

### SMD- Top view LEDs 67-21SYGC/S349/TR8



#### Features

- P-LCC-2 package.
- Inner reflector and white package.
- Optical indicator.
- Colorless clear resin
- Wide viewing angle 120°.
- High performance.
- Soldering methods: IR reflow soldering.
- Precondition: Bases on JEDEC J-STD 020D Level 3
- Pb-free.
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH
- Compliance Halogen Free .(Br<900ppm,Cl<900ppm,Br+Cl<1500ppm)

#### 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	Super Yellow Green	Water Clear

## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	$V_R$	5	V
Forward Current	$I_F$	25	mA
Peak Forward Current (Duty 1/10 @1KHz)	$I_{FP}$	60	mA
Power Dissipation	$P_d$	60	mW
Junction Temperature	$T_j$	115	°C
Operating Temperature	$T_{opr}$	-40 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +90	°C
ESD	$ESD_{HBM}$	2000	V
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	$I_v$	45	---	112	mcd	$I_F=20mA$
Viewing Angle	$2\theta_{1/2}$	---	120	---	deg	$I_F=20mA$
Peak Wavelength	$\lambda_p$	---	575	---	nm	$I_F=20mA$
Dominant Wavelength	$\lambda_d$	568	---	573	nm	$I_F=20mA$
Spectrum Radiation Bandwidth	$\Delta\lambda$	---	15	---	nm	$I_F=20mA$
Forward Voltage	$V_F$	1.70	2.10	2.40	V	$I_F=20mA$
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
P1	45	57	mcd	I <sub>F</sub> =20mA
P2	57	72		
Q1	72	90		
Q2	90	112		

