EVERLIGHT AMERICAS

DATASHEET

EAPL3527RGA0

Top View LED

Features

- P-LCC-4 package.
- Optical indicator.
- Colorless clear window.
- Ideal for backlight and light pipe application.
- Inter reflector.
- Wide viewing angle.
- Suitable for vapor-phase reflow.
- Computable with automatic placement equipment.
- Available on tape and reel (8mm Tape).
- Pb-free.
- The product itself will remain within RoHS compliant version.

Descriptions

The EAPL3527 series is available in soft orange, green, blue and yellow. Due to the package design, this LED has a wide viewing angle and optimized light coupling by inter reflector. This feature makes 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

- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD's, switches and symbols.
- Light pipe application.
- General use.

Device Selection Guide

Chip		Emitted Color	Resin Color
Type	Material		
VR	GaAlAs/GaP	Deep-Red	Water Clear
VG	GaP	Yellow Green	

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol		Rating	Unit
Reverse Voltage	V_R		5	V
Forward Current	I_F	VR	30	mA
		VG	30	
Peak Forward Current(Duty 1/10 @ 1KHz)	I_{FP}	VR	60	mA
		VG	60	
Power Dissipation	Pd	VR	100	mW
		VG	100	
Electrostatic Discharge(HBM)	ESD	VR	2000	V
		VG	2000	
Operating Temperature	Topr		-40 ~ +85	℃
Storage Temperature	Tstg		-40~ +95	℃
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	VR	7.2	-----	28.5	mcd	IF=20mA
		VG	11.5	-----	45	mcd	
Viewing Angle	2θ1/2		-----	120	-----	deg	IF=20mA
Peak Wavelength	λp	VR	-----	640	-----	nm	IF=20mA
		VG	-----	570	-----		
Dominant Wavelength	λd	VR	615	-----	635	nm	IF=20mA
		VG	565	-----	577		
Spectrum Radiation Bandwidth	△λ	VR	-----	45	-----	nm	IF=20mA
		VG	-----	30	-----		
Forward Voltage	VF	VR	1.7	-----	2.4	V	IF=20mA
		VG	1.7	-----	2.4		
Reverse Current	IR		-----	-----	10	μA	VR=5V

Notes:

1.Tolerance of Luminous Intensity: ±11%

2.Tolerance of Dominant Wavelength: ±1nm

3.Tolerance of Forward Voltage: ±0.1V

Bin Range of Luminous Intensity

Type	Bin	Min.	Max.	Unit	Condition
VR	K	7.2	11.5	mcd	I_F=20mA
	L	11.5	18		
	M	18	28.5		
VG	L	11.5	18		
	M	18	28.5		
	N	28.5	45		

