EVERLIGHT ELECTRONICS CO., LTD.

Technical Data Sheet
Power Top View LEDs with Lens

67-31H/GLC-AY1Z11N/BT

Features

- P-LCC-3 package.
- High flux output.
- High current capability.
- White package.
- Optical indicator.
- Colorless clear window.
- Ideal for backlight and light pipe application.
- Inter reflector.
- Suitable for automatic placement equipment.
- Suitable for reflow and wave solder processes.
- Available on tape and reel (12mm Tape).
- Pb-free.
- The product itself will remain within RoHS compliant version.

Descriptions

- The 67-31H series is available in soft orange, red and yellow.
  This feature makes the ideal for light pipe application. The low current requirement makes this device ideal for portable equipment or any other application where power is at a premium.

Applications

- Indicator and backlight for audio and video equipment.
- Indicator and backlight in office and family equipment.
- Flat backlight for LCD's, switches and symbols.
- Light pipe application.
- General use.

Device Selection Guide

Chip Material	Emitted Color	Resin Color
InGaN	Bluish Green	Water White

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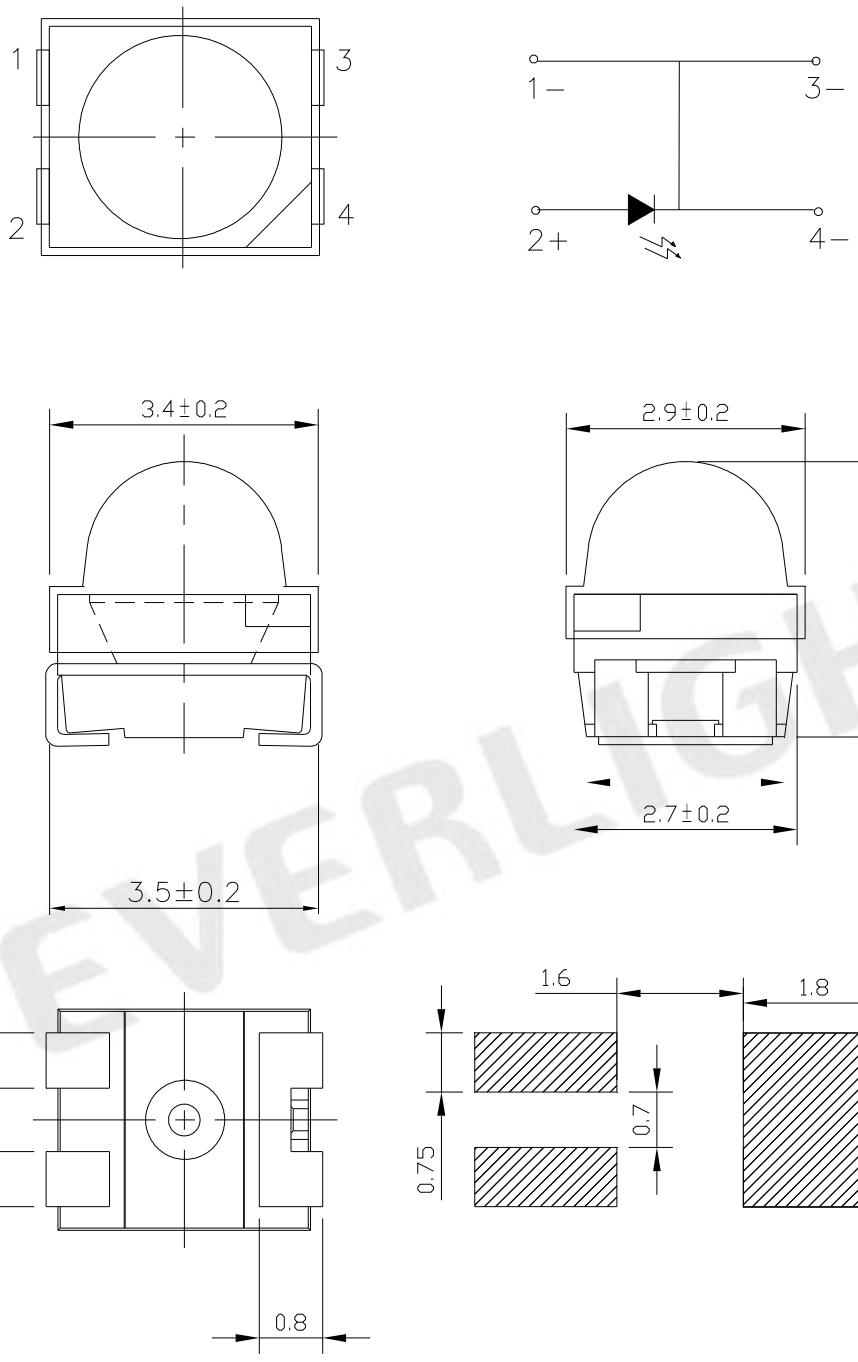
Package Dimensions



