EVERLIGHT AMERICAS

DATASHEET

# SMD- Power Top View LEDs
# EAPL3527RB0

## Features

- P-LCC-3 package.
- High flux output.
- High current capability.
- Optical indicator
- Colorless clear window.
- Ideal for backlight and light pipe application.
- Inter reflector.
- Wide viewing angle.
- Suitable for automatic placement equipment.
- Precondition: Bases on JEDEC J-STD 020D Level 3
- Pb-free.
- The product itself will remain within RoHS compliant version.

## Applications

- Switches, symbol, mobile phone, digital camera and illuminated advertising.
- Display for indoor and outdoor application.
- Ideal for coupling into light guides.
- Amusement equipment.
- General applications.
- Optical indicator.

## Device Selection Guide

| Chip Materials | Emitted Color | Resin Color |
|---|---|---|
| AlGaInP | Brilliant Red | Water Clear |

## Absolute Maximum Ratings (Ta=25℃)

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Reverse Voltage | $V_R$ | 5 | V |
| Forward Current | $I_F$ | 70 | mA |
| Peak Forward Current (Duty 1/10 @1KHz) | $I_{FP}$ | 100 | mA |
| Power Dissipation | Pd | 130 | mW |
| Junction Temperature | $T_j$ | 115 | ℃ |
| Operating Temperature | $T_{opr}$ | -40 ~ +85 | ℃ |
| Storage Temperature | Tstg | -40 ~ +100 | ℃ |
| ESD | $ESD_{HBM}$ | 2000 | V |
| Soldering Temperature | $T_{sol}$ | Reflow Soldering : 260 ℃ for 10 sec.<br>Hand Soldering : 350 ℃ for 3 sec. | |

## Electro-Optical Characteristics (Ta=25℃)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Condition |
|---|---|---|---|---|---|---|
| Luminous Intensity | Iv | 715 | ----- | 1800 | mcd | $I_F$=50mA |
| Viewing Angle | $2\theta_{1/2}$ | ----- | 120 | ----- | deg | $I_F$=50mA |
| Peak Wavelength | λp | ----- | 632 | ----- | nm | $I_F$=50mA |
| Dominant Wavelength | λd | 617.5 | --- | 633.5 | nm | $I_F$=50mA |
| Spectrum Radiation Bandwidth | Δλ | ----- | 20 | ----- | nm | $I_F$=50mA |
| Forward Voltage | $V_F$ | 1.95 | --- | 2.75 | V | $I_F$=50mA |
| Reverse Current | $I_R$ | --- | --- | 10 | μA | $V_R$=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

| Bin Code | Min. | Max. | Unit | Condition |
|---|---|---|---|---|
| V1 | 715 | 900 | mcd | $I_F$=50mA |
| V2 | 900 | 1120 | | |
| W1 | 1120 | 1420 | | |
| W2 | 1420 | 1800 | | |

## Bin Range of Dom. Wavelength

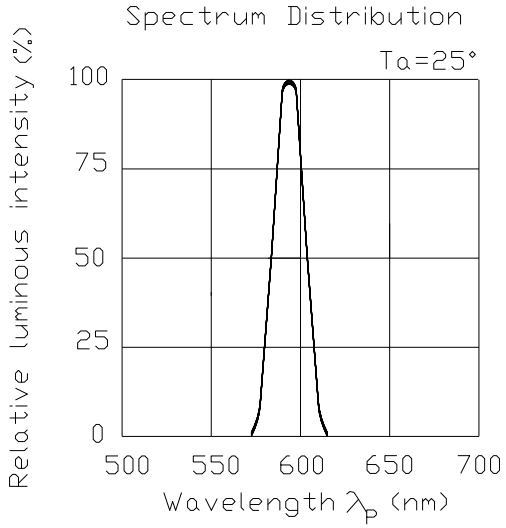
| Group | Bin Code | Min. | Max. | Unit | Condition |
|---|---|---|---|---|---|
| A | E4 | 617.5 | 621.5 | nm | $I_F$=50mA |
| | E5 | 621.5 | 625.5 | | |
| | E6 | 625.5 | 629.5 | | |
| | E7 | 629.5 | 633.5 | | |

