



# EVERLIGHT ELECTRONICS CO., LTD.

PART NO. : 67-21VYC/TR8

Device Number : DSE-67A-003 REV. 1.1

TOP LEDs

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## Features :

- P-LCC-2package.
- White package.
- Optical indicator.
- Colorless clear window.
- Ideal for backlight and light pipe application.
- Inter reflector.
- Low (2mA) current operation.
- Wide viewing angle.
- Computable with automatic placement equipment.
- Suitable for vapor-phase reflow, Infrared reflow and wave solder processes.

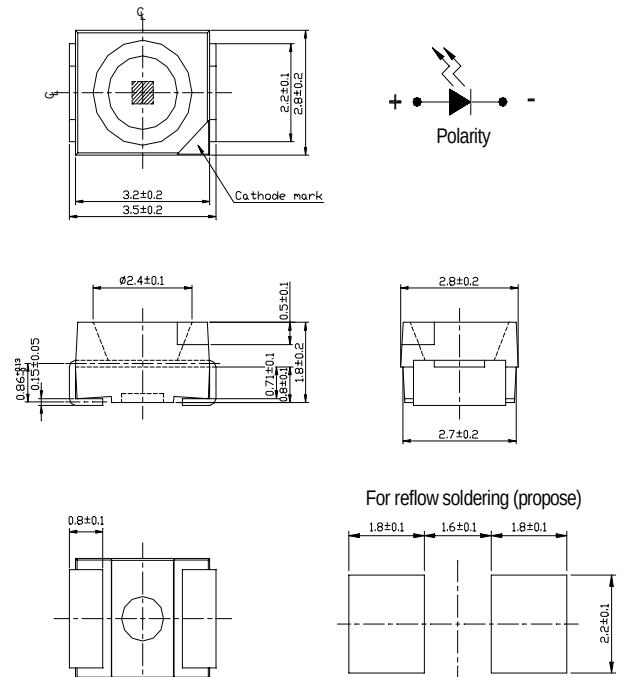
## Descriptions :

- The 67-21 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 SMT TOP LED 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 :

- Automotive: backlight in dashboards and switches
- Telecommunication: indicator and backlight in telephone and fax.
- Indicator and backlight for audio and video equipment.
- Indicator and backlight in office and family equipment.
- Flat backlight for LCD's, switches and symbols.
- Light pipe application.
- General use.

## Package Dimensions :



## Notes :

Tolerances Unless Dimension  $\pm 0.1\text{mm}$   
Angle  $\pm 0.5^\circ$   
Unit = mm

| Part NO.     | Chip      |               | Lens Color  |
|--------------|-----------|---------------|-------------|
|              | Material  | Emitted Color |             |
| 67-21VYC/TR8 | GaAsP/GaP | Yellow        | Water Clear |