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

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Absolute Maximum Ratings (T_a=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	95	mW
Electrostatic Discharge(HBM)	ESD	1000	V
Operating Temperature	Topr	-40 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +90	℃
Soldering Temperature	Tsol	Reflow Soldering : 260 ℃ for 10 sec. Hand Soldering : 350 ℃ for 3 sec.	

Electronic Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I_V	2850	-----	9100	mcd	I_F=20mA
Viewing Angle	2θ1/2	-----	30	-----	deg	I_F=20mA
Peak Wavelength	λp	-----	502	-----	nm	I_F=20mA
Dominant Wavelength	λd	499.5	-----	515.5	nm	I_F=20mA
Spectrum Radiation Bandwidth	△λ	-----	30	-----	nm	I_F=20mA
Forward Voltage	V_F	2.70	-----	3.70	V	I_F=20mA
Reverse Current	I_R	-----	-----	50	μA	V_R=5V

Notes:

1. Tolerance of Luminous Intensity ±11%
2. Tolerance of Dominant Wavelength ±1nm
3. Tolerance of Forward Voltage ±0.1V

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Bin Range of Luminous Intensity

Bin	Min	Max	Unit	Condition
Y1	2850	3600	mcd	I_F=20mA
Y2	3600	4500		
Z01	4500	5700		
Z02	5700	7200		
Z11	7200	9100		

Bin Range of Dominant Wavelengths

Group	Bin	Min.	Max.	Unit	Condition
A	B1	499.5	501.5	nm	I_F=20mA
	B2	501.5	503.5		
	B3	503.5	505.5		
	B4	505.5	507.5		
	B5	507.5	509.5		
	B6	509.5	511.5		
	B7	511.5	513.5		
	B8	513.5	515.5		

Bin Range of Forward Voltage

Groups	Bin Code	Min.	Max.	Unit	Condition
N	10	2.70	2.90	V	I_F=20mA
	11	2.90	3.10		
	12	3.10	3.30		
	13	3.30	3.50		
	14	3.50	3.70		

Notes:

1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Dominant Wavelength: ±1nm
3. Tolerance of Forward Voltage: ±0.1V

