

## SMD- Full Color Top View LEDs 67-22/R7GHC-B01/2T



### Features

- P-LCC-4 package.
- Inter reflector and white package.
- Optical indicator.
- Colorless clear window.
- Ideal for backlight and light pipe application.
- 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.
- Compliance with EU REACH.
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm).
- Precondition: Bases on JEDEC J-STD 020D Level 3

### Description

The 67-22 series is available in soft orange, green, blue and yellow. Due to the package design, the LED has wide viewing angle and optimized light coupling by inter reflector, 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

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

### Device Selection Guide

Chip Materials	Emitted Color	Resin Color
AlGaInP	Dark Red	Water Clear
InGaN	Brilliant Green	Water Clear

### Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	$V_R$	5	V
Forward Current	$I_F$	R7	50
		GH	25
Peak Forward Current (Duty 1/10 @1KHz)	$I_{FP}$	R7	100
		GH	100
Power Dissipation	$P_d$	R7	120
		GH	95
Junction Temperature	$T_j$	115	°C
Operating Temperature	$T_{opr}$	-40 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +90	°C
ESD	$ESD_{HBM}$	R7	2000
		GH	2000
Soldering Temperature	$T_{sol}$	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.	

**Electro-Optical Characteristics (Ta=25°C)**

Parameter	Symbol		Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>v</sub>	R7	112	-----	225	mcd	
		GH	225	-----	710		
Viewing Angle	2θ <sub>1/2</sub>		-----	120	-----	deg	
Peak Wavelength	λ <sub>p</sub>	R7	-----	639	-----	nm	
		GH	-----	518	-----		
Dominant Wavelength	λ <sub>d</sub>	R7	628	-----	636	nm	I <sub>F</sub> =20mA
		GH	520	-----	530		
Spectrum Radiation Bandwidth	Δλ	R7	-----	20	-----		
		GH	-----	35	-----		
Forward Voltage	V <sub>F</sub>	R7	-----	2.0	2.4	V	
		GH	-----	3.5	4.0		
Reverse Current	I <sub>R</sub>	R7	-----	-----	10	μA	V <sub>R</sub> =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

Code	Bin Code	Min.	Max.	Unit	Condition
R7	R1	112	140	mcd	I <sub>F</sub> =20mA
	R2	140	180		
	S1	180	225		
GH	S2	225	285		
	T1	285	360		
	T2	360	450		
	U1	450	560		
	U2	560	710		

