DATASHEET

SMD ▪ High Power LED
XI3030P/R3C-D1530L7N315281Z15/2N

Features

- PLCC-2 package
- Top view red LED
- High luminous intensity output
- Wide viewing angle
- Pb-free
- ANSI Binning
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH.
- Compliance Halogen Free .(Br<900ppm,Cl<900ppm,Br+Cl<1500ppm)

Description

The Everlight XI3030P package has high efficacy, mid power consumption, wide viewing angle and a compact form factor. These features make this package an ideal LED for all lighting applications.

Applications

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

Absolute Maximum Ratings ($T_{Soldering}$=25℃)

Parameter	Symbol	Rating	Unit
Forward Current	I_F	150	mA
Peak Forward Current (Duty 1/10 @10ms)	I_{FP}	300	mA
Power Dissipation	P_d	420	mW
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +100	℃
Thermal Resistance (Junction / Soldering point)	$R_{th\ J-S}$	15	℃/W
Junction Temperature	T_j	115	℃
Soldering Temperature	T_{sol}	Reflow Soldering : 260 ℃ for 10 sec. Hand Soldering : 350 ℃ for 3 sec	

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

Electro-Optical Characteristics ($T_{Soldering}$=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Flux	Φ	16	-----	27	lm	I_F=150mA
Forward Voltage	V_F	1.5	-----	2.8	V	I_F=150mA
Viewing Angle	$2\theta_{1/2}$	-----	120	-----	deg	I_F=150mA
Reverse Current	IR	-----	-----	10	μA	V_R =5V

Notes:
1. Tolerance of Luminous Flux: ±11%.
2. Tolerance of Forward Voltage: ±0.1V.

Bin Range of Luminous Flux

Bin Code	Min.	Max.	Unit	Condition
L7	16	19	lm	I_F=150mA
M3	19	21		
M4	21	24		
N3	24	27		

Note:
Tolerance of Luminous flux: ±11%

Bin Range of Forward Voltage

Group	Bin Code	Min.	Max.	Unit	Condition
1528	1#5	1.5	1.6	V	I_F=150mA
	1#6	1.6	1.7		
	1#7	1.7	1.8		
	1#8	1.8	1.9		
	1#9	1.9	2.0		
	2#0	2.0	2.1		
	2#1	2.1	2.2		
	2#2	2.2	2.3		
	2#3	2.3	2.4		
	2#4	2.4	2.5		
	2#5	2.5	2.6		
	2#6	2.6	2.7		
	2#7	2.7	2.8		

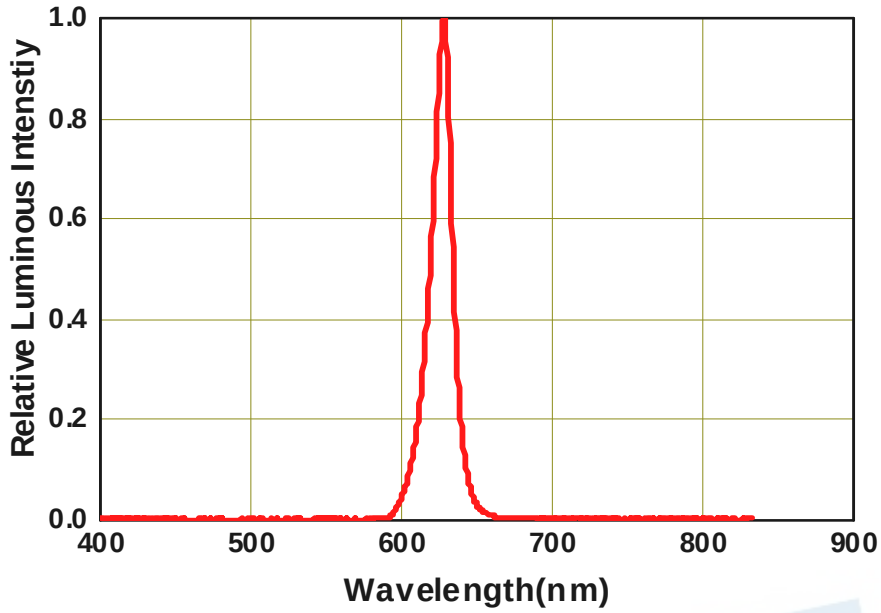
Note:
Tolerance of Forward Voltage: ±0.1V.

