

Technical Data Sheet

Top View LEDs

67-21Y2SC/B101/TR8/AM

Features

- Pb-free.
- Inner reflector.
- White package.
- Optical indicator.
- P-LCC-2 package.
- Wide viewing angle.
- Colorless clear resin.
- Precondition : According to JEDEC Level-2.
- ESD : Up to 2KV. (According to JESD22-A114-B)
- The product itself will remain within RoHS compliant version.
- Soldering methods : IR reflow and wave soldering.



Descriptions

- The 67-21 series is available for orange, green, blue and yellow or other color due to the different raw material.
- Base on the package design, the device result in wide view angle.

Applications

- Automotive backlighting or indicator : Dashboard, switch, audio and video equipments...etc.
- Backlight : LCD, switches, symbol, mobile phone and illuminated advertising.
- Display for indoor and outdoor application.
- Ideal for coupling into light guides.
- Substitution of traditional light.
- Optical indicator.
- General applications.

Device Selection Guide

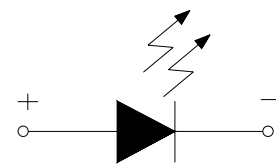
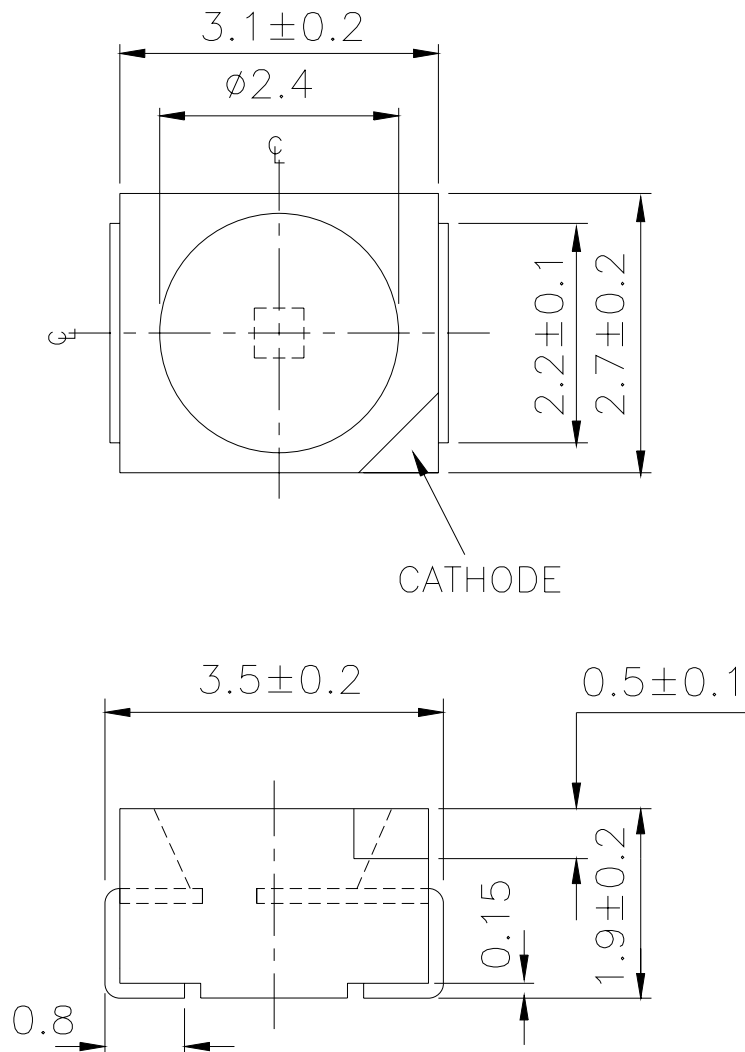
Chip	Emitted Color	Resin Color
Material		
AlGaInP	Brilliant Yellow	Water Clear

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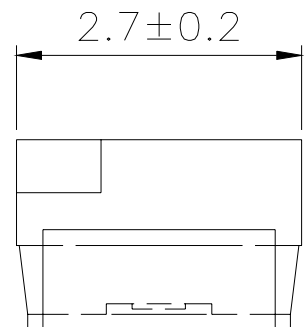
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Package Dimensions