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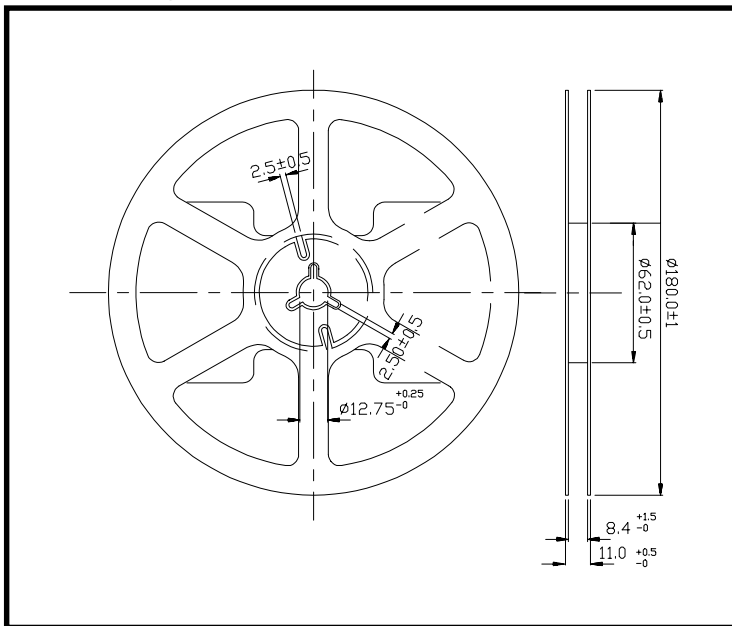
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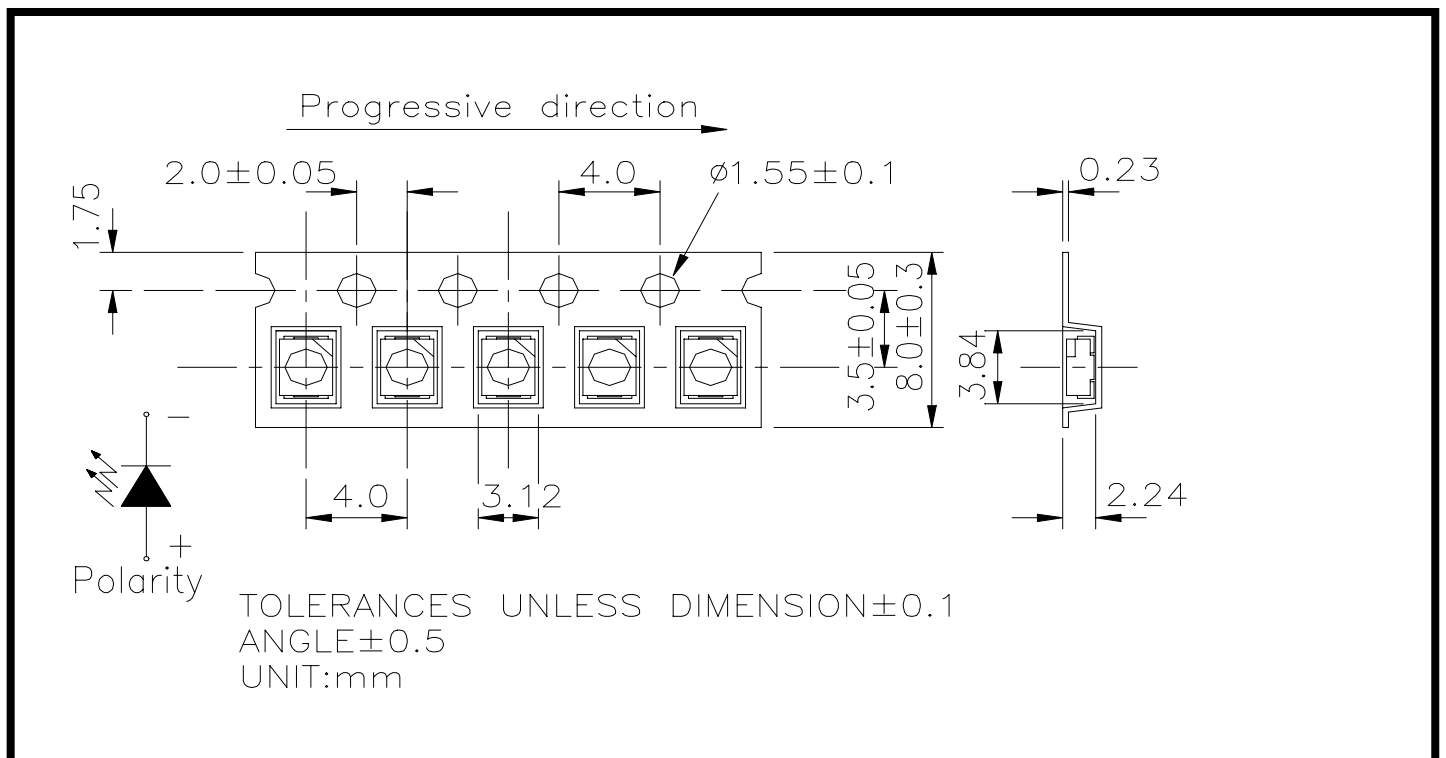
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### Package Dimensions :