Bin Range of Dominant Wavelength

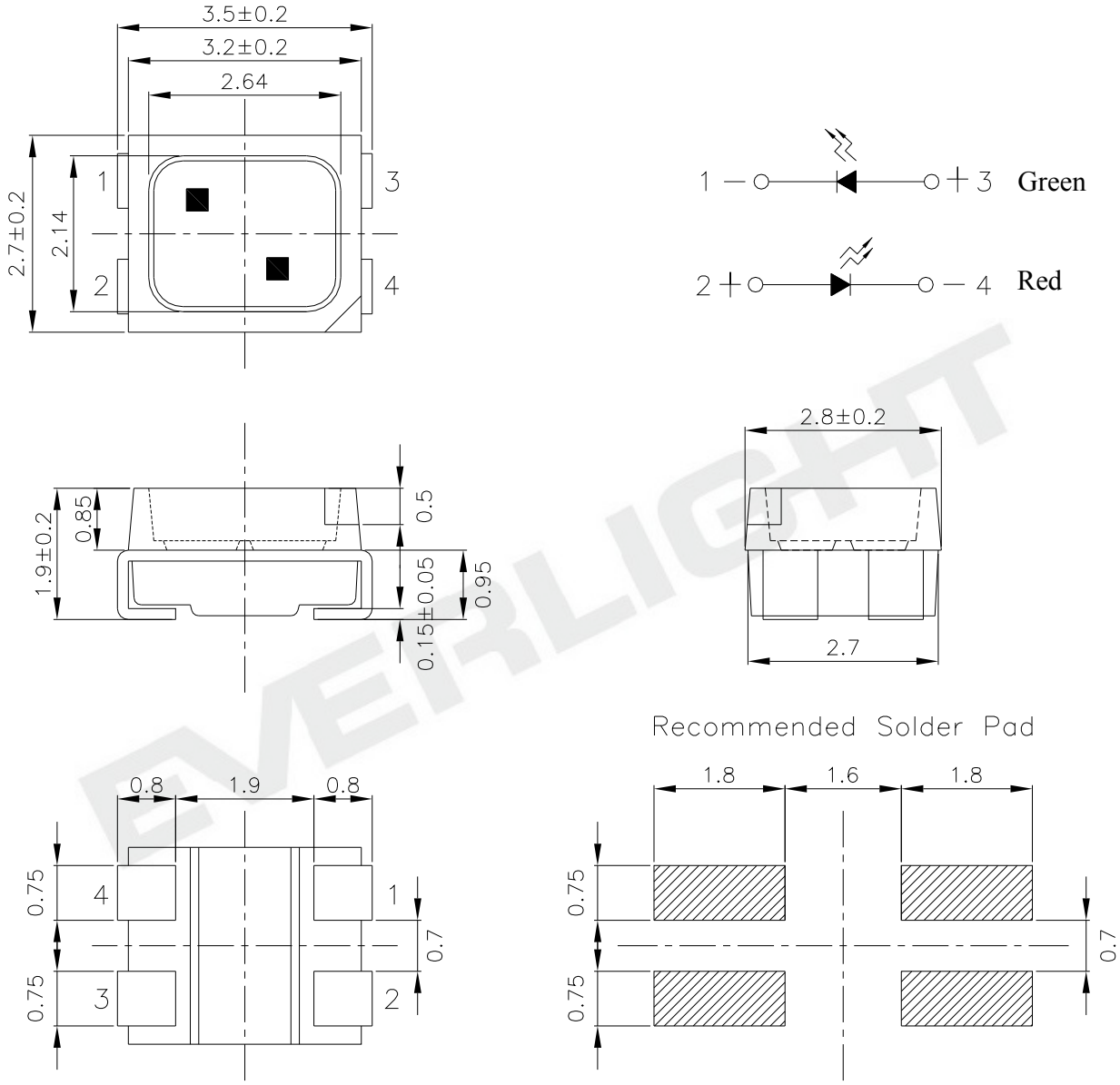
Type	Bin	Min.	Max.	Unit	Condition
VR	-----	615	635	nm	I_F=20mA
VG	5	565	568		
	6	568	571		
	7	571	574		
	8	574	577		

Notes:

1.Tolerance of Luminous Intensity: ±11%

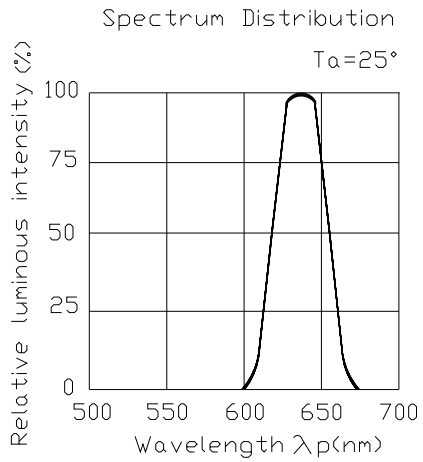
2.Tolerance of Dominant Wavelength: ±1nm