Dominant Wavelength Bins

Bin Code	Min.	Max.	Unit	Condition
R50	615	620	nm	I_F=150mA
R51	620	625		
R52	625	630		

Note:
Dominant / Peak wavelength measurement tolerance: ±1nm.

Spectrum Distribution



Typical Electro-Optical Characteristics Curves

Fig.1 – Forward Voltage Shift vs. Junction Temperature

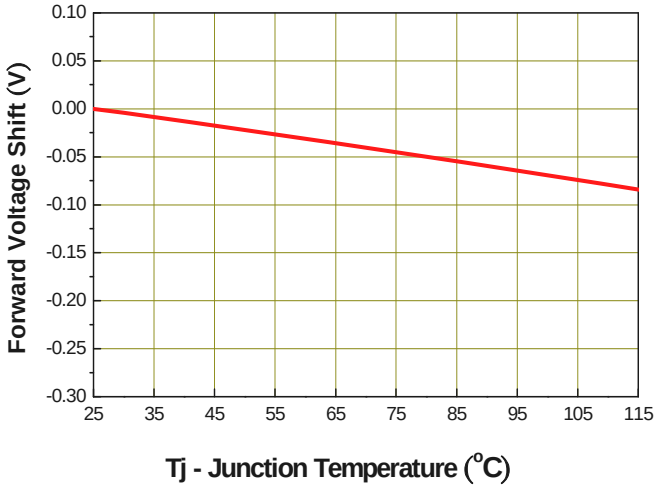
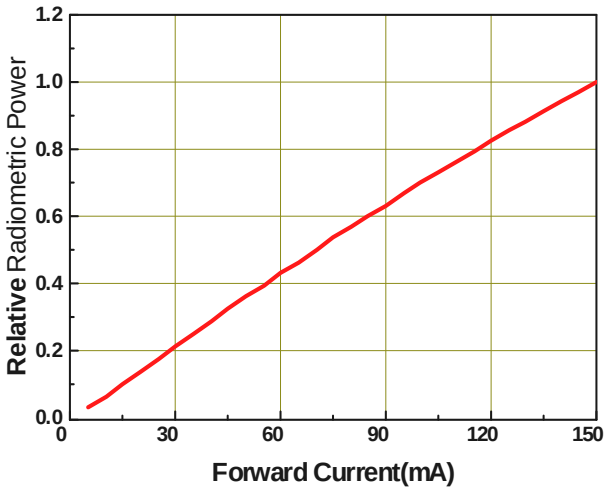


