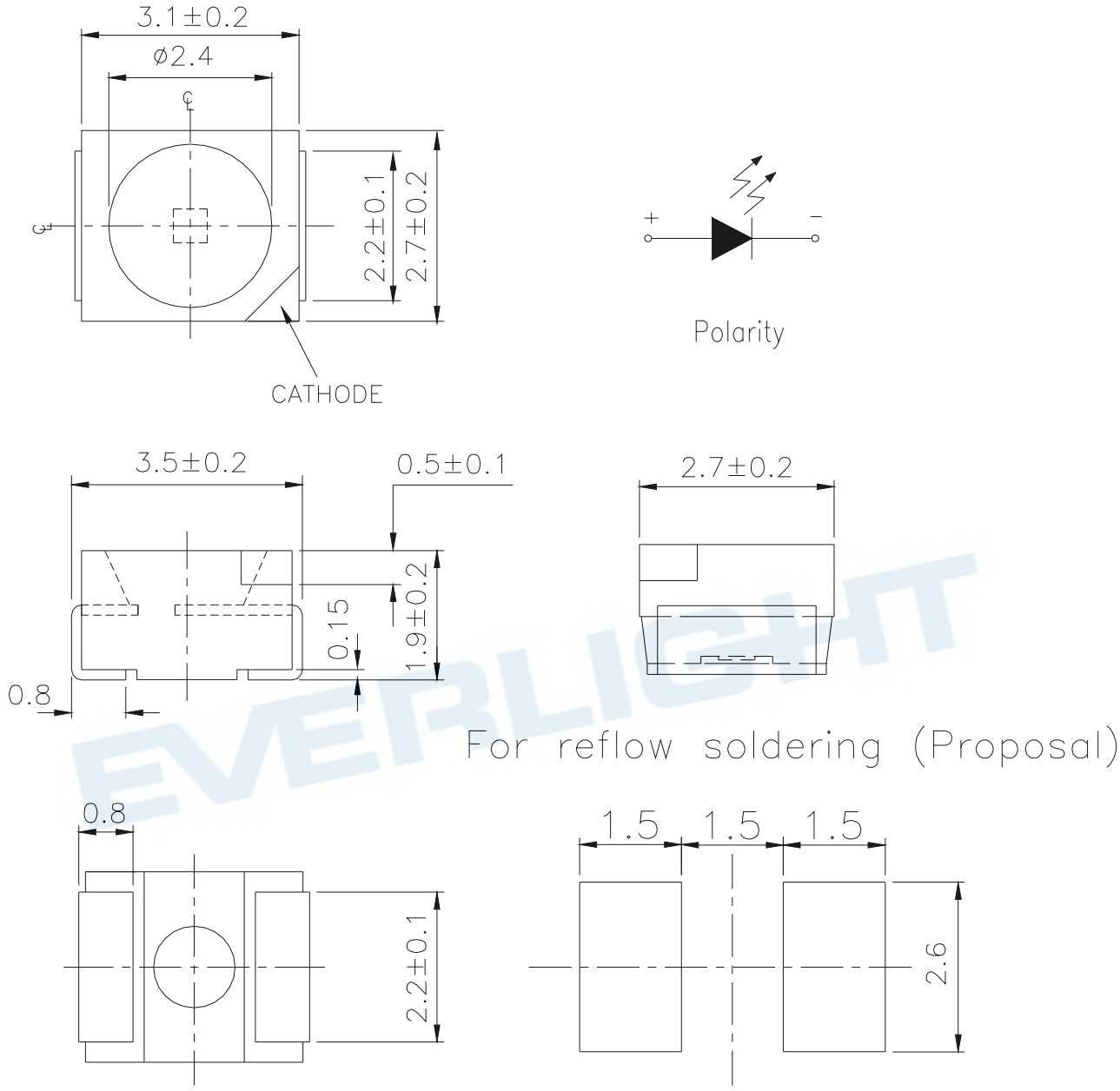








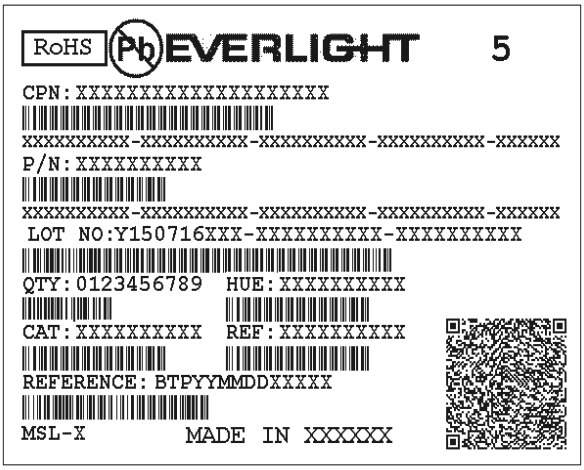
Package Dimension



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