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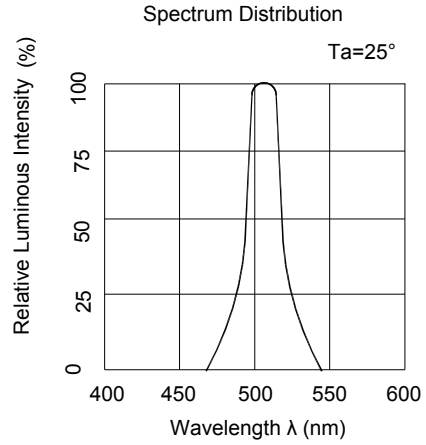
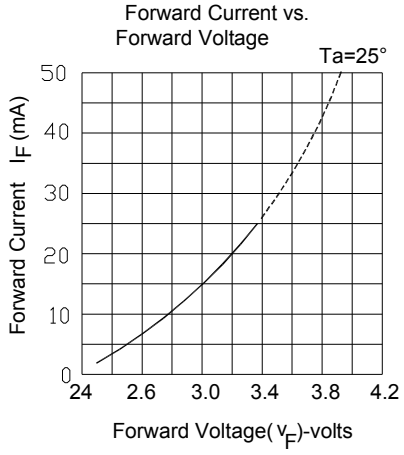
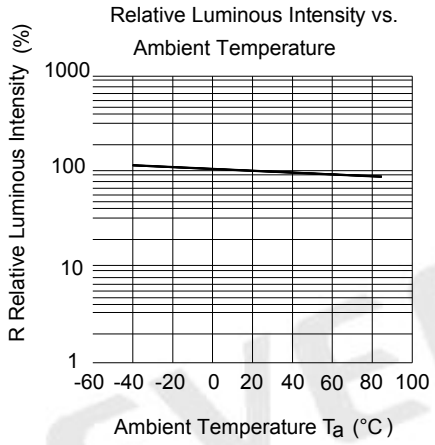
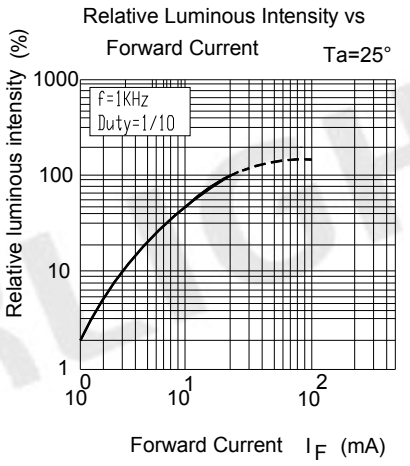
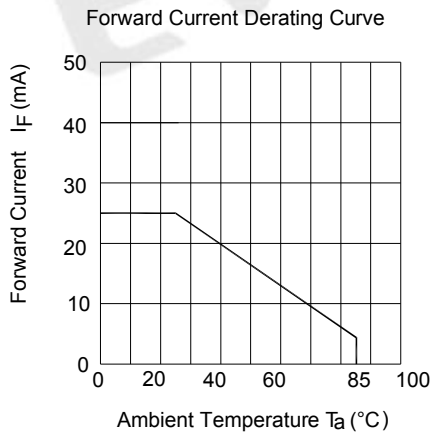
Typical Electro-Optical Characteristic Curves

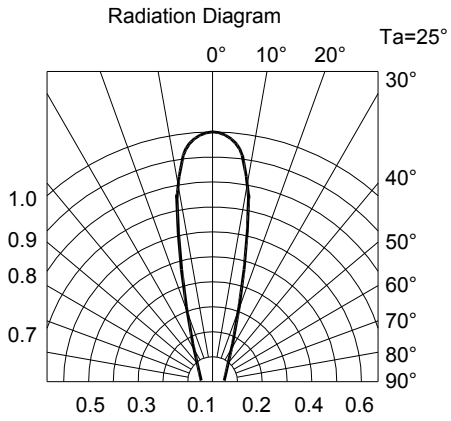












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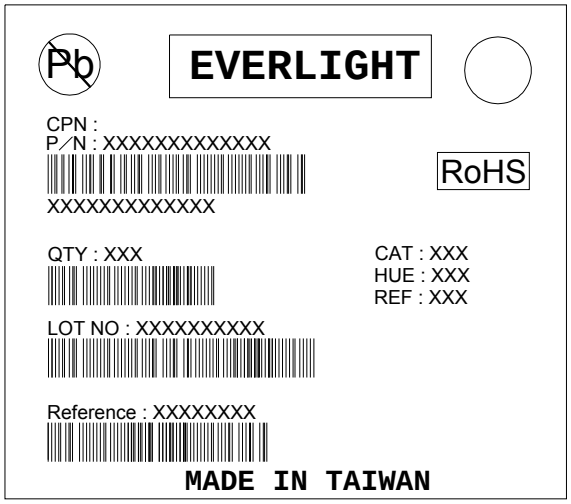
Label Explanation