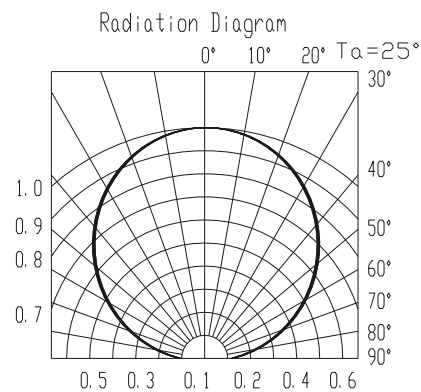
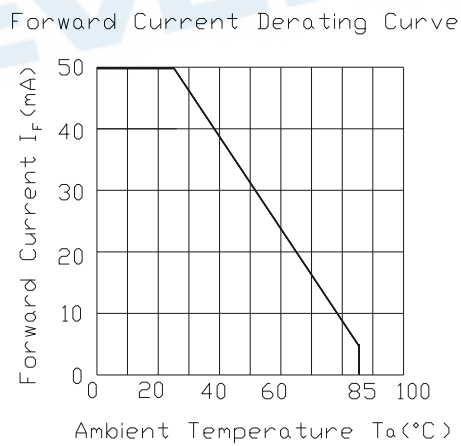
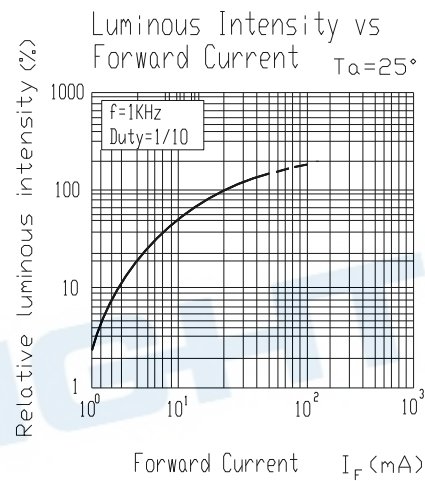
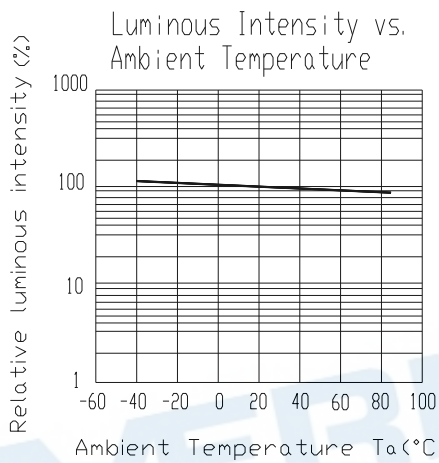
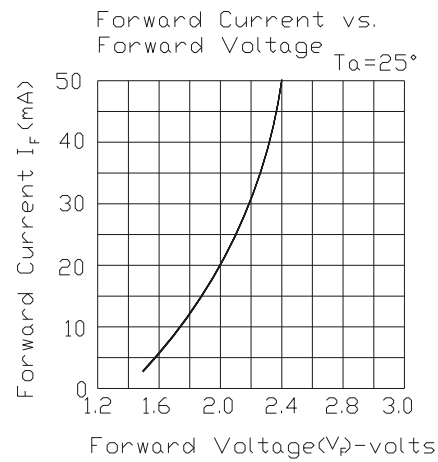
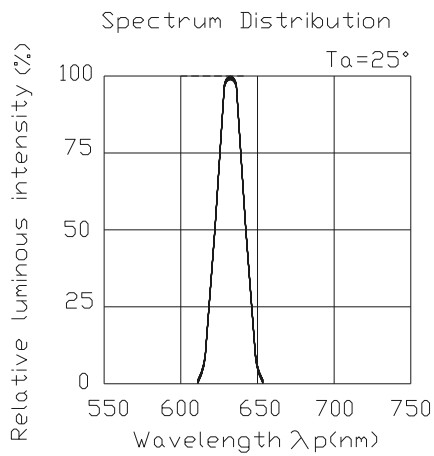
Note:  
Tolerance of Luminous Intensity: ±11%