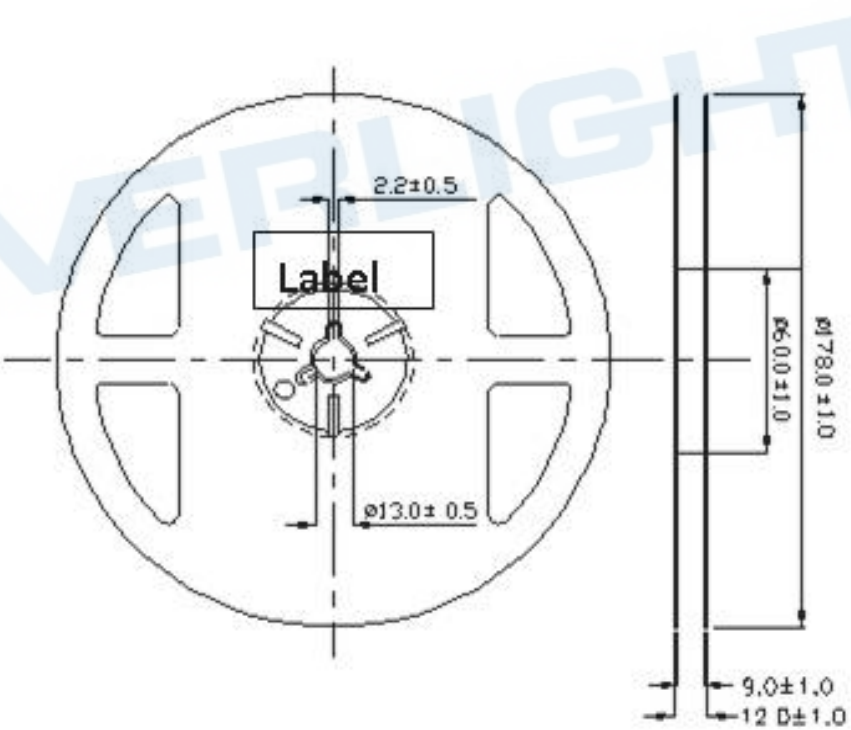
Moisture Resistant Packing Materials

Label Explanation



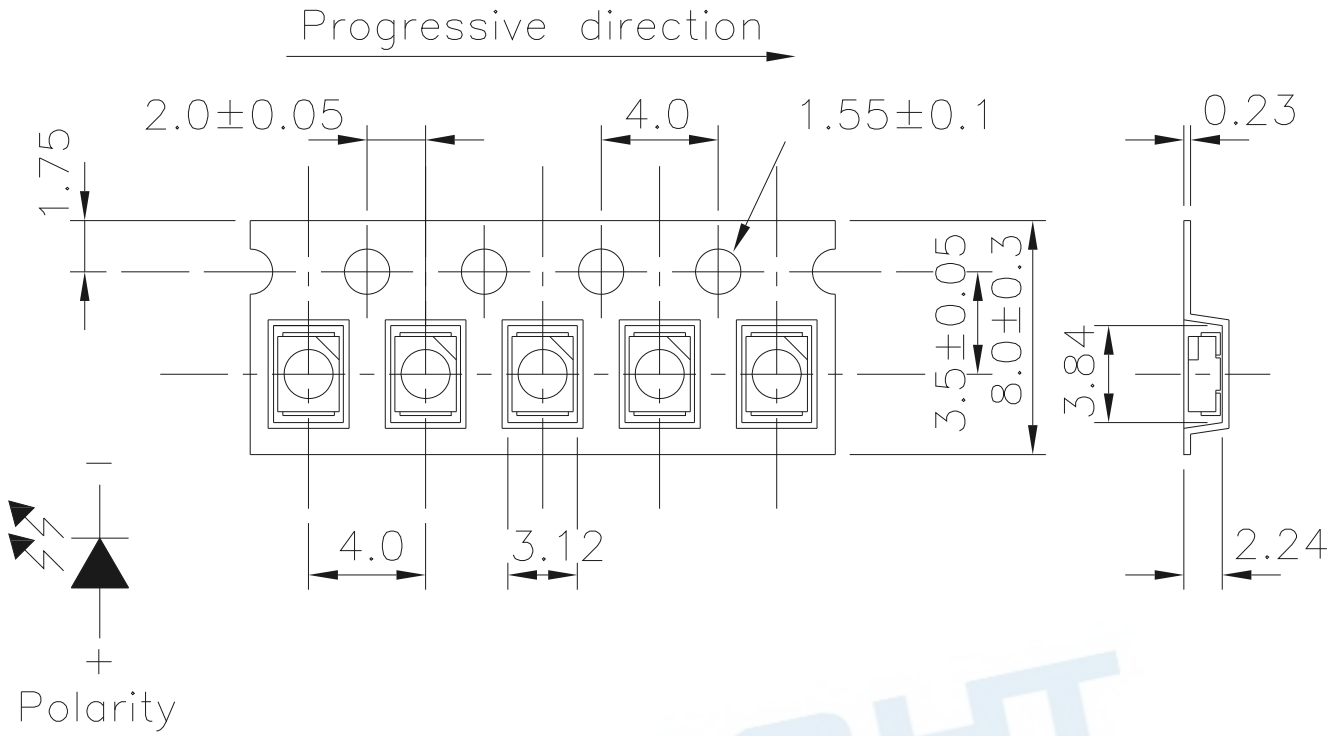
- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