### Bin Range of Dom. Wavelength

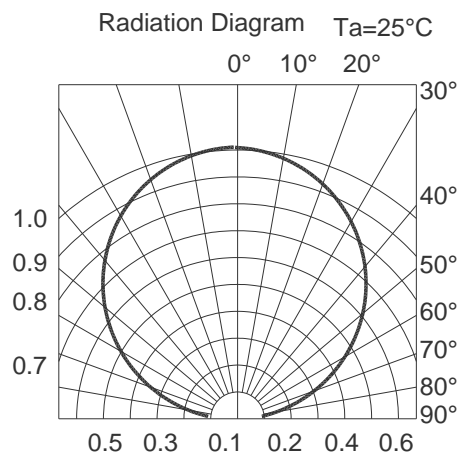
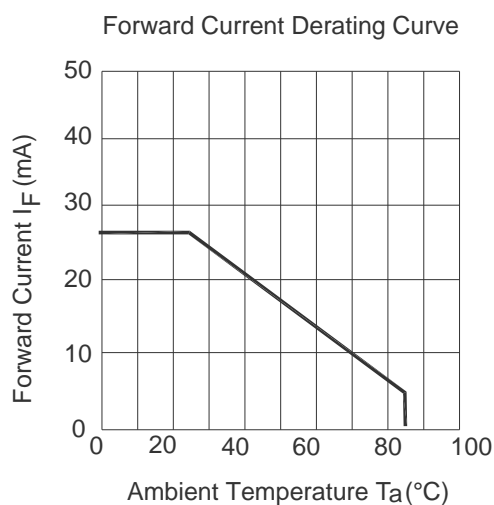
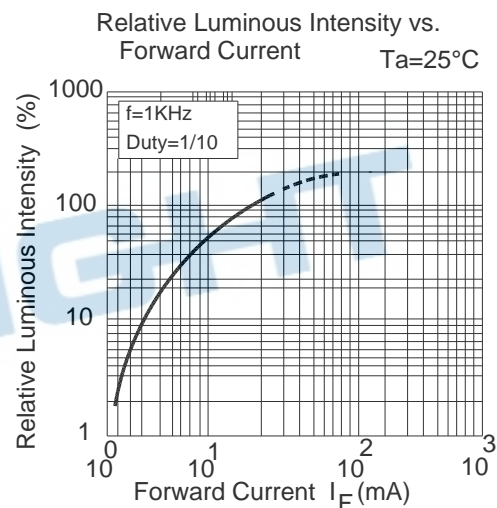
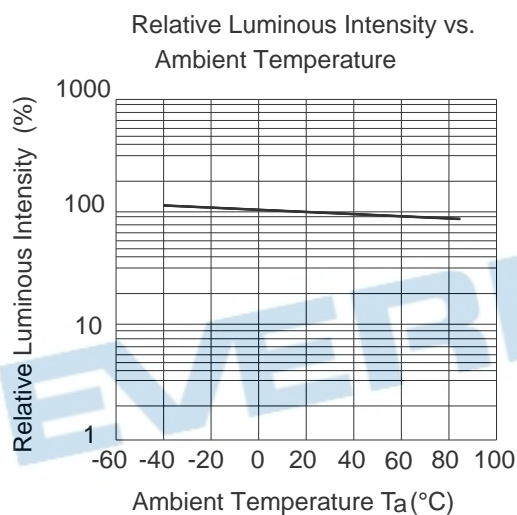
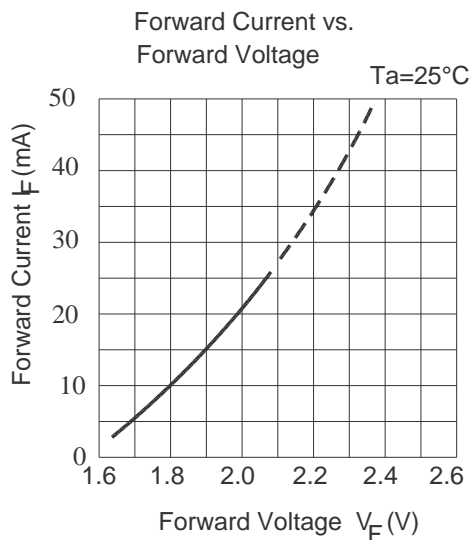
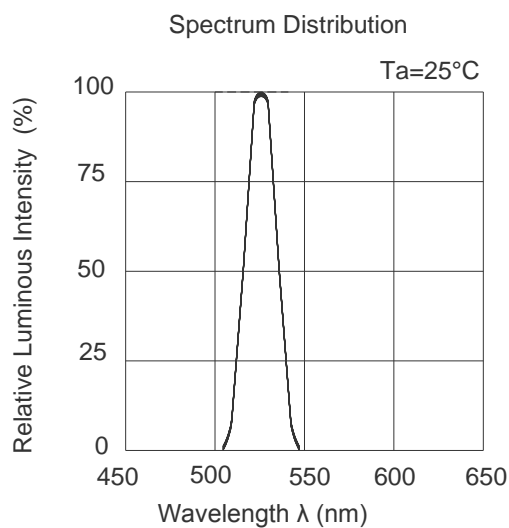
Bin Code	Min.	Max.	Unit	Condition
1	568	571	nm	I <sub>F</sub> =20mA
2	571	573		

Notes:

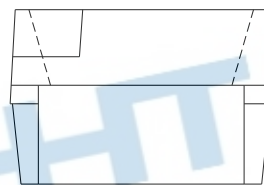
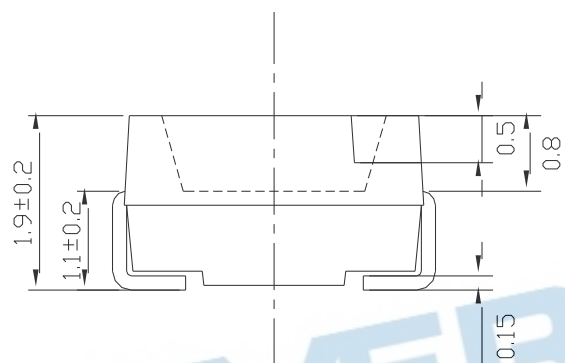
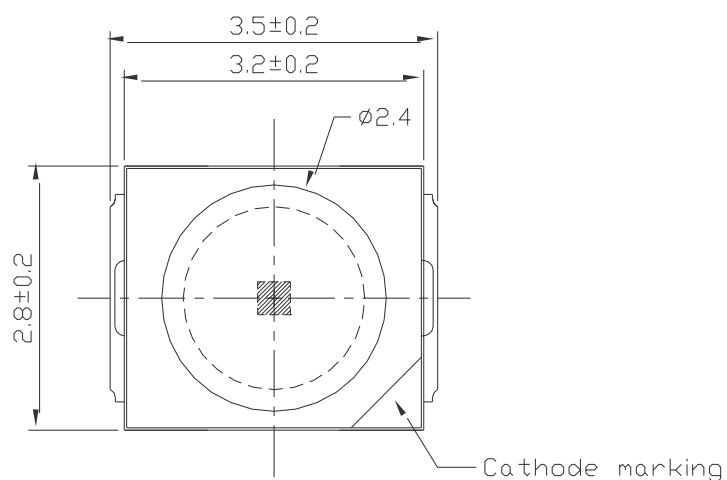
1. Tolerance of Luminous Intensity:  $\pm 11\%$
2. Tolerance of Dominant Wavelength:  $\pm 1\text{nm}$
3. Tolerance of Forward Voltage:  $\pm 0.1\text{V}$