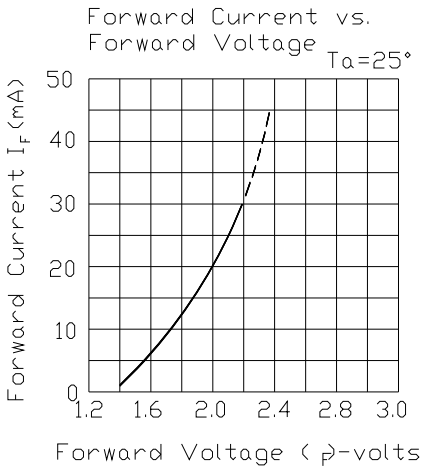
Package Dimensions

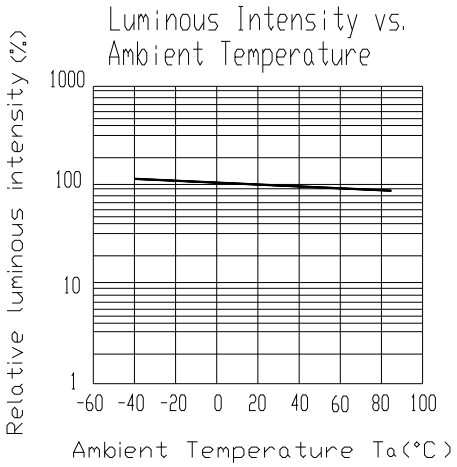


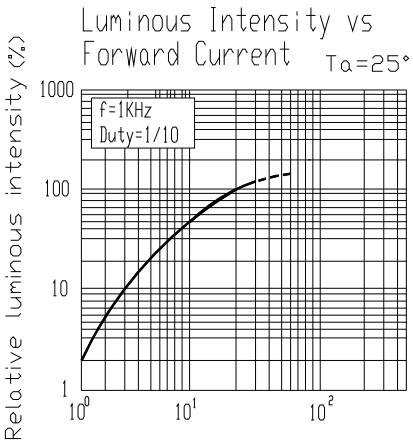
Note: The tolerance unless mentioned is ±0.1mm.

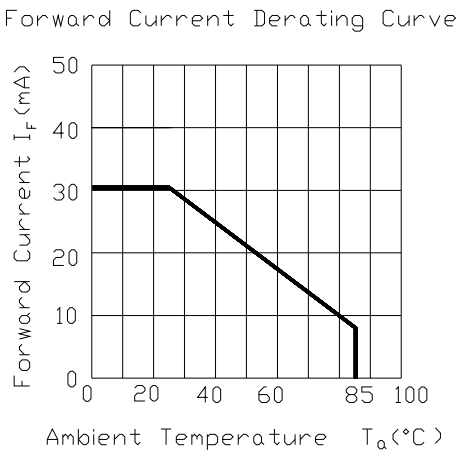
Typical Electro-Optical Characteristics Curve (VR)