Reel Dimensions



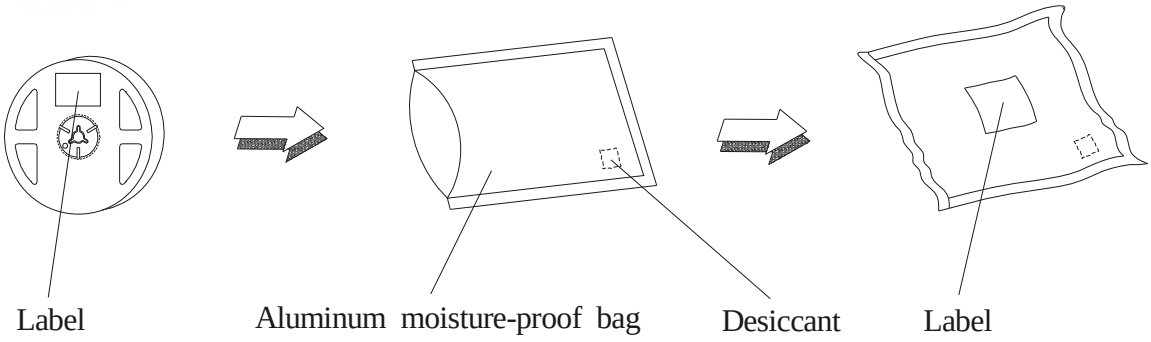
Note:
Tolerances unless mentioned ±0.1mm. Unit = mm

Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



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

Moisture Resistant Packing Process



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

Reliability Test Items And Conditions

The reliability of products shall be satisfied with items listed below.
Confidence level：90%

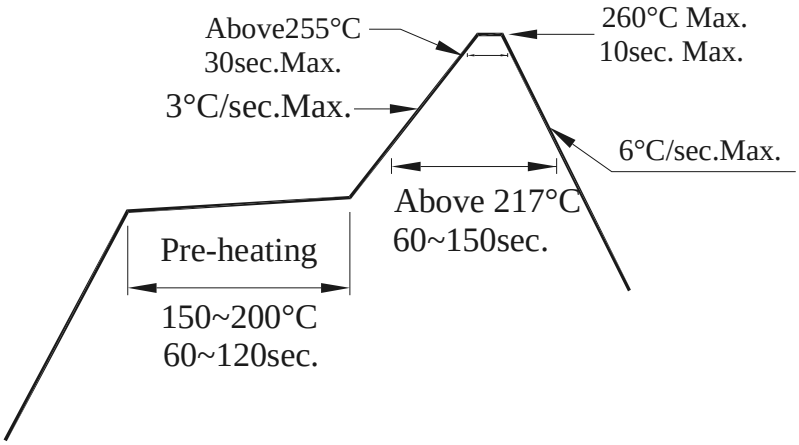
LTPD：10%

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp. : 260℃±5℃ Min. 5sec.	6 min	22 PCS.	0/1
2	Temperature Cycle	H : +100℃ 15min ∫ 5 min L : -40℃ 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	H : +100℃ 5min ∫ 10 sec L : -10℃ 5min	300 Cycles	22 PCS.	0/1
4	High Temperature Storage	Temp. : 100℃	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Temp. : -40℃	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life	IF = 20 mA / 25℃	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85℃/ 85%RH	1000 Hrs.	22 PCS.	0/1

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℃ and 60% RH when moisture proof bag is opened.

   2.3 After opening the package: The LED's floor life is 1 year under 30 deg 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 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.

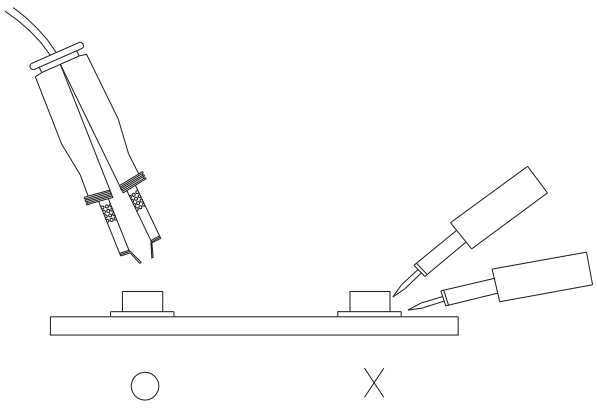
   3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

   Each terminal is to go to the tip of soldering iron temperature less than 350℃ 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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