Polarity



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

**Technical Data Sheet****Top View LEDs****67-21Y2SC/B101/TR8/AM****Absolute Maximum Ratings (Ta=25°C)**

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	12	V
Forward Current	I _F	30	mA
Peak Forward Current (Duty 1/10 @1KHz)	I _{FP}	100	mA
Power Dissipation	P _d	120	mW
Junction Temperature	T _j	115	°C
Operating Temperature	T _{opr}	-40 ~ +100	°C
Storage Temperature	T _{stg}	-40 ~ +110	°C
Thermal resistance	R _{th J-A}	450	K/W
	R _{th J-S}	300	K/W
Soldering Temperature	T _{sol}	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.	



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67-21Y2SC/B101/TR8/AM**Electro-Optical Characteristics (Ta=25°C)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	180	-----	355	mcd	I _F =20mA
Viewing Angle	2θ _{1/2}	-----	120	-----	deg	I _F =20mA
Peak Wavelength	λ _p	-----	591	-----	nm	I _F =20mA
Dominant Wavelength	λ _d	586	-----	595	nm	I _F =20mA
Spectrum Radiation Bandwidth	Δλ	-----	15	-----	nm	I _F =20mA
Forward Voltage	V _F	1.75	2.0	2.35	V	I _F =20mA
Reverse Current	I _R	-----	-----	10	μA	V _R =12V
Temperature coefficient of λ _p	TC _{λ_p}	-----	0.06	-----	nm/K	I _F =20mA
Temperature coefficient of λ _d	TC _{λ_d}	-----	0.05	-----	nm/K	I _F =20mA
Temperature coefficient of V _F	TC _V	-----	-3.8	-----	mV/K	I _F =20mA

Notes :

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

**Technical Data Sheet****Top View LEDs****67-21Y2SC/B101/TR8/AM****Bin Range of Luminous Intensity**

Bin Code	Min.	Max.	Unit	Condition
S1	180	224	nm	If=20mA
S2	224	280		
T1	280	355		

Notes : Tolerance of Luminous Intensity : $\pm 11\%$ **Bin Range of Dominant Wavelength**

Bin Code	Min.	Max.	Unit	Condition
2	580	583	nm	If =20mA
3	583	586		
4	586	589		
5	589	592		
6	592	595		