Fig.2 - Relative Radiometric Power vs. Forward Current



Typical Electro-Optical Characteristics Curves

Fig.3 - Relative Luminous Intensity vs. Junction Temperature

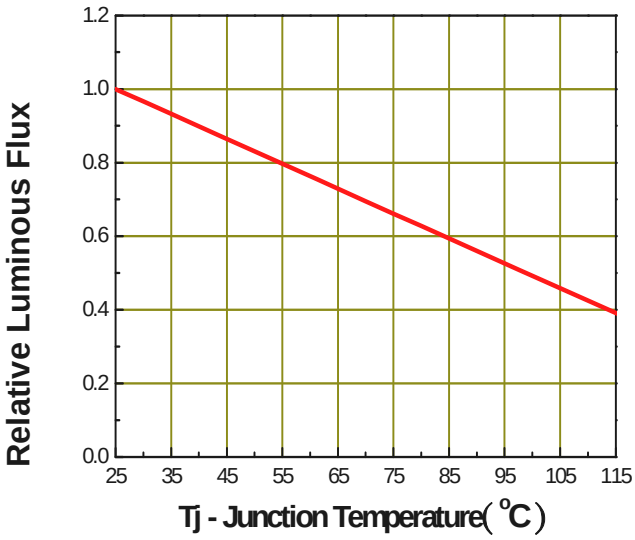


Fig.4 - Forward Current vs. Forward Voltage

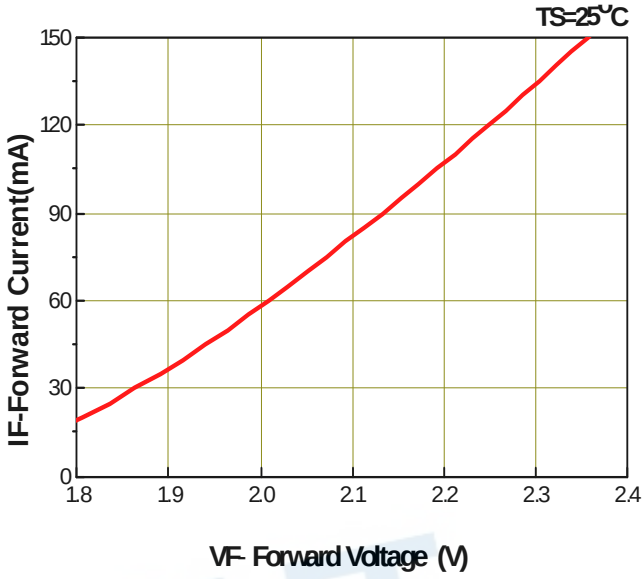


Fig.5 – Max. Driving Forward Current vs. Soldering Temperature

Rth j-s= 15 ° C/W

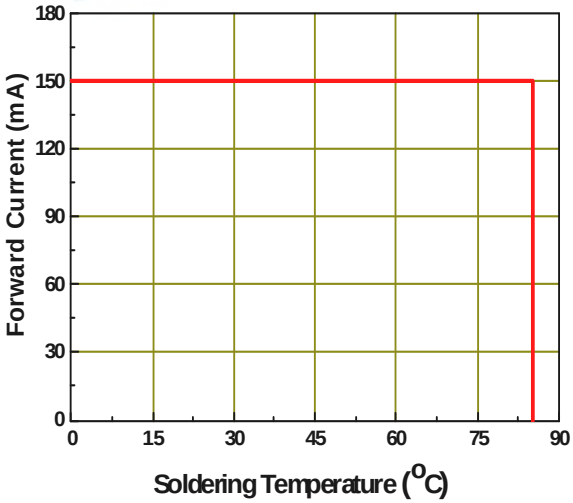
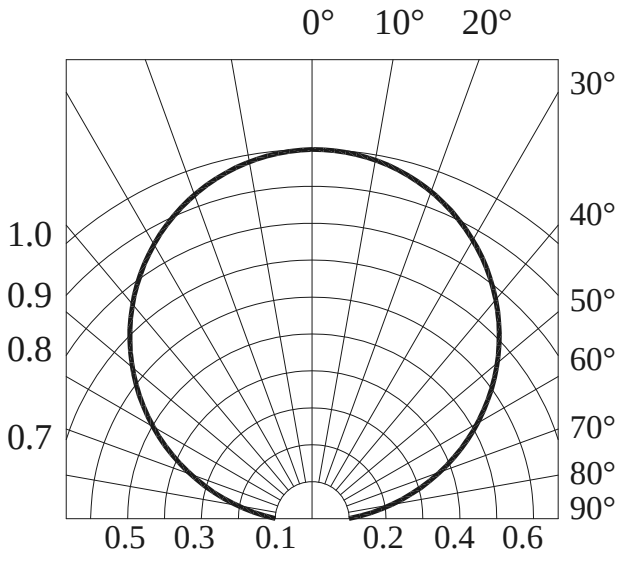
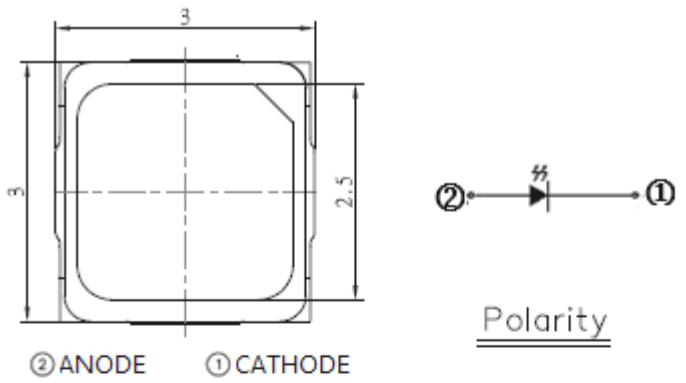
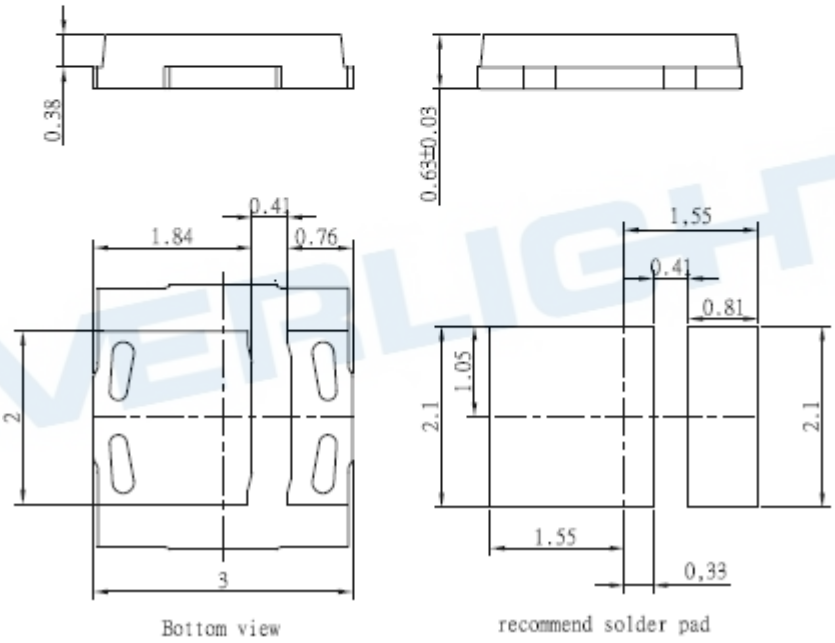