### Bin Range of Dominant Wavelength

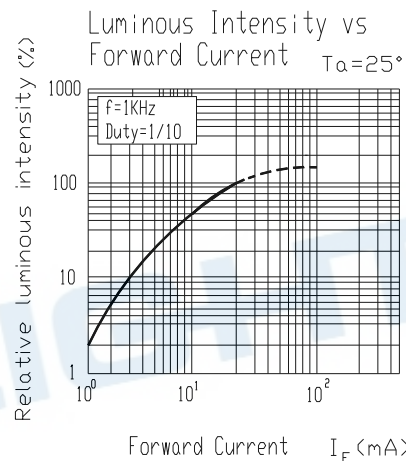
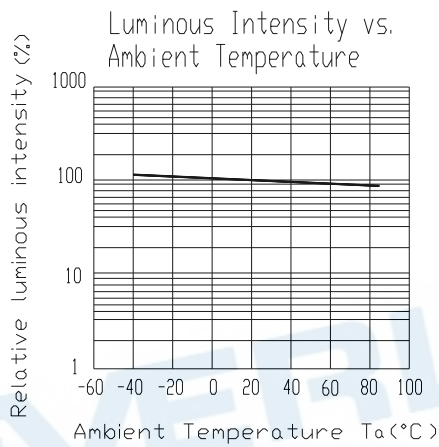
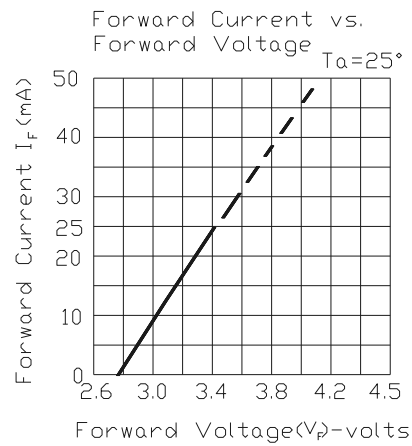
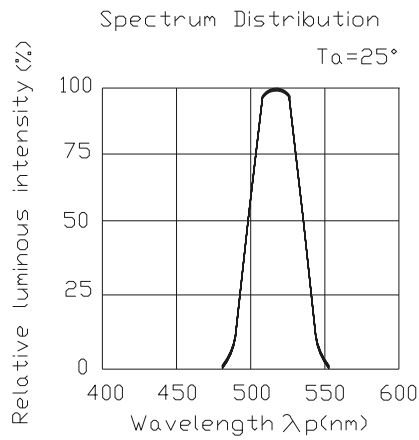
Code	Bin Code	Min.	Max.	Unit	Condition
R7	FF3	628	632	nm	I <sub>F</sub> =20mA
	FF4	632	636		
GH	X	520	525		
	Y	525	530		