Notes : Tolerance of Dominant Wavelength : $\pm 1\text{nm}$

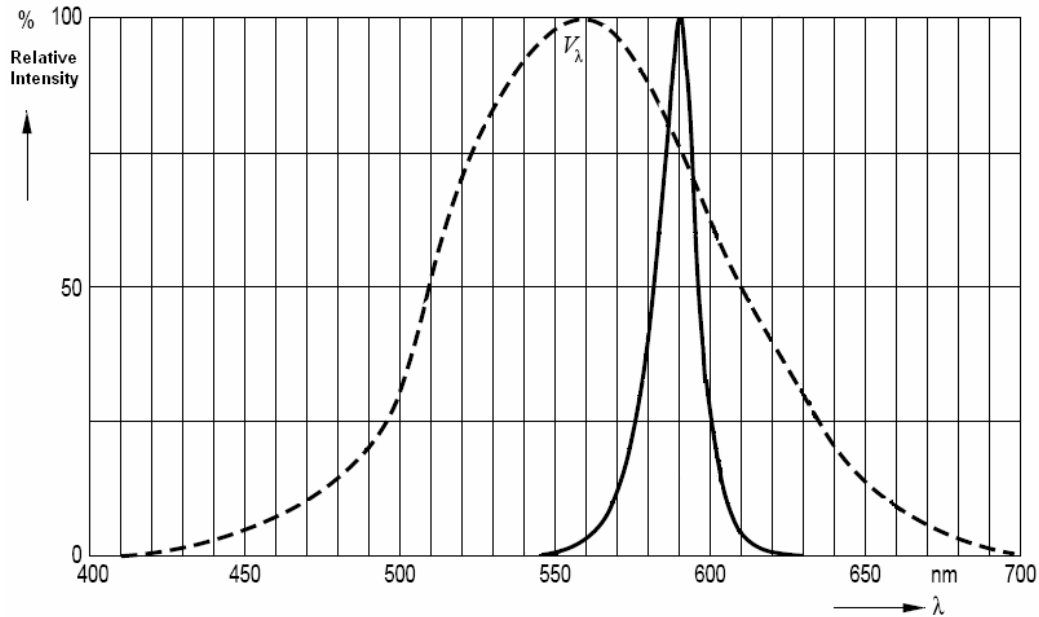
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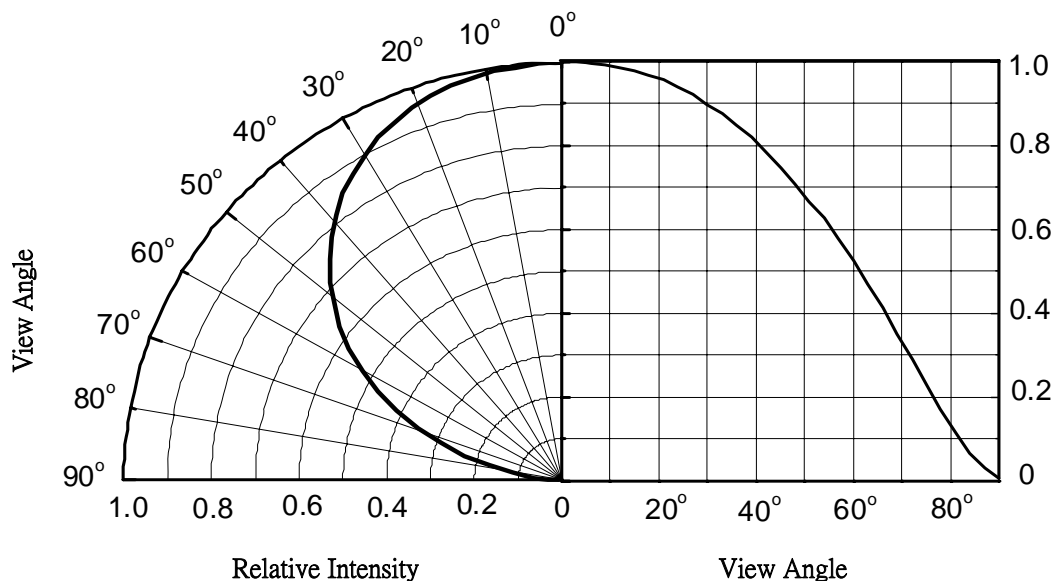
Typical Electro-Optical Characteristics Curves(Ta=25°C)

Typical curve of spectral distribution :