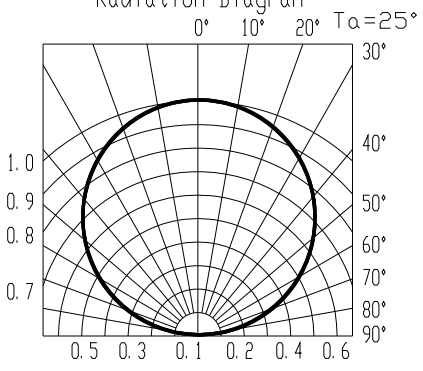




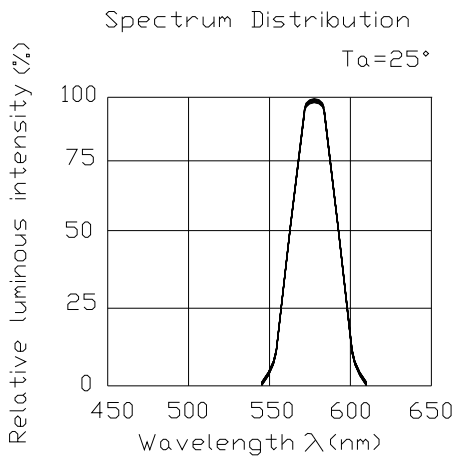


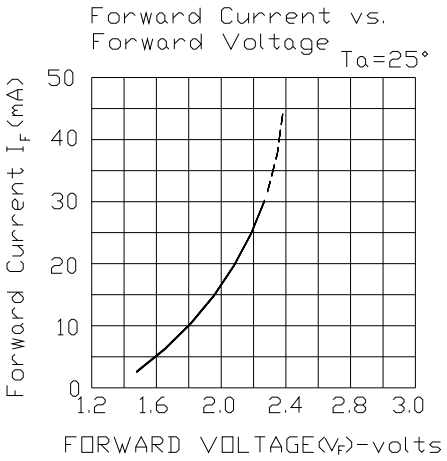


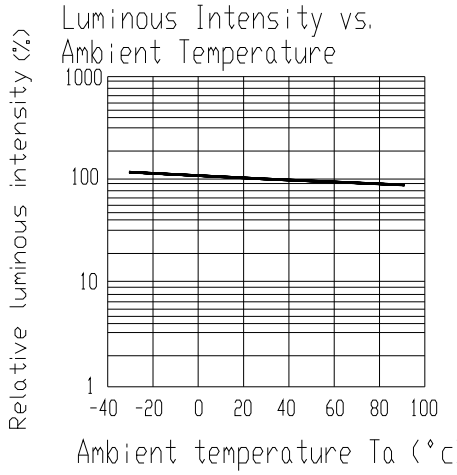


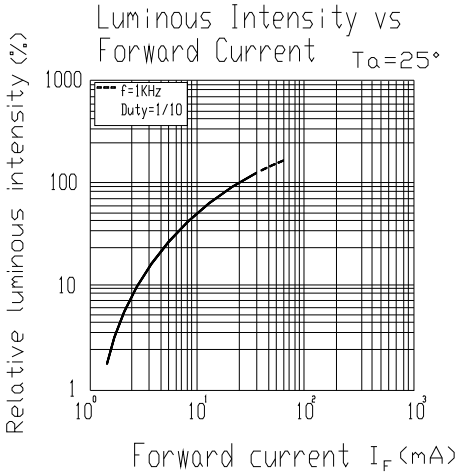


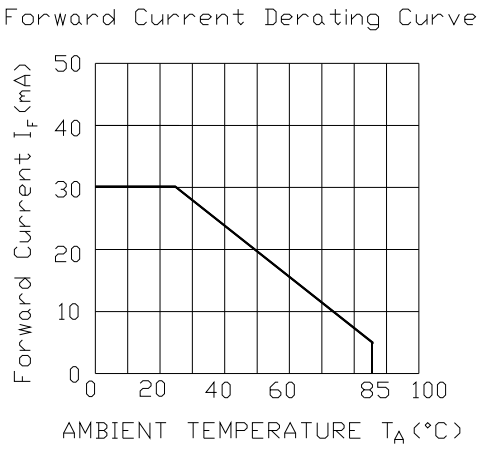
Typical Electro-Optical Characteristics Curves (VG)