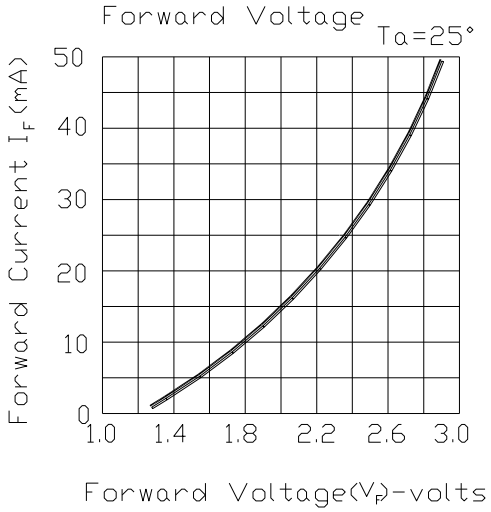
## Bin Range of Forward Voltage

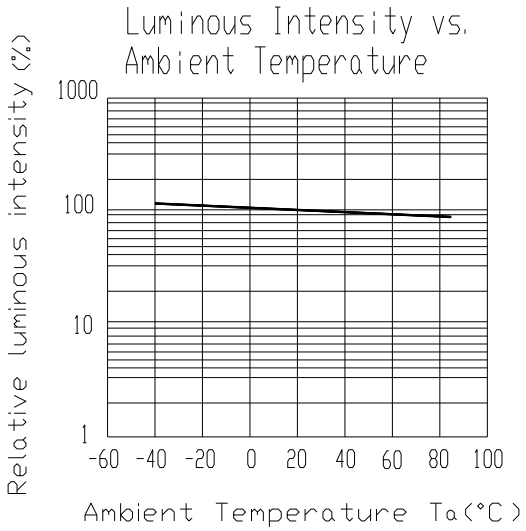
| Group | Bin Code | Min. | Max. | Unit | Condition |
|---|---|---|---|---|---|
| B9 | 1 | 1.95 | 2.15 | V | $I_F$=50mA |
| | 2 | 2.15 | 2.35 | | |
| | 3 | 2.35 | 2.55 | | |
| | 4 | 2.55 | 2.75 | | |

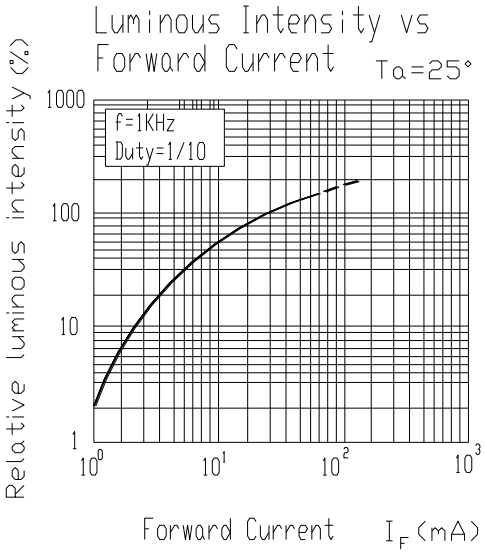
Notes:
1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Dominant Wavelength: ±1nm
3. Tolerance of Forward Voltage: ±0.1V