Note : $V(\lambda)$ =Standard eye response curve: $I_F = 20\text{mA}$

Diagram characteristics of radiation

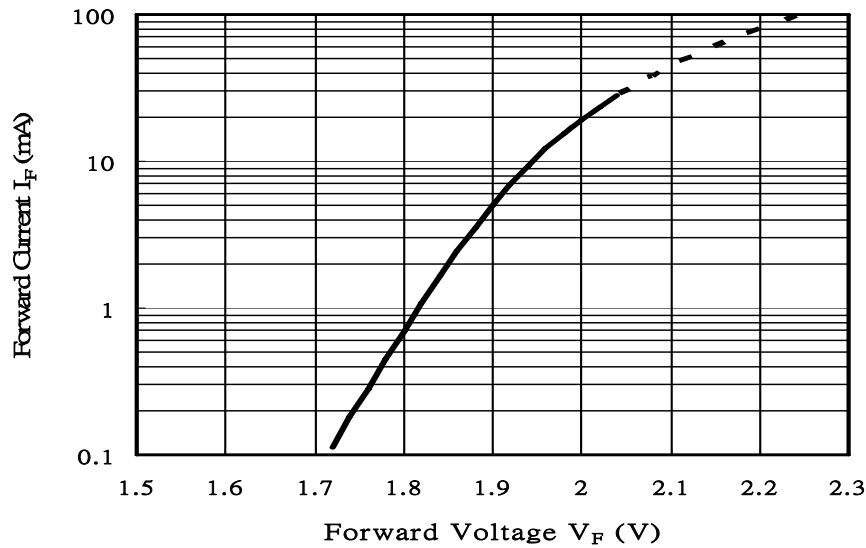


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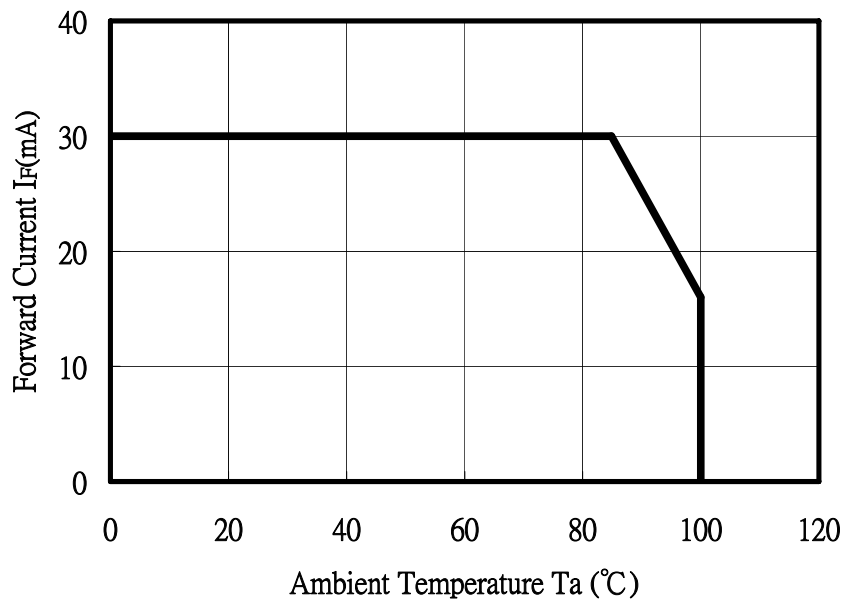
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Forward Current vs. Forward Voltage ($T_a=25^{\circ}\text{C}$)