EVERLIGHT

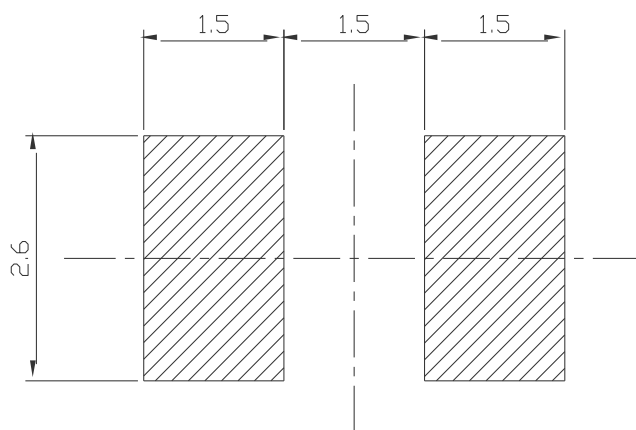
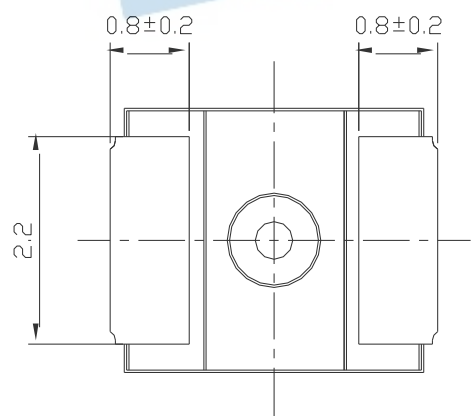
## Typical Electro-Optical Characteristics Curves