### Loaded quantity per reel 2000 PCS/reel :





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### Absolute Maximum Ratings at Ta = 25°C :

| Parameter                              | Symbol                | Rating             | Unit |
|----------------------------------------|-----------------------|--------------------|------|
| Reverse Voltage                        | V <sub>R</sub>        | 5                  | V    |
| Forward Current                        | I <sub>F</sub>        | 30                 | mA   |
| Operating Temperature                  | T <sub>opr</sub>      | -40 ~ +85          | °C   |
| Storage Temperature                    | T <sub>stg</sub>      | -40 ~ +90          | °C   |
| Soldering Temperature                  | T <sub>sol</sub>      | 260 (for 5 second) | °C   |
| Power Dissipation                      | P <sub>d</sub>        | 100                | mW   |
| Peak Forward Current(Duty 1/10 @ 1KHz) | I <sub>F</sub> (Peak) | 160                | mA   |

### Electronic Optical Characteristics :

| Parameter                    | Symbol         | Min.  | Typ.  | Max.  | Unit | Condition            |
|------------------------------|----------------|-------|-------|-------|------|----------------------|
| Luminous intensity           | I <sub>v</sub> | 6     | 10    | ----- | mcd  | I <sub>F</sub> =20mA |
| Viewing Angle                | 2 θ 1/2        | ----- | 120   | ----- | deg  | I <sub>F</sub> =20mA |
| Peak Wavelength              | λ <sub>p</sub> | ----- | 585   | ----- | nm   | I <sub>F</sub> =20mA |
| Dominant Wavelength          | λ <sub>d</sub> | ----- | 590   | ----- | nm   | I <sub>F</sub> =20mA |
| Spectrum Radiation Bandwidth | △ λ            | ----- | 35    | ----- | nm   | I <sub>F</sub> =20mA |
| Forward Voltage              | V <sub>F</sub> | 1.7   | 2.0   | 2.4   | V    | I <sub>F</sub> =20mA |
| Reverse Current              | I <sub>R</sub> | ----- | ----- | 10    | μ A  | V <sub>R</sub> =5V   |