Forward Current vs. Ambient Temperature

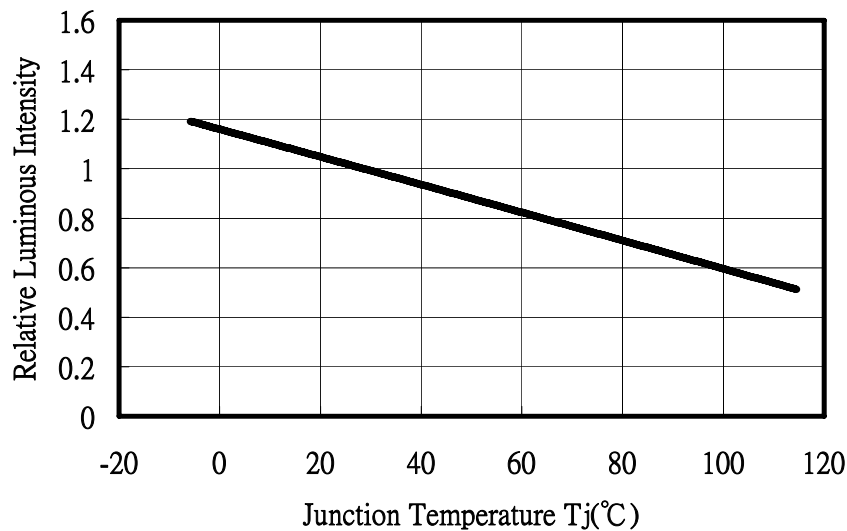


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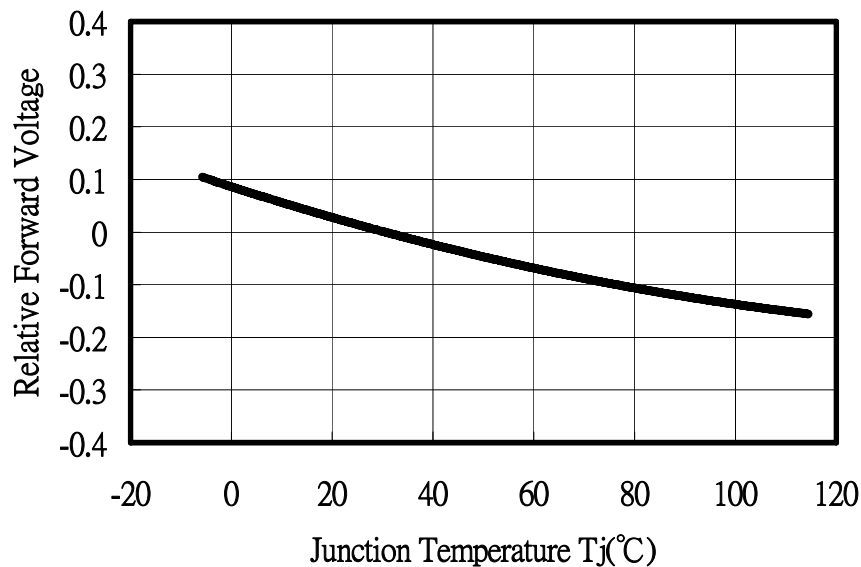
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Relative Luminous Intensity vs. Junction Temperature



Note : $f(T_j) = I_v / I_v(25^\circ\text{C})$; $I_F = 20\text{mA}$

