EVERLIGHT AMERICAS

DATASHEET

EAPL3427RGA1

Features

- Package in 12mm tape on 7” diameter reels.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- EIA std. package.
- IC compatible.
- Pb-free.
- The product itself will remain within RoHS compliant version.

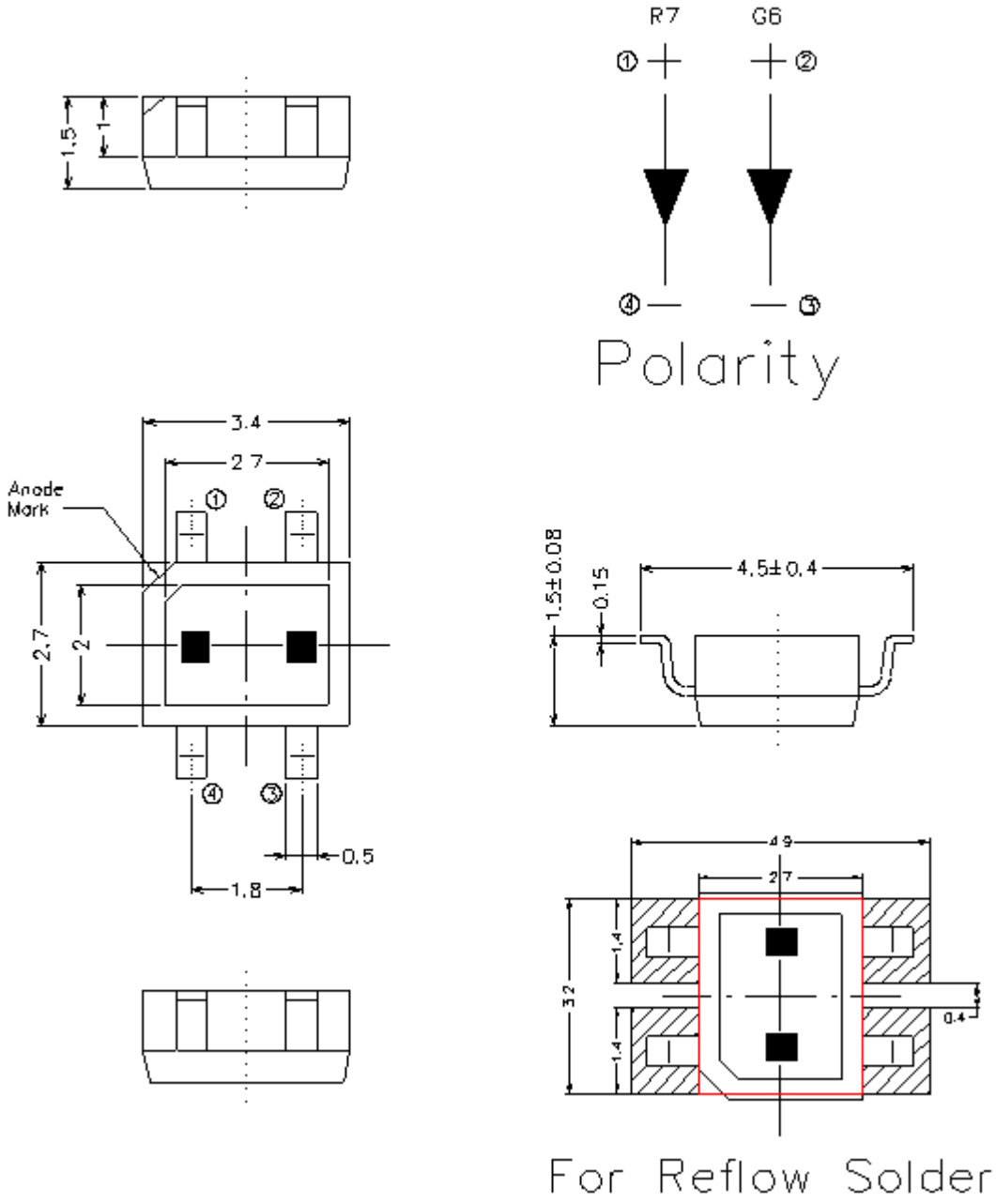
Applications

- Telecommunication: indicator and backlighting in telephone and fax.
- Indicator and backlight for audio and video equipment.
- Indicator and backlight for battery driven equipment.
- Small indicator for outdoor applications.
- Indicator and backlight in office equipment.
- Flat backlight for LED, switches and symbol.
- General use.