## Package Dimension



Recommended Solder Pad



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

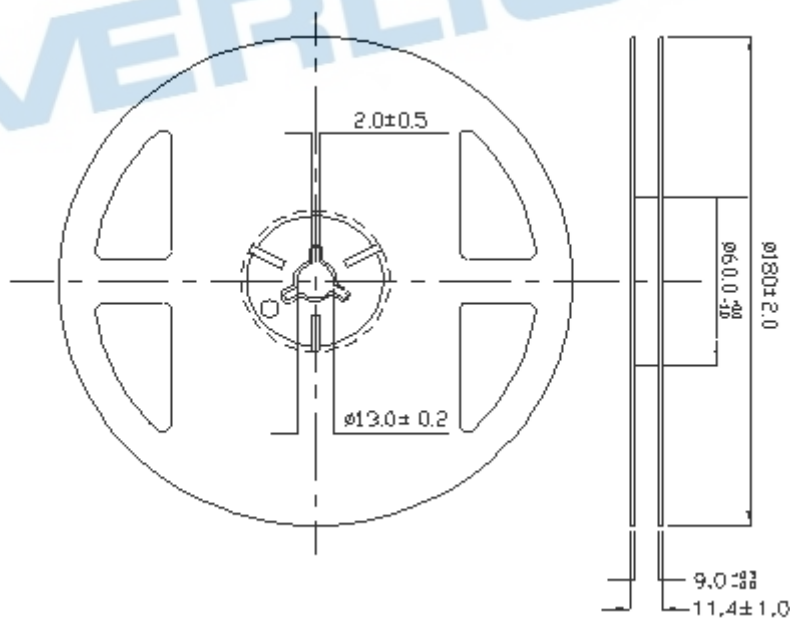
## Moisture Resistant Packing Materials

### Label Explanation

RoHS	<b>Pb</b>	<b>EVERLIGHT</b>	<b>5</b>
CPN : XXXXXXXXXXXXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX			
P/N : XXXXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX			
LOT NO:Y150716XXX-XXXXXXXXXX-XXXXXXXXXX			
QTY: 0123456789 HUE: XXXXXXXXXXXX			
CAT: XXXXXXXXXXXX		REF: XXXXXXXXXXXX	
REFERENCE: BTPYMMDDXXXXX			
MSL-X		MADE IN XXXXXX	

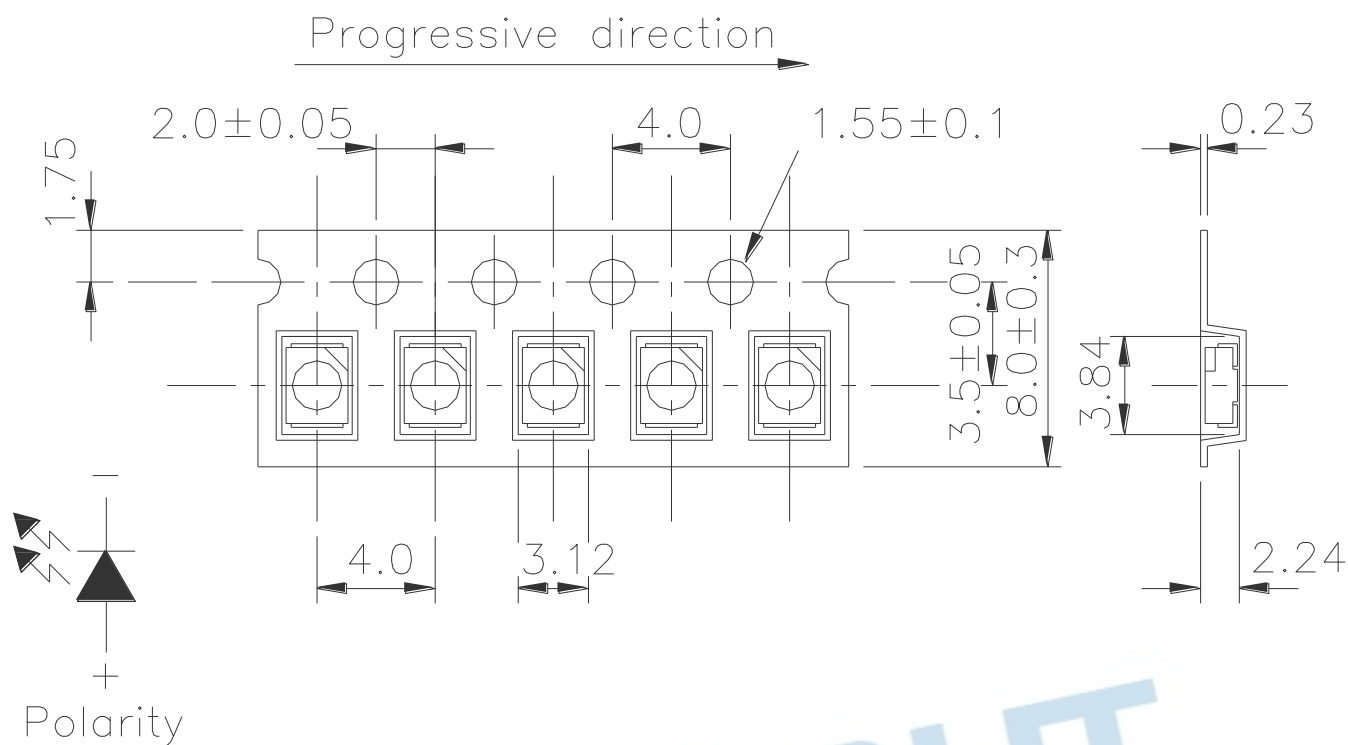
- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