Note:  
Tolerance of Dominant Wavelength: ±1nm

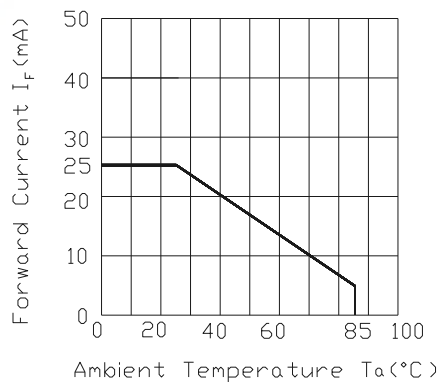
Typical Electro-Optical Characteristics Curves (R7)



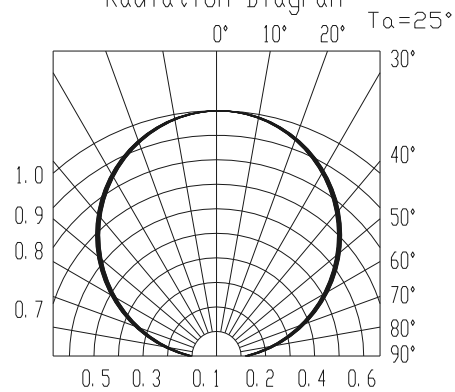
Typical Electro-Optical Characteristics Curves (GH)



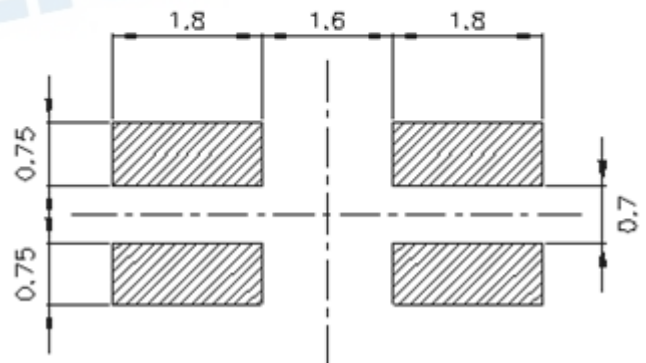
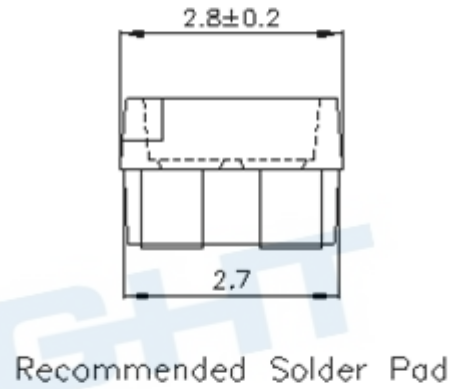
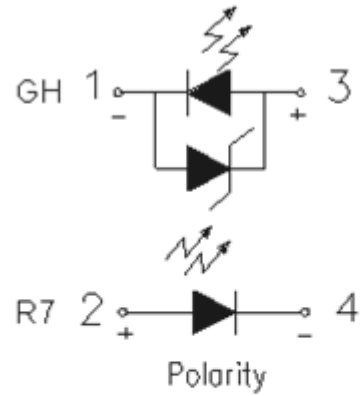
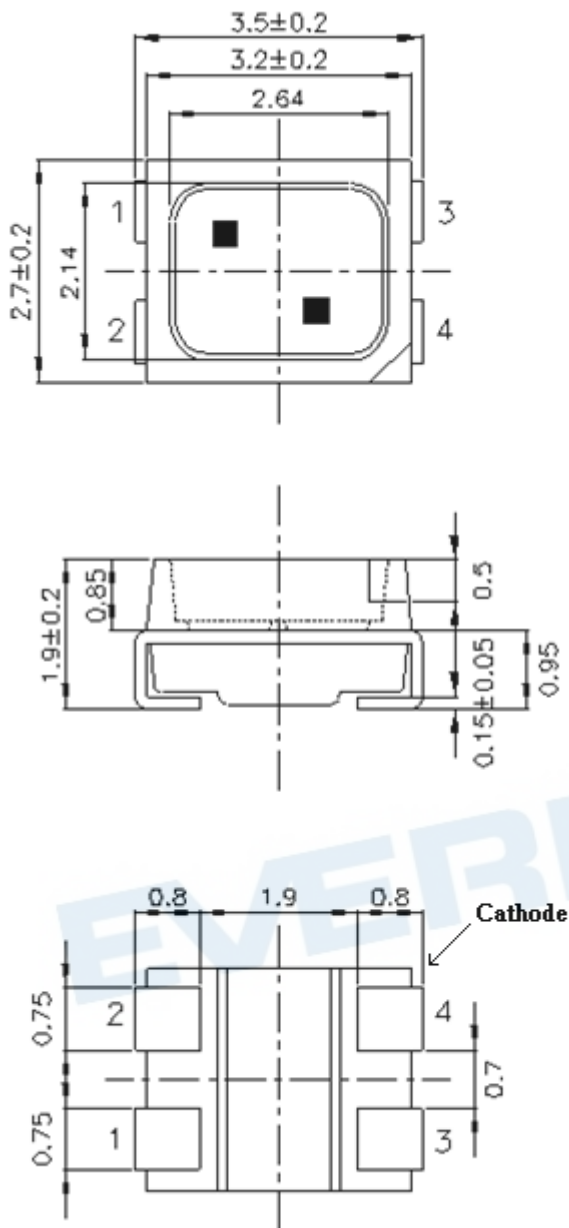
Forward Current Derating Curve