Relative Forward Voltage vs. Junction Temperature



Note : $\Delta V_F = V_F - V_F(25^\circ\text{C}) = f(T_j)$; $I_F = 20\text{mA}$

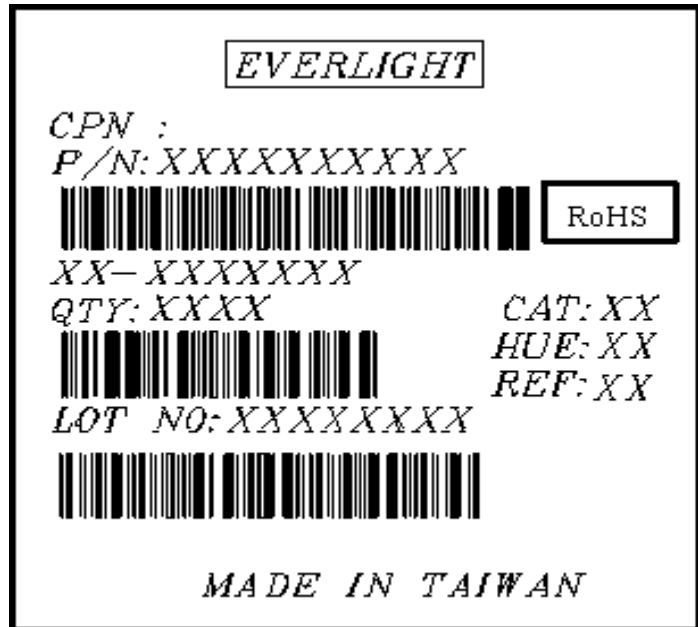
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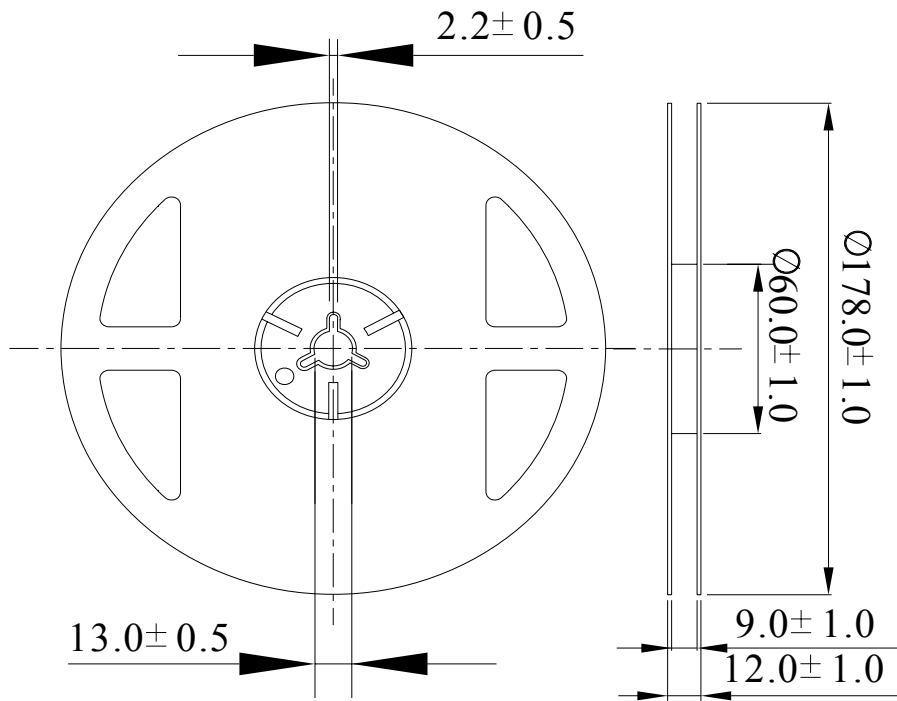
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Label Explanation