Fig.6 – Radiation Diagram



Package Dimension

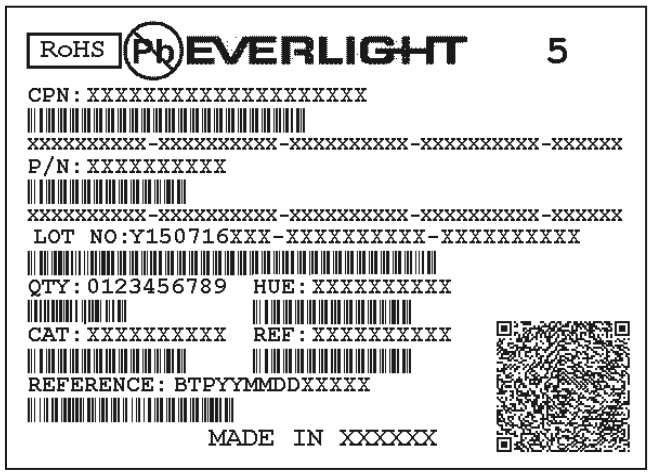




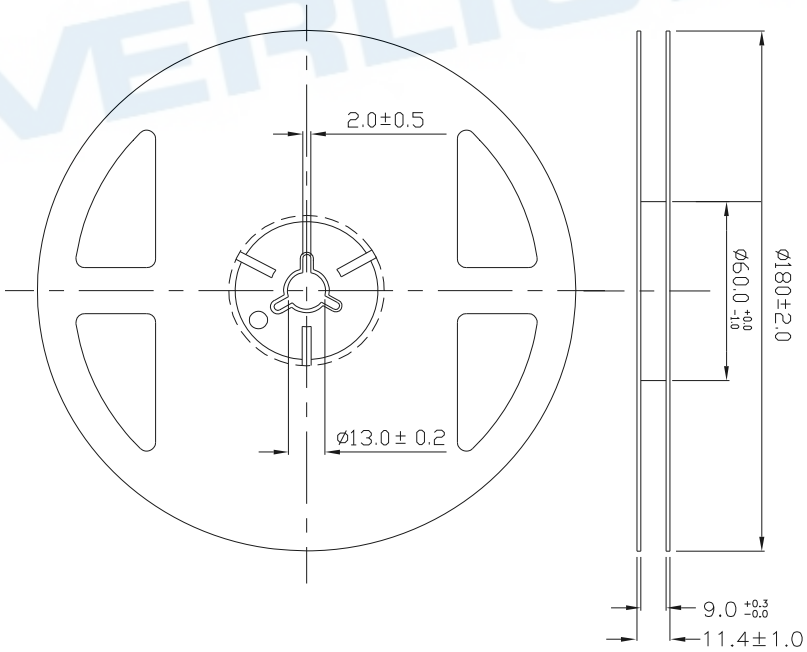
Note:
Tolerance unless mentioned is ±0.1 mm; Unit = mm

Moisture Resistant Packing Materials

1. CPN: Customer Specification (when required)
2. P/N : Everlight Production Number
3. QTY: Packing Quantity
4. CAT: Luminous Flux (Brightness) Bin
5. HUE: Dom. Wavelength Rank
6. REF: Forward Voltage Bin
7. LOT No: Lot Number
8. MADE IN TAIWAN: Production Place