Device Selection Guide

Chip			Lens Color
Type	**Material**	**Emitted Color**	
G6	AlGaInP	Brilliant Yellow Green	Water Clear
R7	AlGaInP	Dark-Red	

Package Dimensions



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

Absolute Maximum Ratings @Ta=25℃

Parameter	Symbol		Rating	Unit
Reverse Voltage	V_R		5	V
Forward Current	I_F	G6	25	mA
		R7		
Forward Current (Duty 1/10 @ 1KHz)	I_{FP}	G6	60	mA
		R7		
Power Dissipation Peak	Pd	G6	60	mW
		R7		
Electrostatic Discharge(HBM)	ESD		2000	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.	

Electro-Optical Characteristics @ Ta=25℃

Parameter	Symbol		Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	G6	18.0	-----	36.0	mcd	IF=5mA
		R7	28.0	-----	57.0		
Viewing Angle	2θ1/2		-----	130	-----	deg	IF=5mA
Peak Wavelength	λ p	G6	-----	575	-----	nm	IF=5mA
		R7	-----	631	-----		
Dominant Wavelength	λ d	G6	570.5	-----	574.5	nm	IF=5mA
		R7	621.0	-----	628.0		
Spectrum Radiation Bandwidth	△ λ	G6	-----	20	-----	nm	IF=5mA
		R7	-----	20	-----		
Forward Voltage	VF	G6	1.6	-----	2.2	V	IF=5mA
		R7	1.6	-----	2.2		
Reverse Current	IR		-----	-----	10	μ A	VR=5V

Notes:

1.Tolerance of Luminous Intensity ±10%

2.Tolerance of Dominant Wavelength ±1nm

3.Tolerance of Forward Voltage ±0.1V

Bin Range Of Dominant Wavelength

Chip	Bin Code	Min.	Max.	Unit	Condition
G6	1	570.5	572.5	nm	IF=5mA
	2	572.5	574.5		
R7	1	621.0	624.5		
	2	624.5	628.5		

Bin Range Of Luminous Intensity

Chip	Bin	Min	Max	Unit	Condition
G6	M1	18.0	22.5	mcd	I_F=5mA
	M2	22.5	28.0		
	N1	28.0	36.0		
R7	N1	28.0	36.0		
	N2	36.0	45.0		
	P1	45.0	57.0		

Bin Range Of Forward Voltage

Chip	Bin	Min	Max	Unit	Condition
G6	C	1.60	1.95	V	I_F=5mA
	D	1.95	2.20		
R7	C	1.60	1.95		
	D	1.95	2.20		

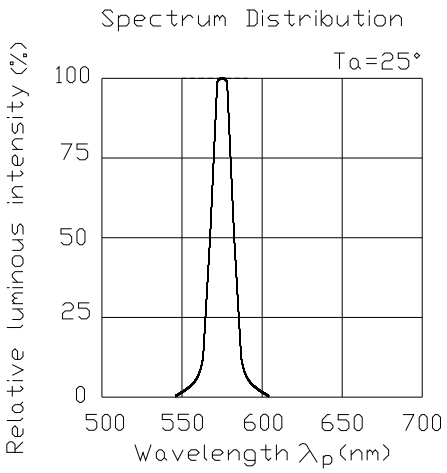
Notes:

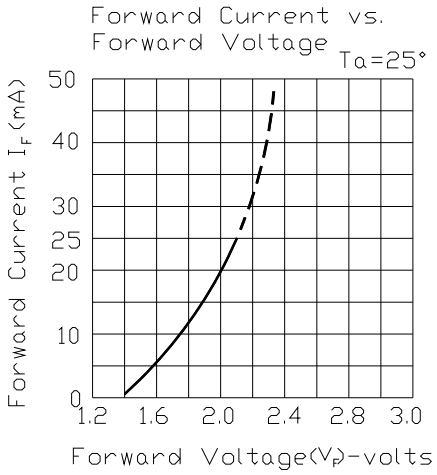
1.Tolerance of Luminous Intensity ±10%

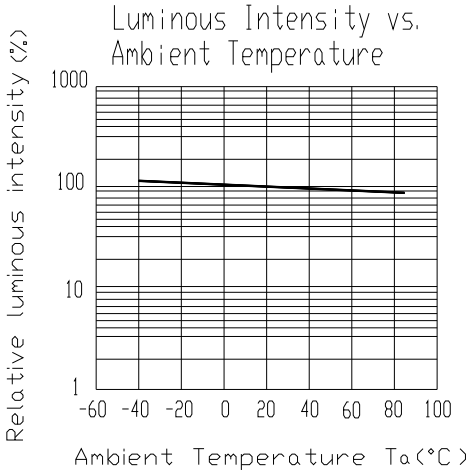
2.Tolerance of Dominant Wavelength ±1nm

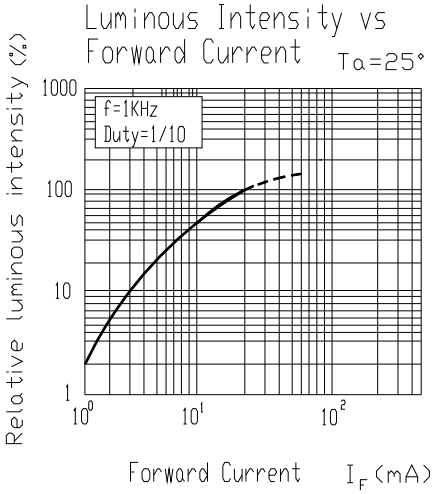
3.Tolerance of Forward Voltage ±0.1V

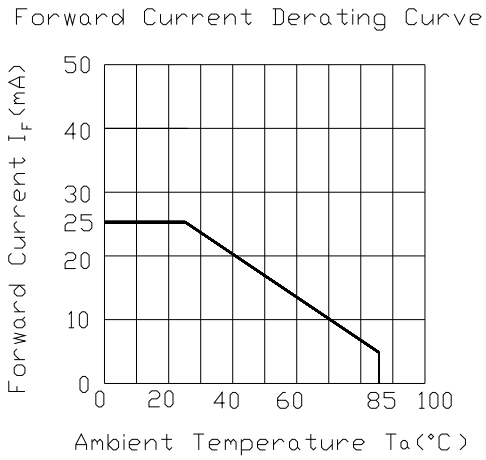
Typical Electro-Optical Characteristics Curves(G6)