Radiation Diagram



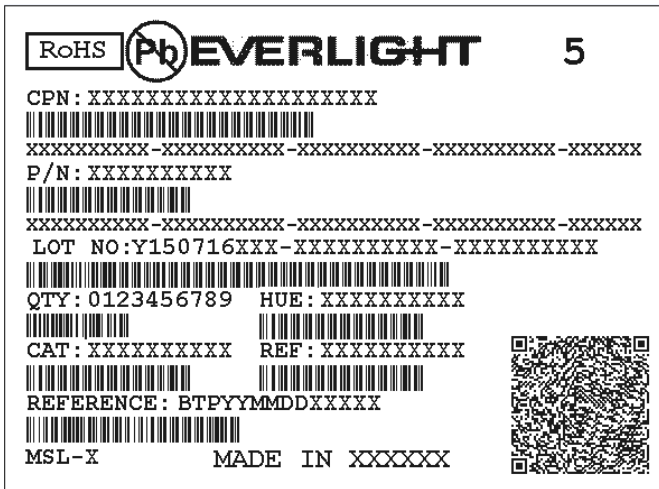
Package Dimension



Note: Tolerances unless mentioned  $\pm 0.1$ mm. Unit = mm

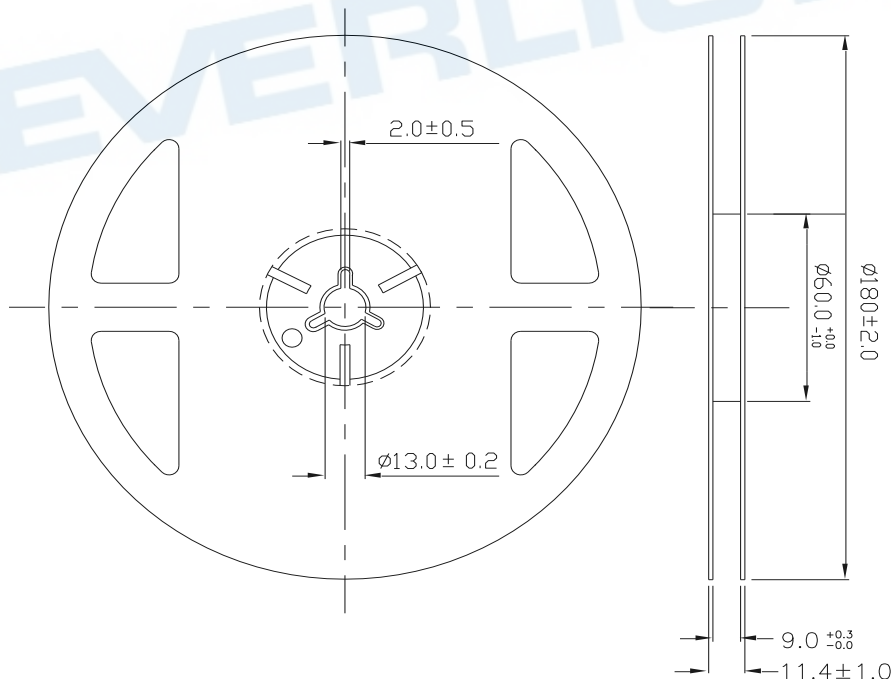
Moisture Resistant Packing Materials

Label Explanation



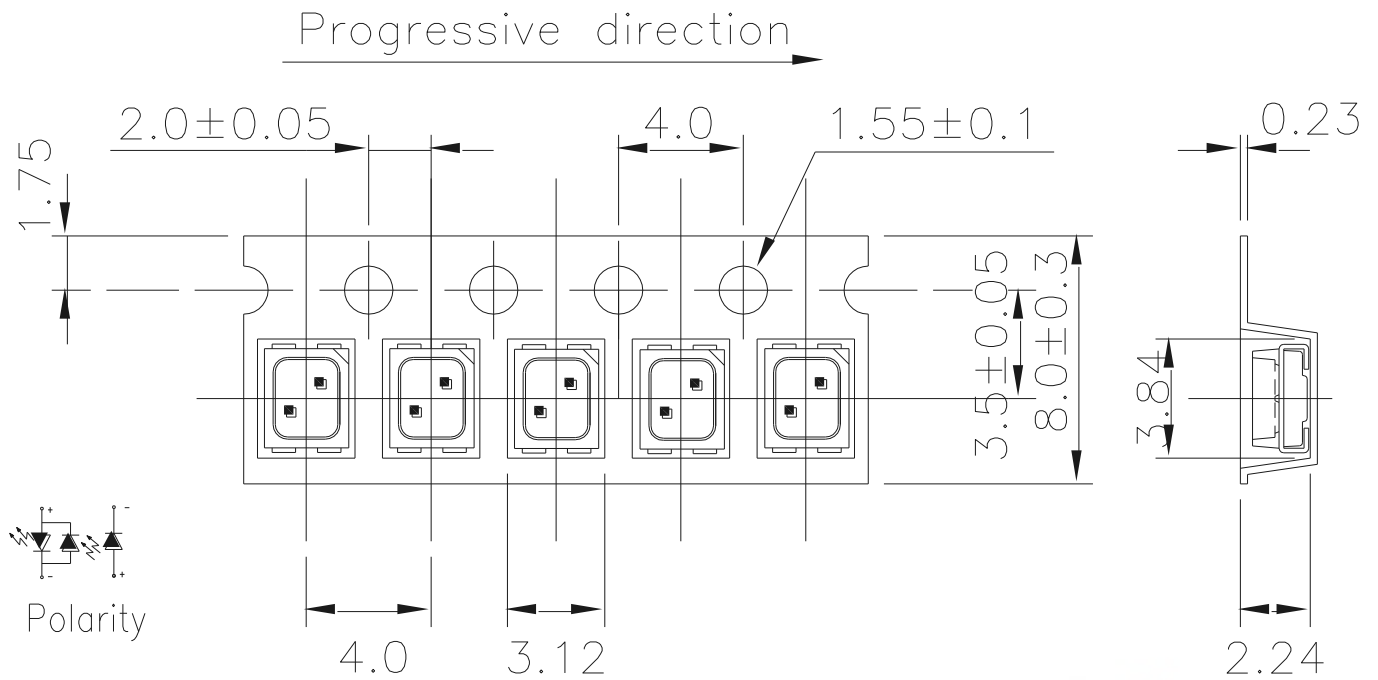
- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