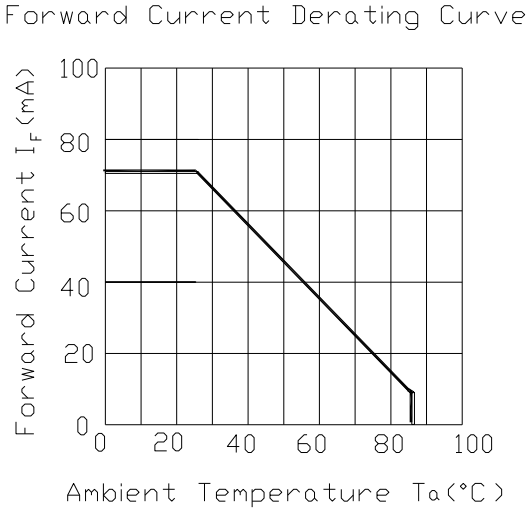
## Typical Electro-Optical Characteristics Curves

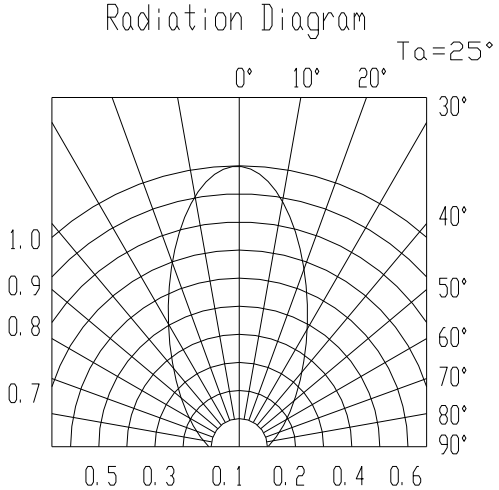


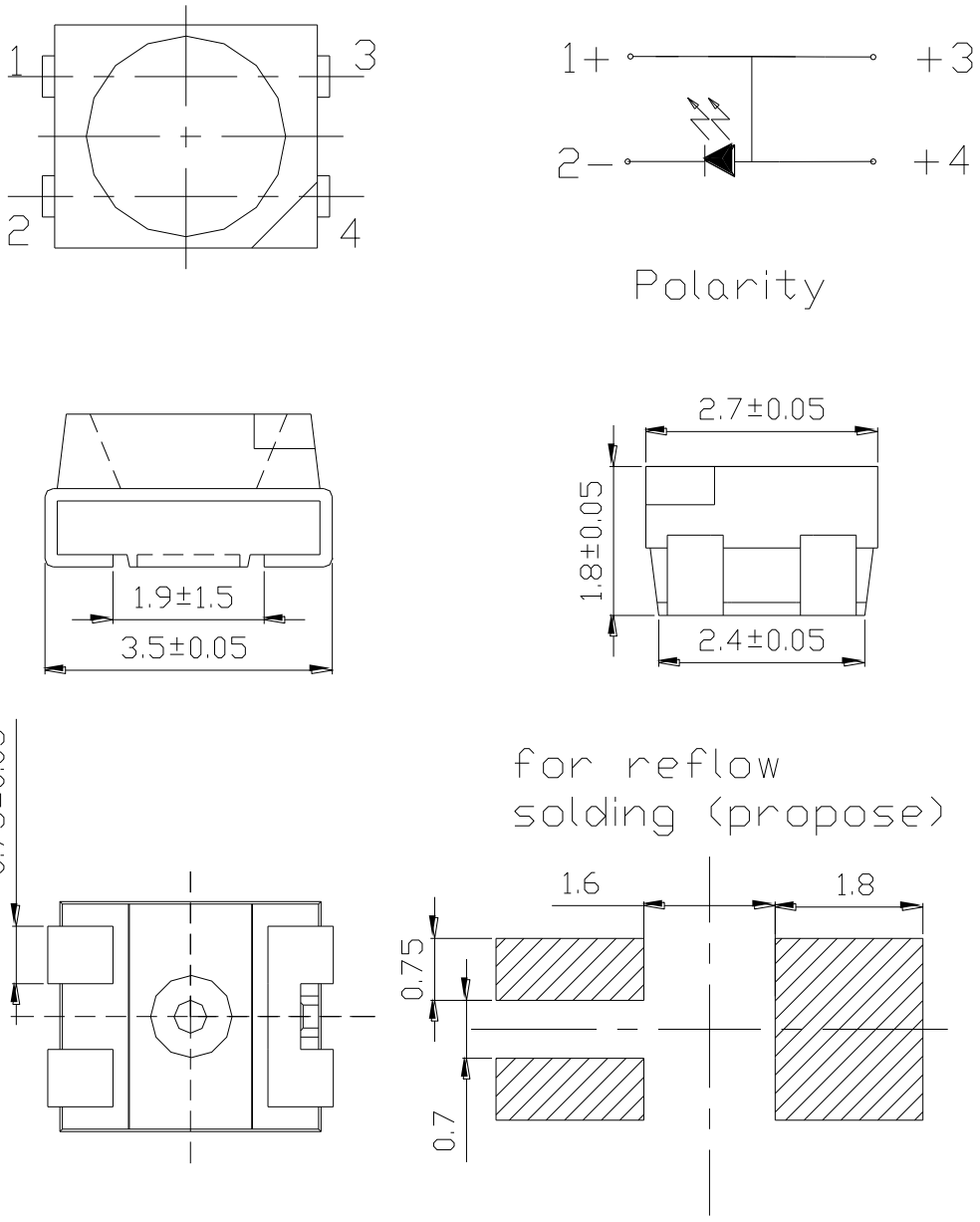



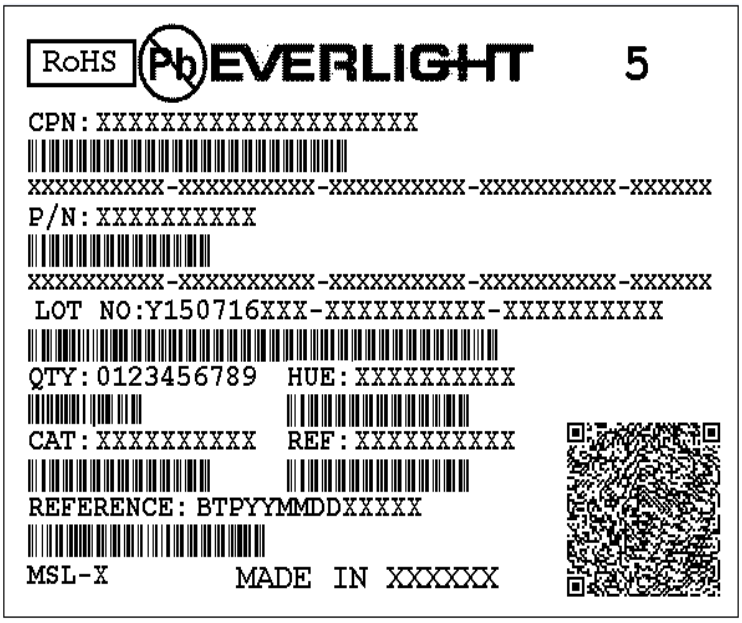
## Package Dimension




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