- 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



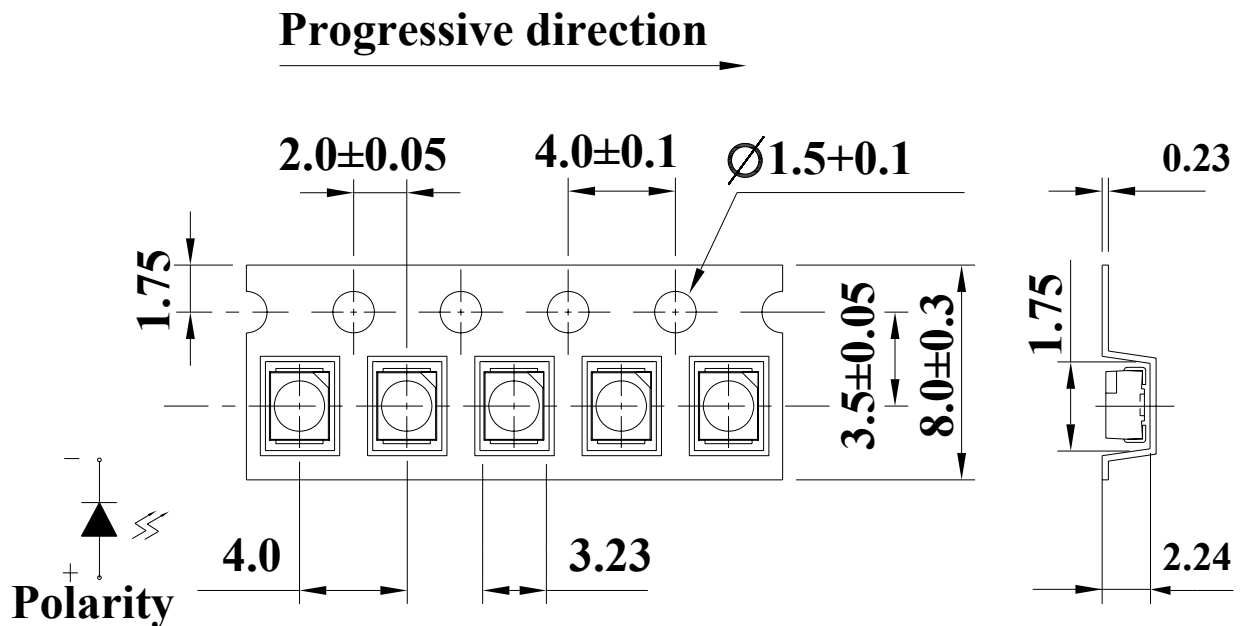
Note : Unit = mm

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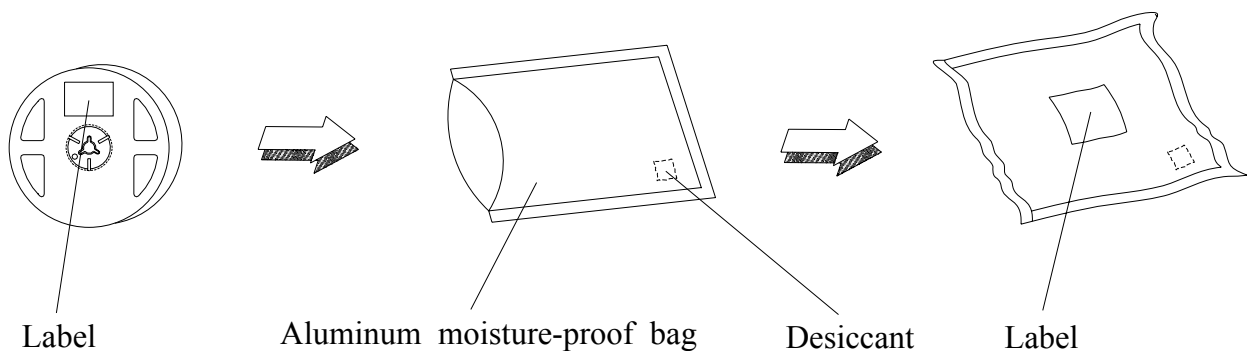
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Carrier Tape Dimensions: Loaded Quantity 2000 PCS Per Reel



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

Moisture Resistant Packaging Process and Materials



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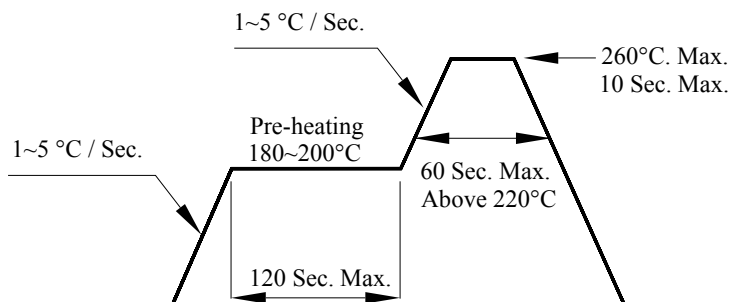
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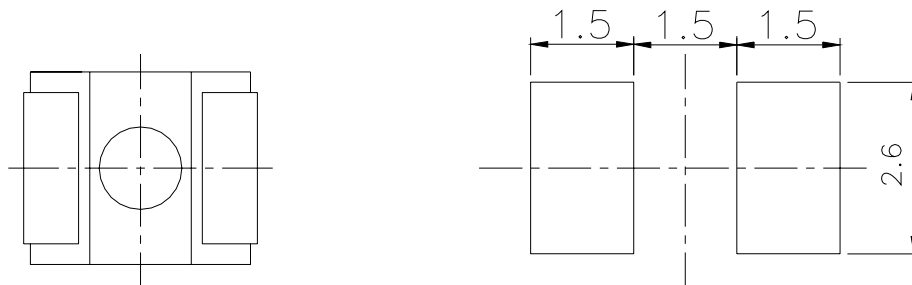
Precautions for Use

1. Soldering Condition

1.1 (A) Pb-free solder temperature profile



(B) Recommend soldering pad



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

1.2 Reflow soldering should not be done more than two times.

1.3 When soldering, do not put stress on the LED during heating.

1.4 After soldering, do not warp the circuit board.

2. Over-current-proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

3. Storage

3.1 Do not open moisture proof bag before the products are ready to use.

3.2 Before opening the package: The LED should be kept at 30°C or less and 90%RH or less.



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3.3 After opening the package: The LED floor life is 1 year under 30°C or less and 60% RH or less. If unused LED remain, it should be stored in moisture proof packages.

3.4 If the moisture absorbent material (silica gel) has faded away or the LED have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment : 60±5°C for 24 hours.

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.