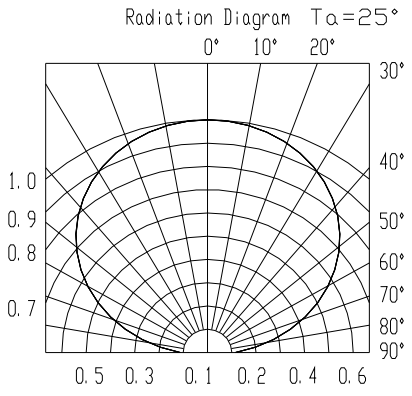










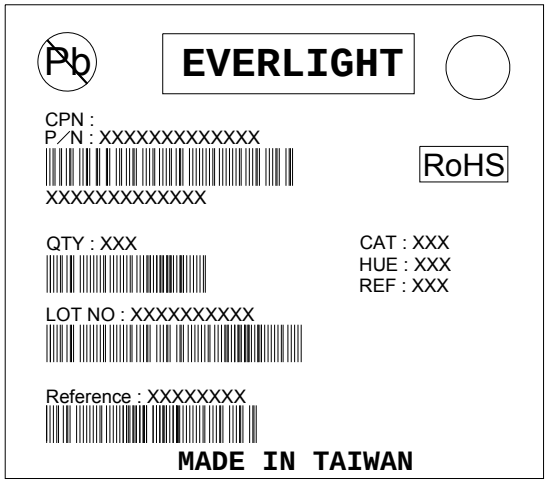


Label Explanation

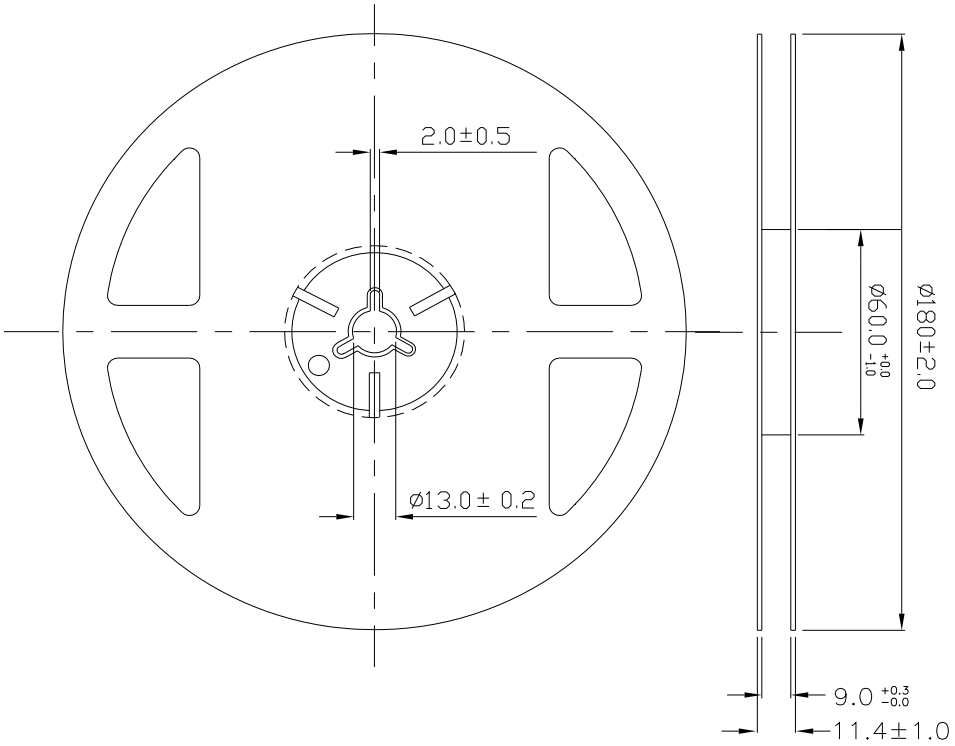
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank

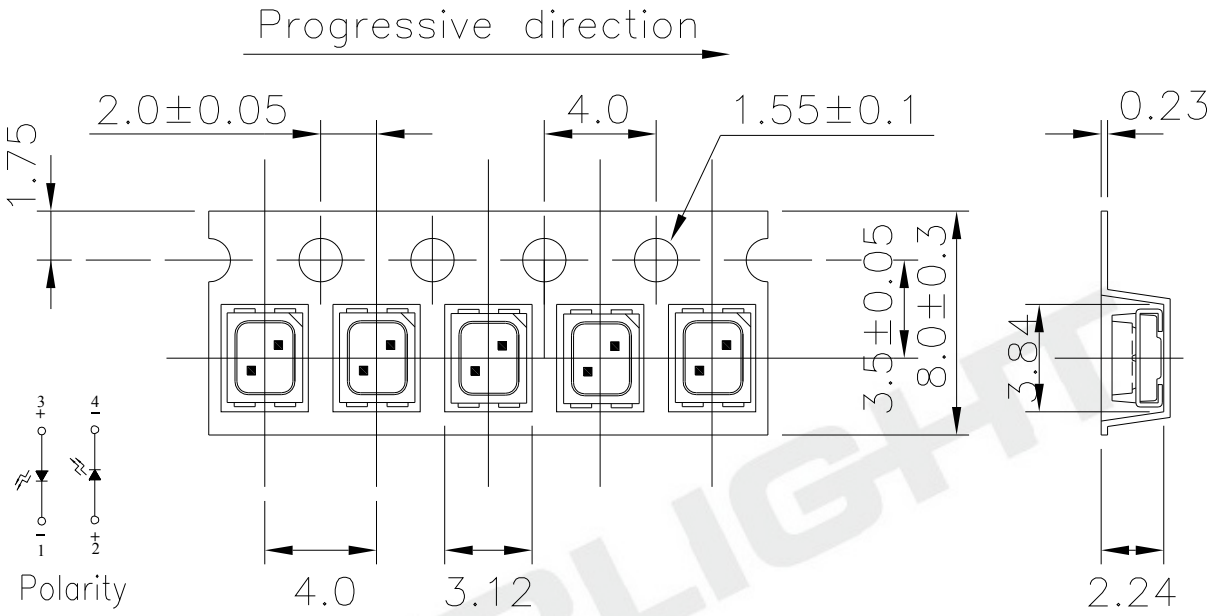


Reel Dimensions



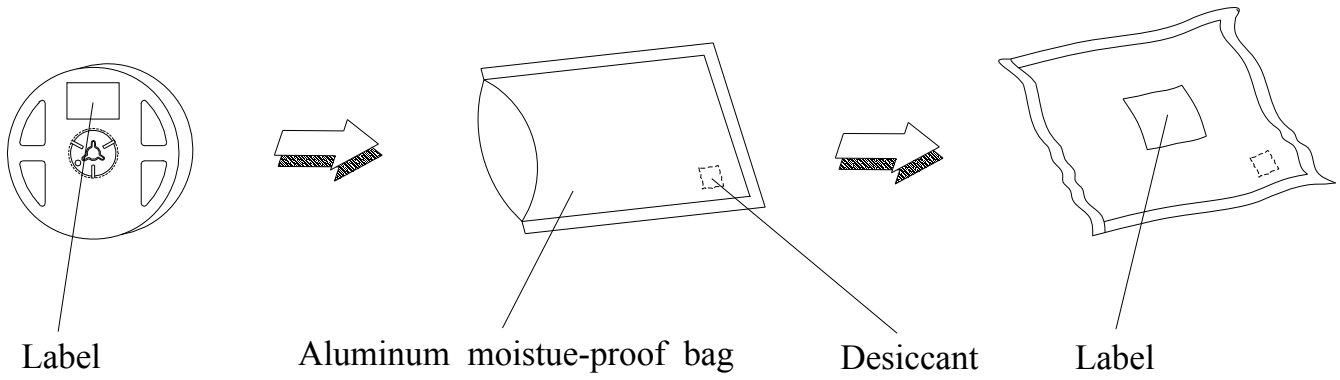
Note: The tolerance unless mentioned is ±0.1mm.

Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



Note: The tolerance unless mentioned is ±0.1mm.

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℃ 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 = 20 mA	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 168 hrs under 30℃ or less and 60% RH or less.

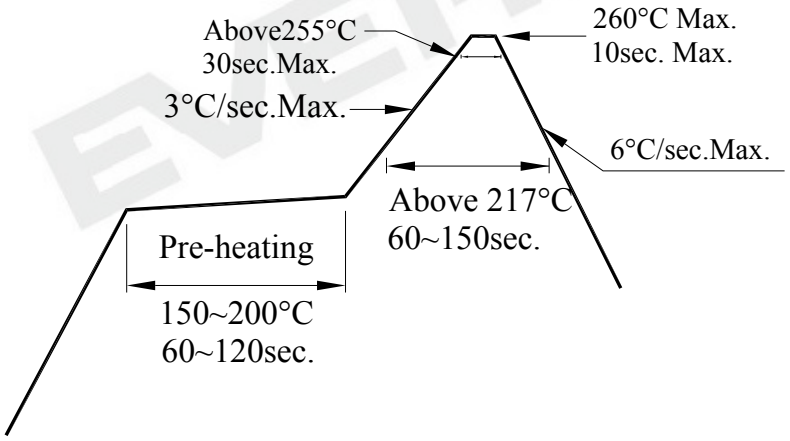
   If unused LEDs remain, it should be stored in moisture proof packages.

   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.

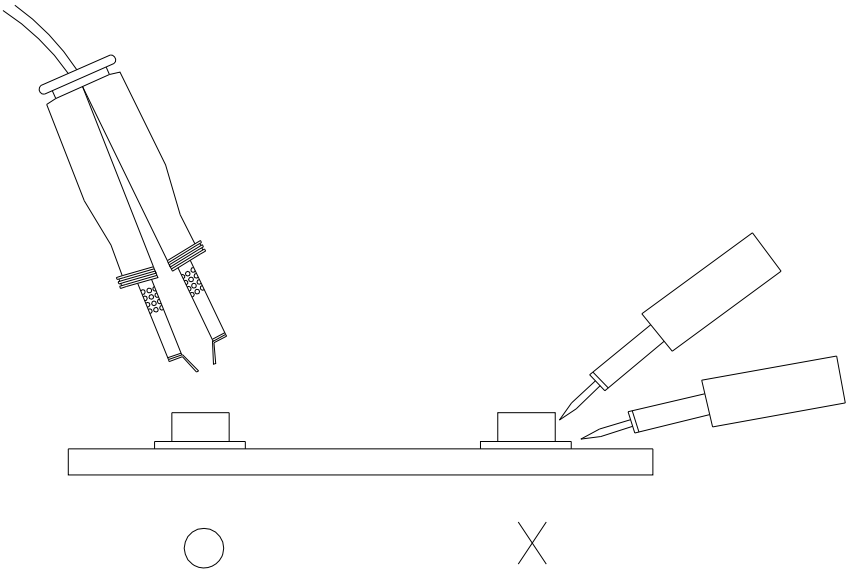
   3.4 After soldering, do not warp the circuit board.

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.



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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