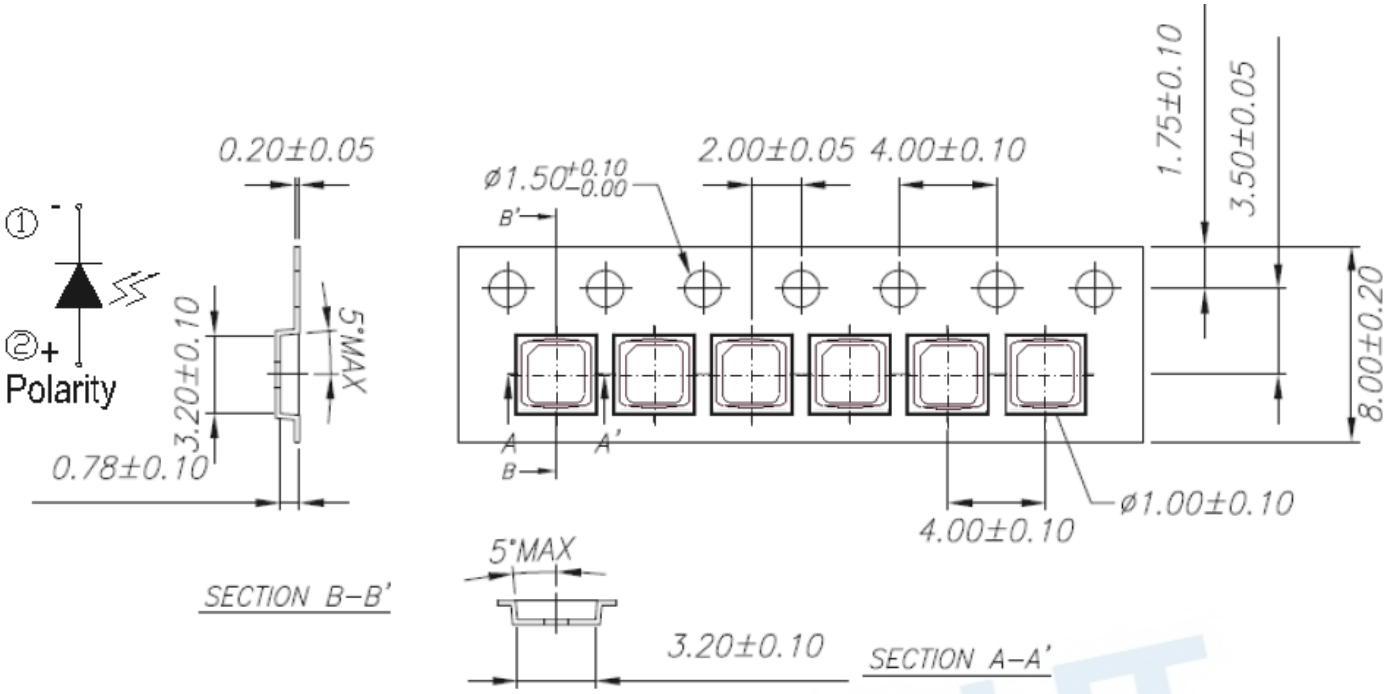
Reel Dimensions



Notes:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are ±0.1mm.

Carrier Tape Dimensions: Loaded Quantity 250/500/1000/2000 pcs Per Reel

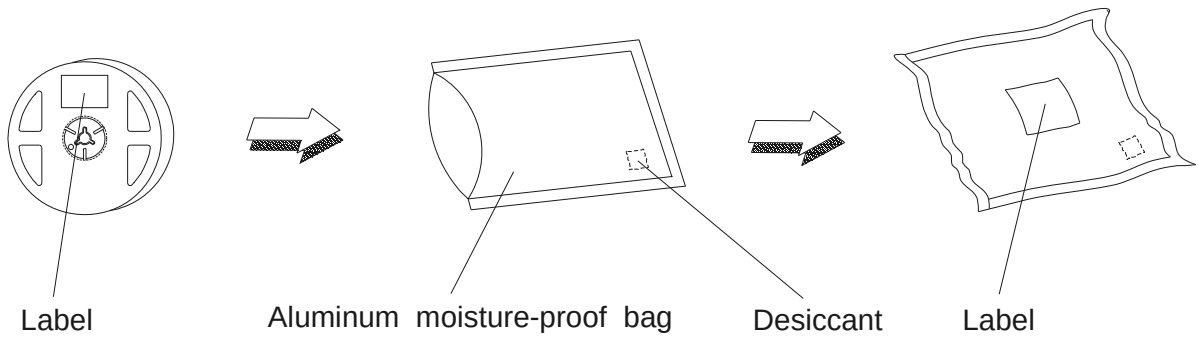


Notes:

1.Tolerance unless mentioned is ±0.1mm; Unit = mm

2.Maximum packing amount is 2000 pcs per reel

Moisture Resistant Packing Process



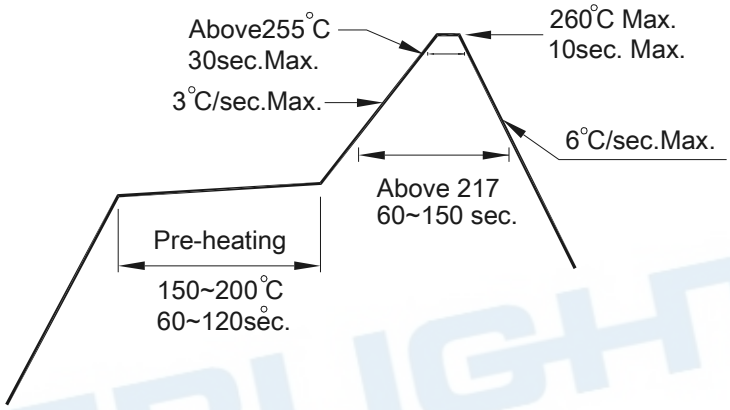
Reliability Test Items and Conditions

The reliability of products shall be satisfied with items listed below.
Confidence level：90%
LTPD：10%

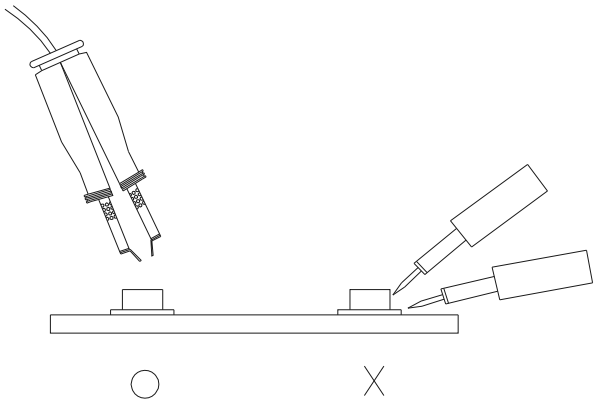
No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Resistance to Solder Heat	Temp. : 260℃ /10sec.	3 Times.	8 PCS.	0/1
2	Temperature Cycle	-40°C~100°C / Dwell time 30min	200 Cycles	8 PCS.	0/1
3	High Temperature/Humidity Life	Ta=85℃,85%RH, I_F = 150mA	1000 Hrs.	8 PCS.	0/1
4	Low Temperature Life	Ta=-40℃, I_F =150 mA	1000 Hrs.	8 PCS.	0/1
5	High Temperature Life	Ta=60℃, I_F =150mA	3000 Hrs.	8 PCS.	0/1
6	High Temperature Life	Ta=85℃, I_F =150mA	3000 Hrs.	8 PCS.	0/1
7	Pulse	ON 30ms / OFF 2500ms	30000 CYCLES	8 PCS.	0/1
8	Thermal Shock	H : +100℃ 20min ∫ 10 sec L : -10℃ 20min	200 Cycles	8 PCS.	0/1
9	Power Temperature Cycle	H : +100℃ 30min ∫ 5 min L : -40℃ 30min I_F = 100 mA	200 Cycles	8 PCS.	0/1

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 Before opening the package: The LEDs should be kept at 30℃ or less and 90%RH or less.
   2.3 After opening the package: The LED's floor life is 168 Hrs under 30℃ or less and 60% RH or less. 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.



Storage Conditions

1. Before the package is opened. The LEDs should be stored at 30°C or less and 90%RH or less after being shipped from Everlight and the storage life limits are 18 months. The LEDs can be stored up to 3 years if in a sealed container with a nitrogen atmosphere and moisture absorbent material.
2. After opening the package: The LED's floor life is 4 weeks under 30℃ or less and 60%RH or less. The LED should be soldered within 4 weeks after opening the package. If unused LEDs remain, it should be stored in moisture proof packages.
3. 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.

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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