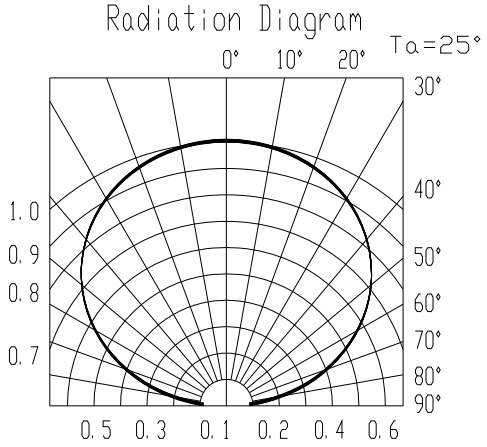




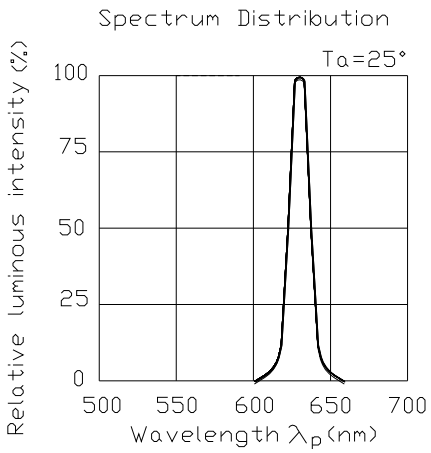


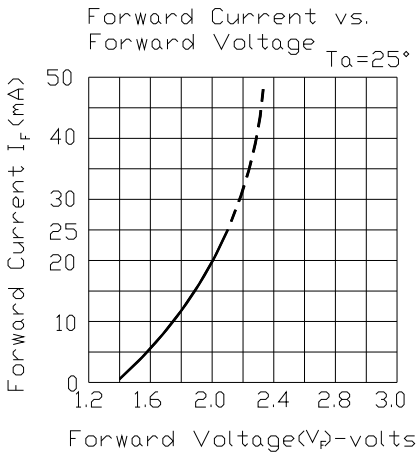


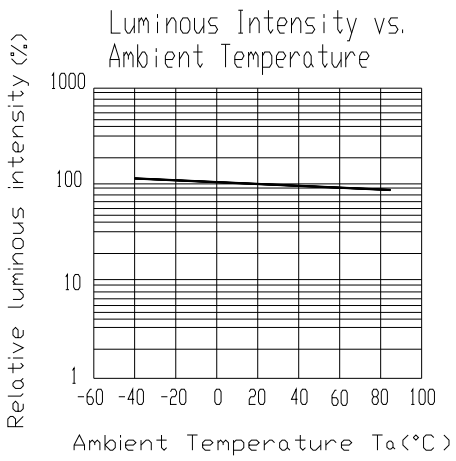


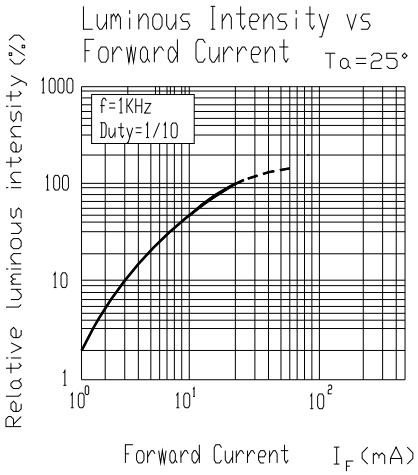


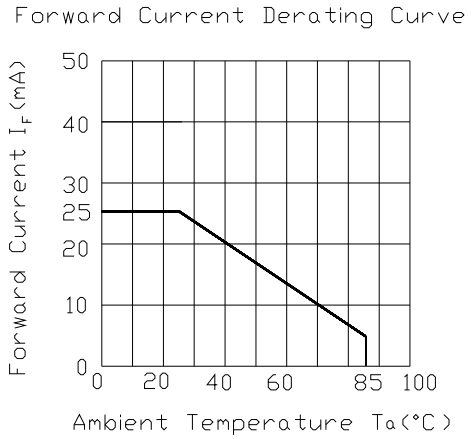
Typical Electro-Optical Characteristics Curves(R7)