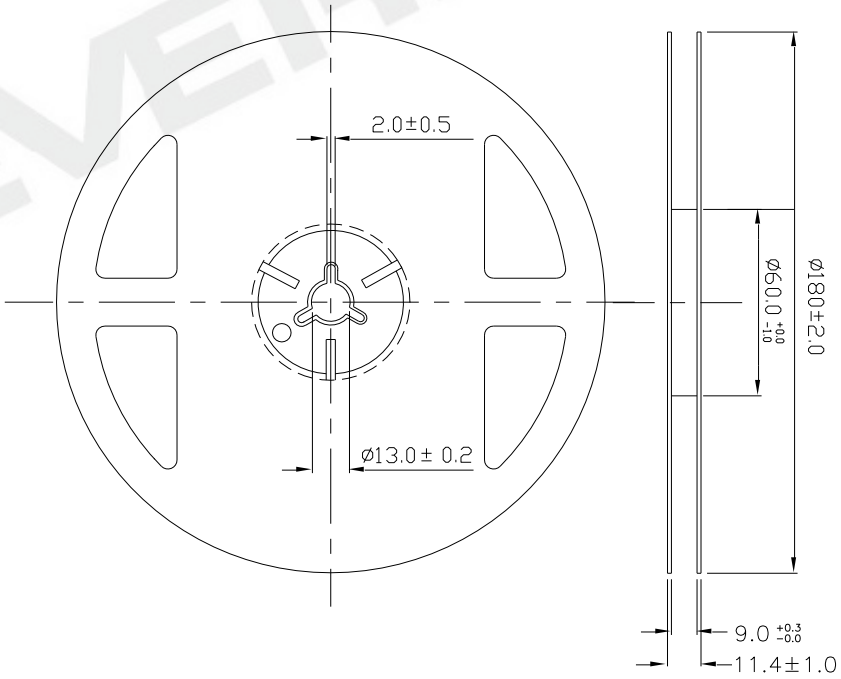
## Moisture Resistant Packing Materials

### Label Explanation

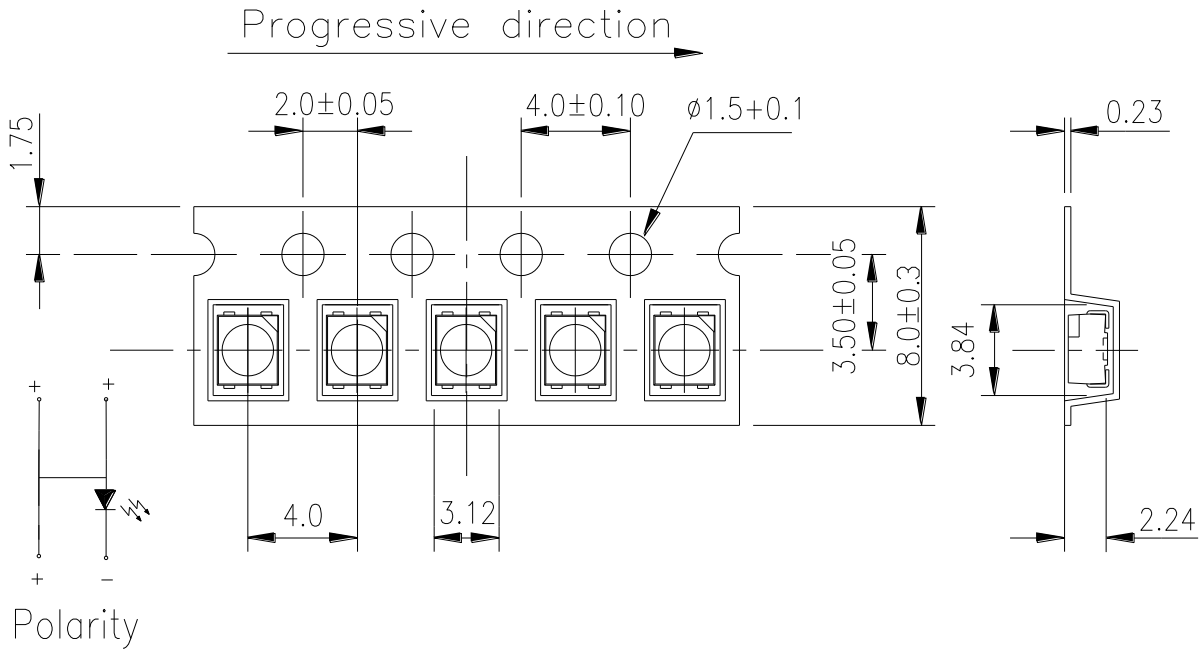



- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

## Reel Dimensions

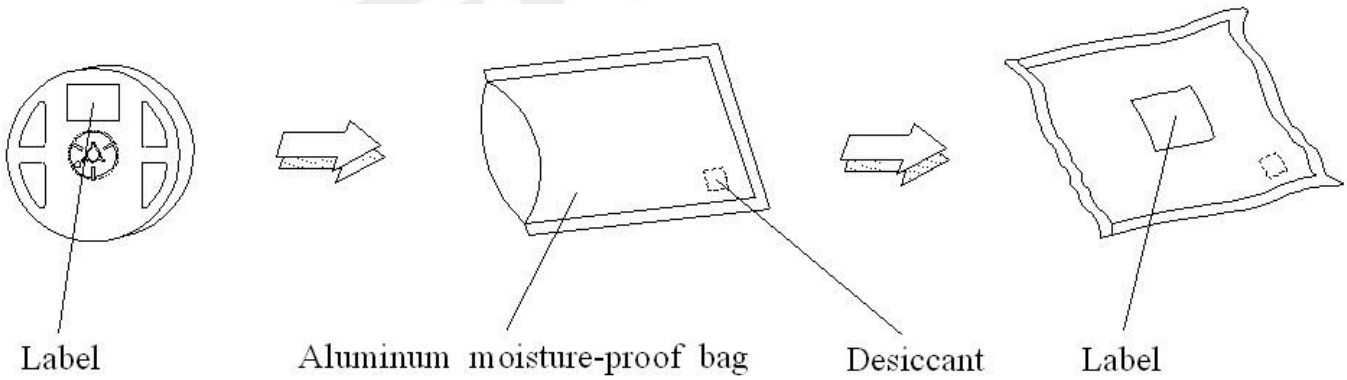


## Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



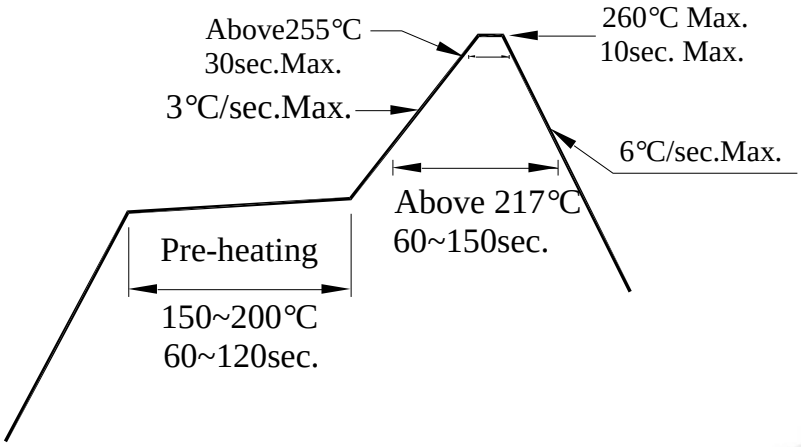

Note:
Tolerances unless mentioned ±0.1mm. Unit = mm

## Moisture Resistant Packing Process

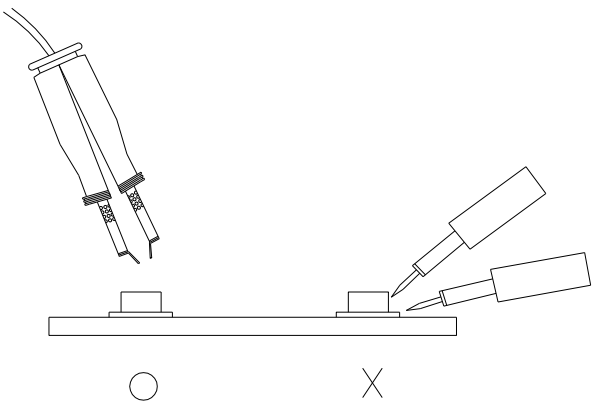


## Precautions for Use

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 MSL Conditions stated on page 1 of this spec should not be exceeded.
   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

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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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