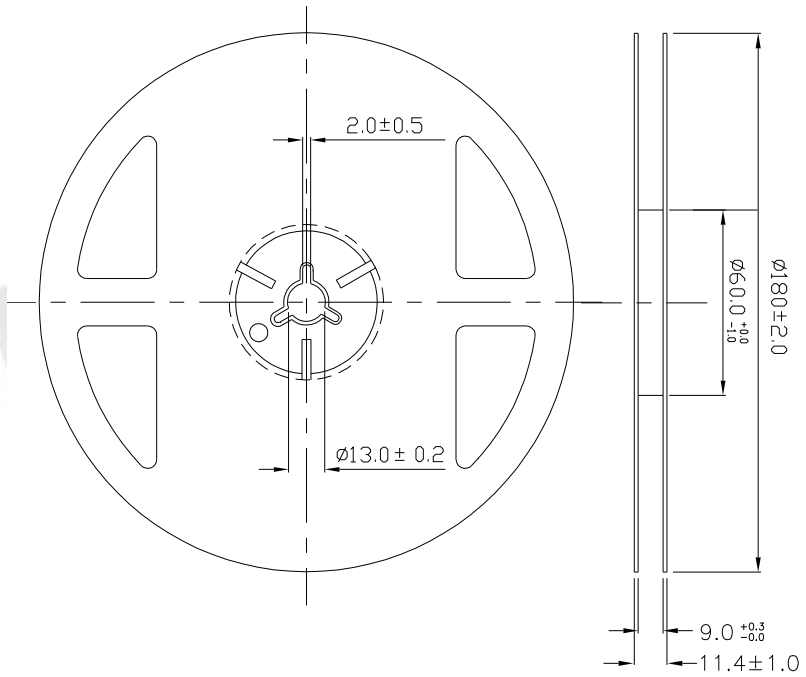
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank



Reel Dimensions



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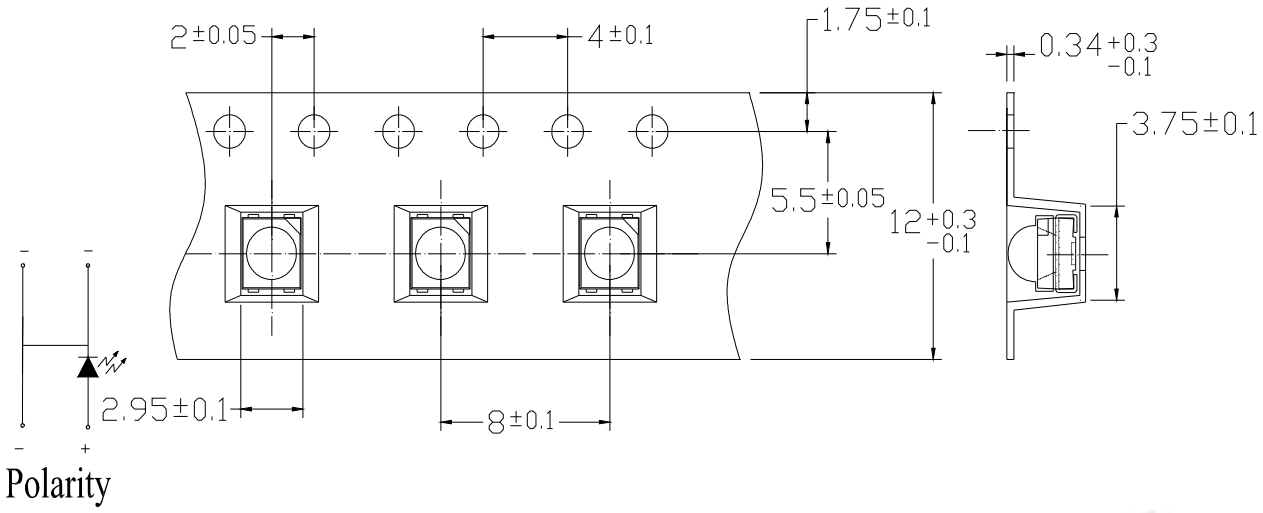
Carrier Tape Dimensions: Loaded Quantity 500 pcs Per Reel