### Reel Dimensions



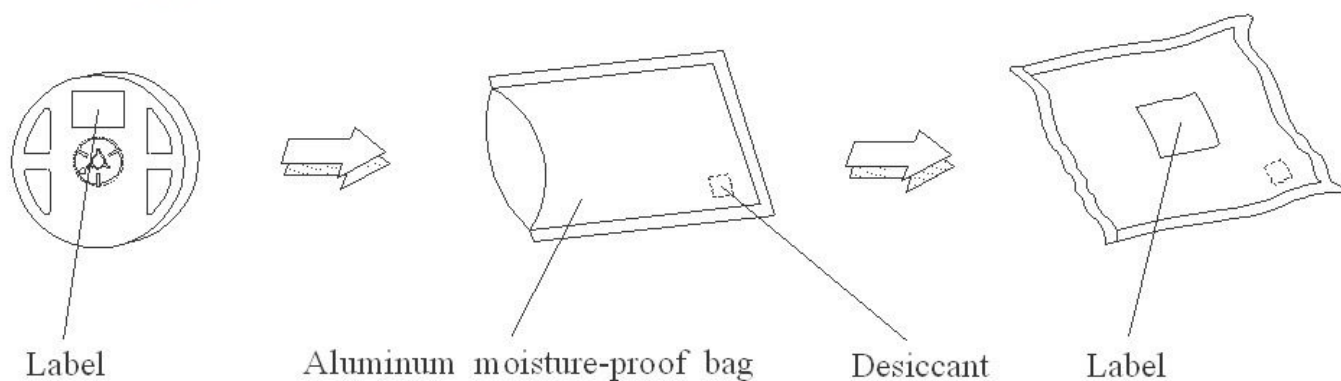
Note: Tolerance unless mentioned is  $\pm 0.1$ mm; Unit = mm

Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



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

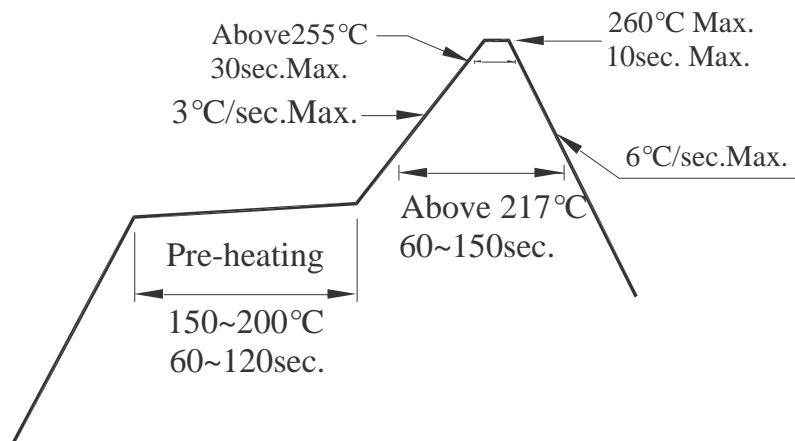
Moisture Resistant Packing Process



## 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°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

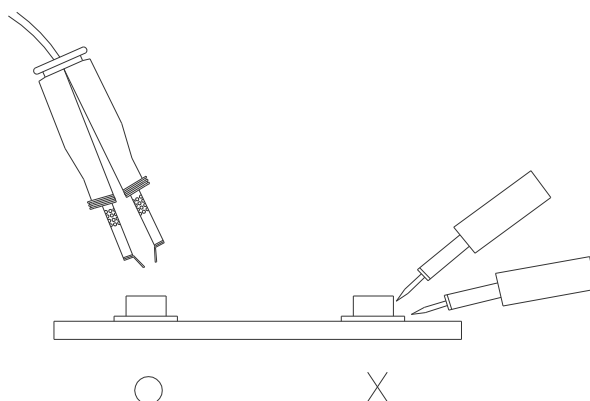
- 3.1 Pb-free solder temperature profile
- 3.2 Reflow soldering should not be done more than two times.
- 3.3 When soldering, do not put stress on the LEDs during heating.
- 3.4 After soldering, do not warp the circuit board.

### 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.

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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.
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