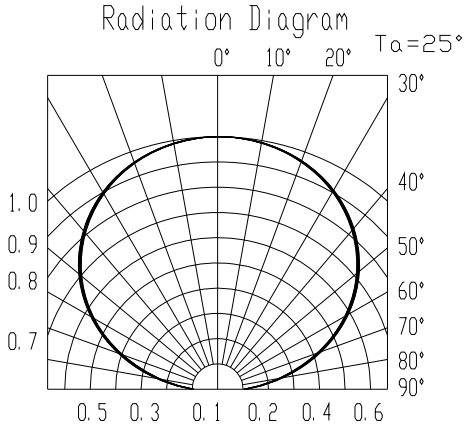










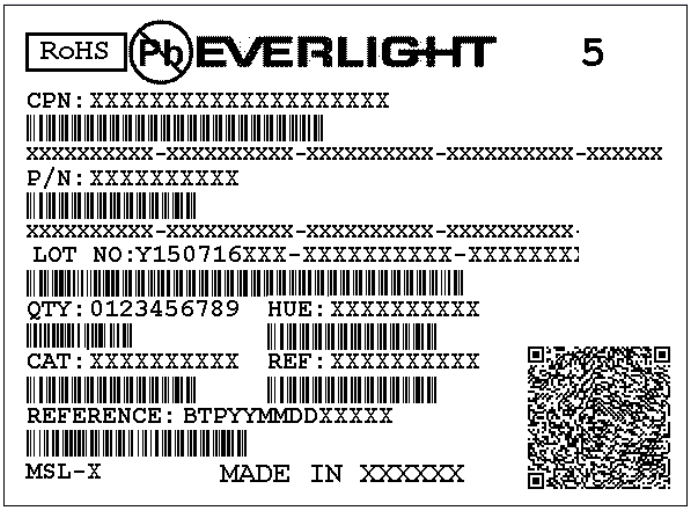


Label explanation

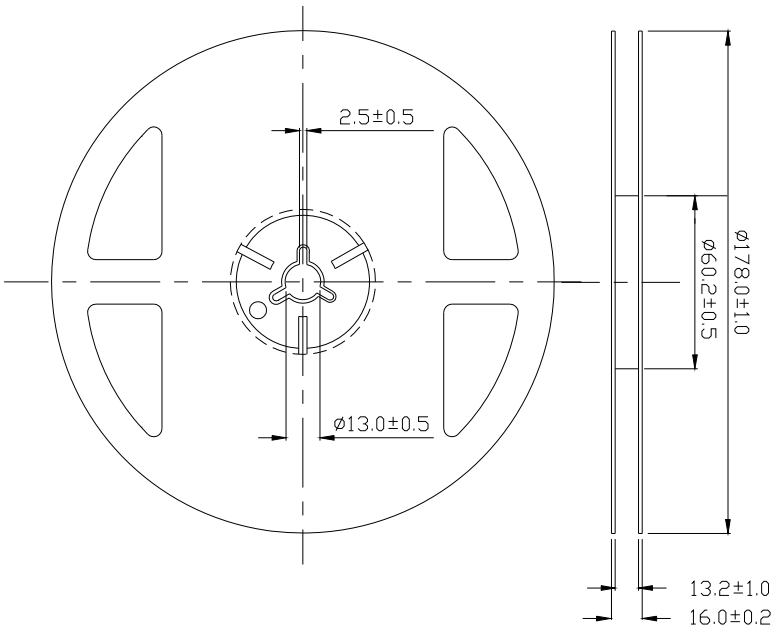
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank