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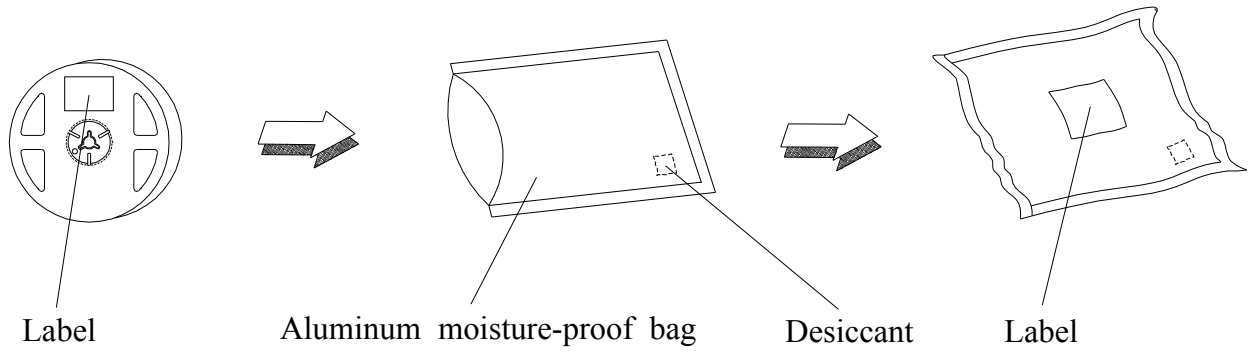
Moisture Resistant Packing



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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℃ Max. 10 sec.	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	I_F = 30 mA / 25℃	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85℃/85%RH	1000 Hrs.	22 PCS.	0/1

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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.

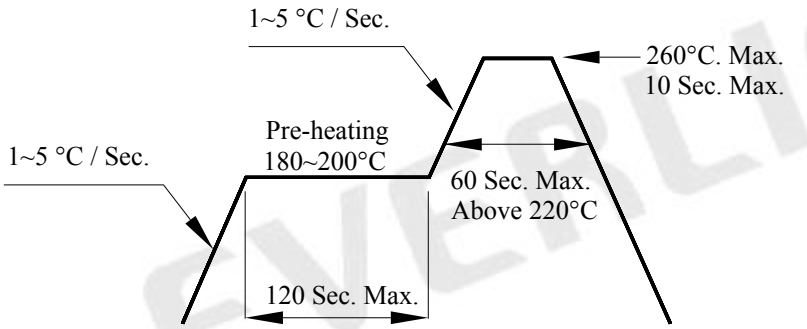
   2.3 After opening the package: The LED's floor life is 1 year under 30℃ or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture proof packages.

   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.

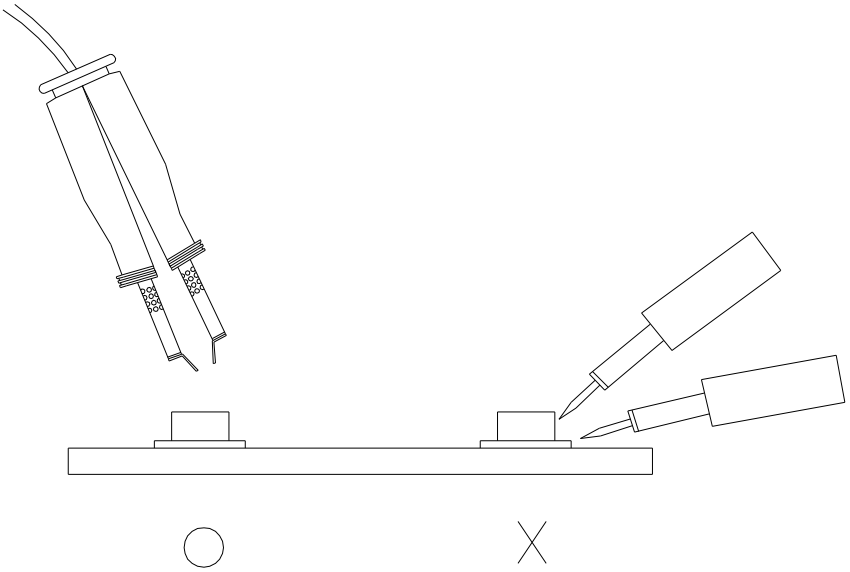
   3.4 After soldering, do not warp the circuit board.

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.



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