Reel Dimensions





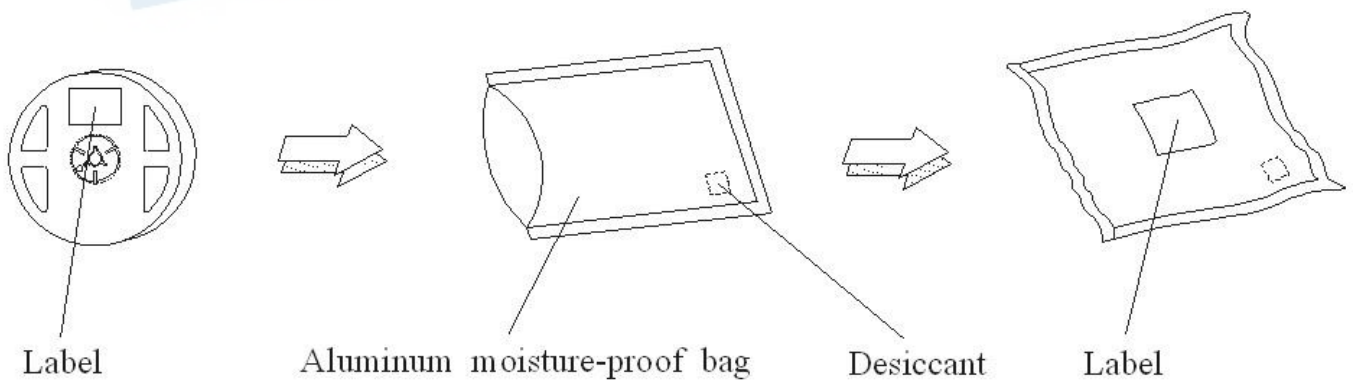
**Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel**



Notes:

- 1.Tolerances unless mentioned  $\pm 0.1$ mm. Unit = mm
- 2.Minimum packing amount is 250/500/1000/2000 pcs per reel

**Moisture Resistant Packing Process**

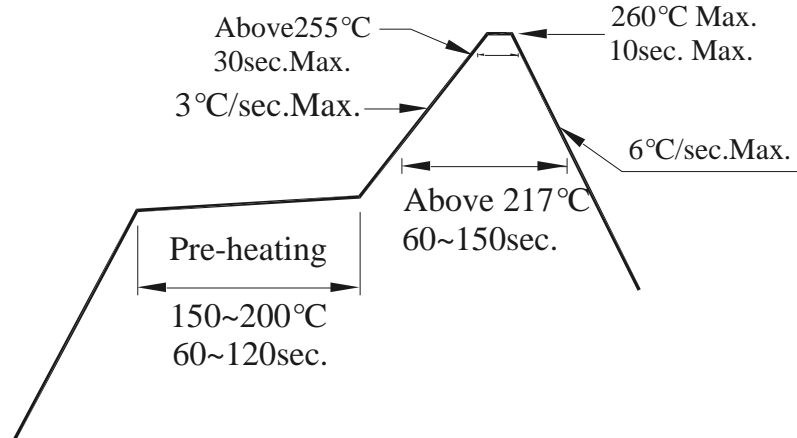


Note: Tolerances unless mentioned  $\pm 0.1$ mm. Unit = mm

## 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°C 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

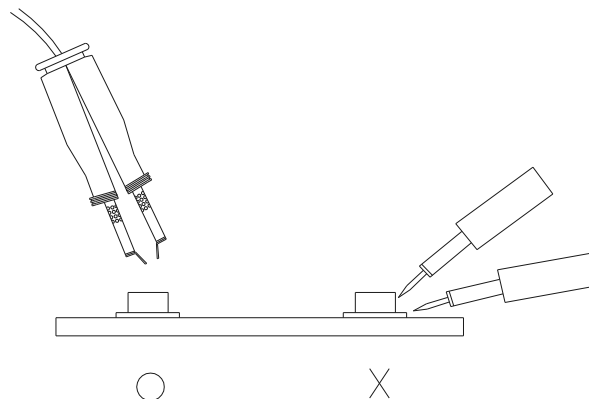
- 3.1 Pb-free solder temperature profile
- 3.2 Reflow soldering should not be done more than two times.
- 3.3 When soldering, do not put stress on the LEDs during heating.
- 3.4 After soldering, do not warp the circuit board.

### 4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C 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

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.
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