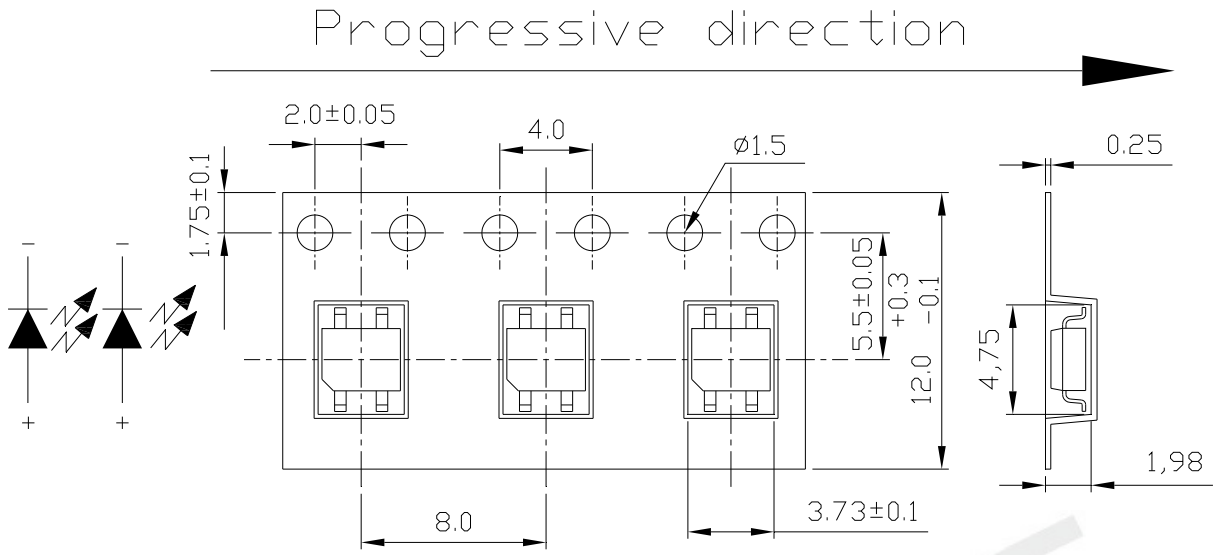


Reel Dimensions



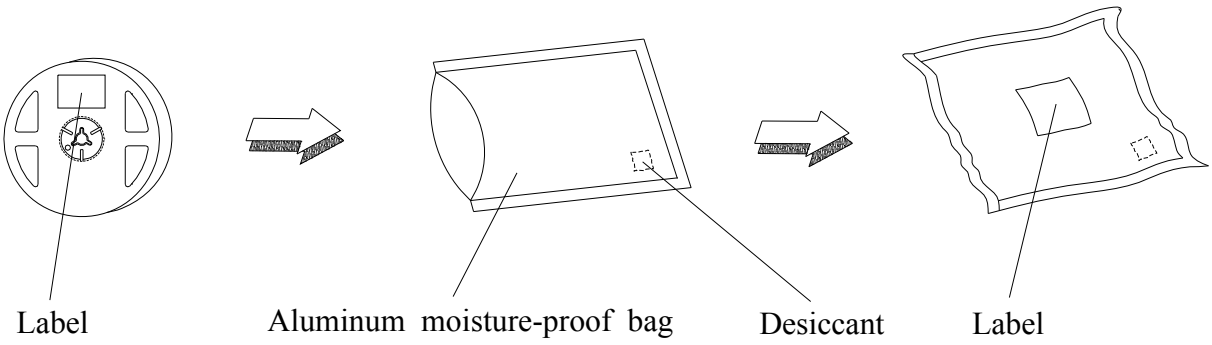
Note: The tolerances unless mentioned is ±0.1mm,Unit = mm

Carrier Tape Dimensions: Loaded quantity per reel 1000 PCS/reel



Note: Tolerances Unless Dimension ±0.1mm Unit = mm

Moisture Resistant Packaging



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. 5 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 = 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

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.

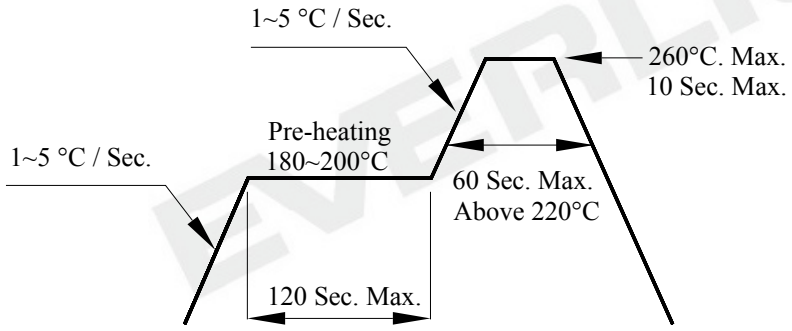
2.2 Before opening the package: The LEDs should be kept at 30℃ or less and 90%RH or less.

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

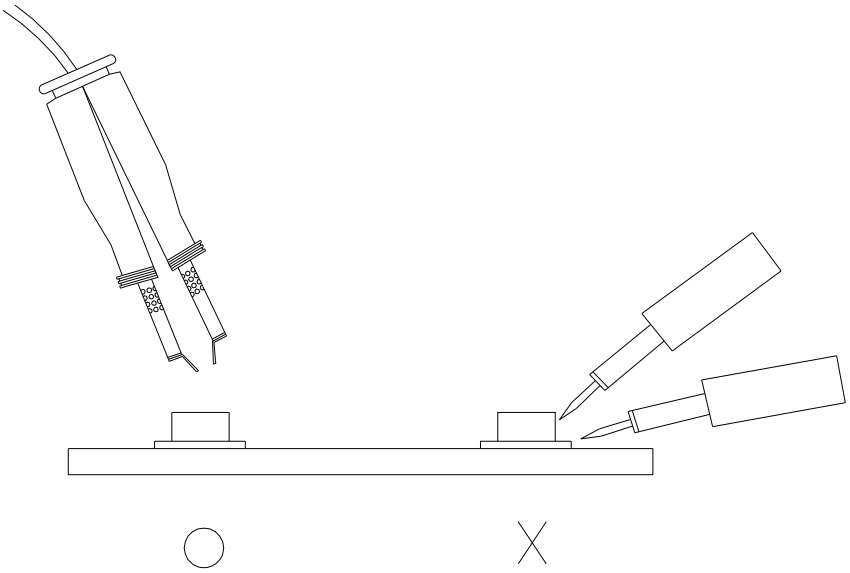


3.2 Reflow soldering should not be done more than two times.
3.3 When soldering, do not put stress on the LEDs during heating.
3.4 After soldering, do not warp the circuit board.
4.Soldering Iron

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.



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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