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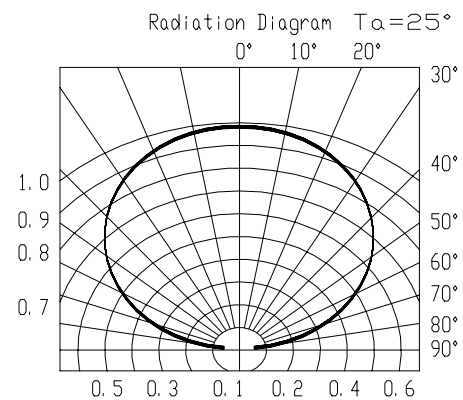
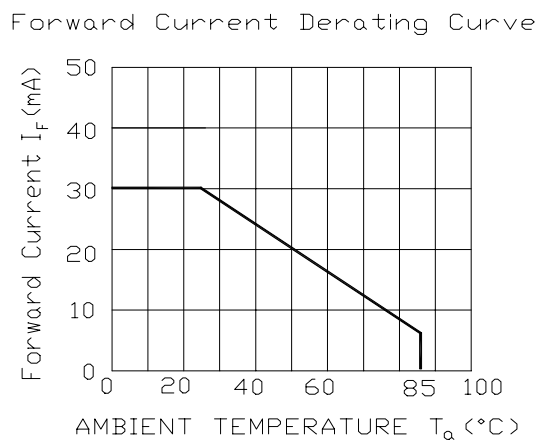
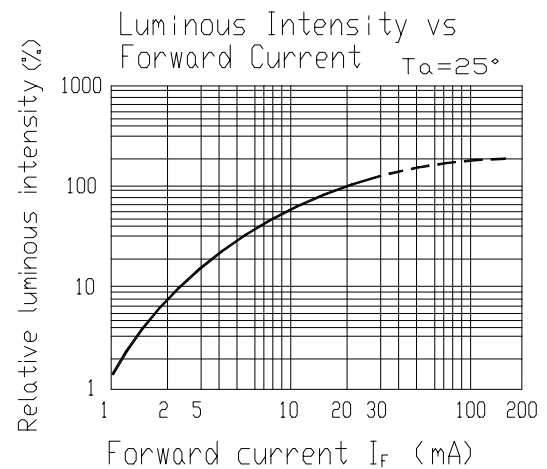
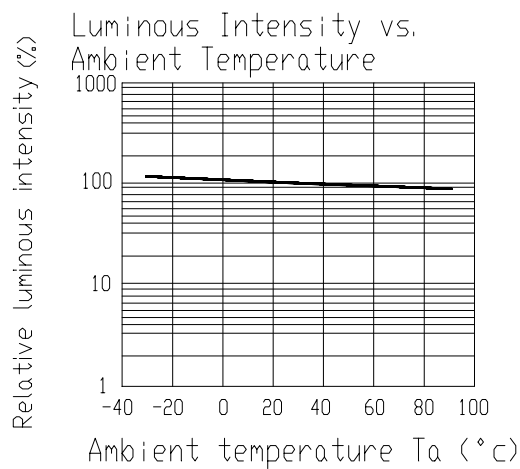
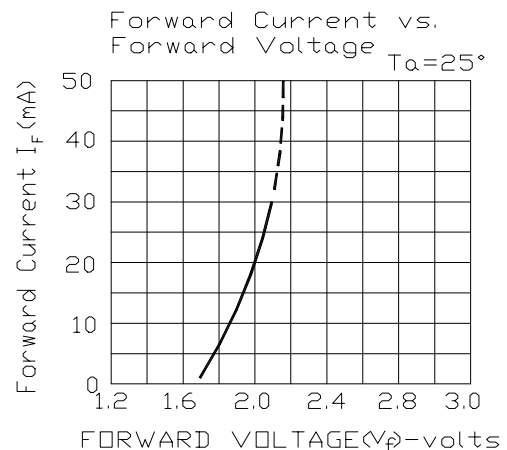
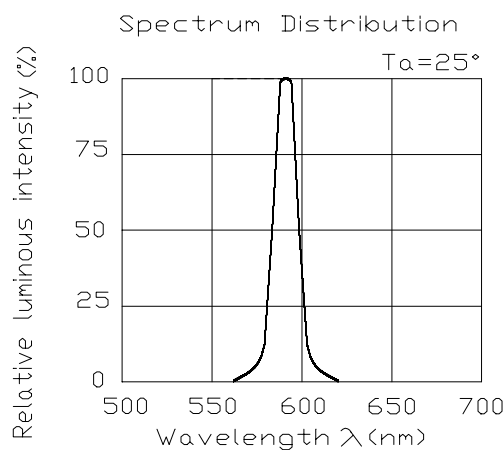
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## Typical Electro-Optical Characteristic Curves :





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### Reliability Test Items And Conditions :

| NO | Item                                | Test Conditions                               | Test Hours/Cycle | Sample Size | Ac/Re |
|----|-------------------------------------|-----------------------------------------------|------------------|-------------|-------|
| 1  | Solder Heat                         | TEMP : 260°C ± 5 °C                           | 5 SEC            | 76 PCS      | 0/1   |
| 2  | Temperature Cycle                   | H : +85°C 30min<br>∫ 5 min<br>L : -55°C 30min | 50 CYCLES        | 76 PCS      | 0/1   |
| 3  | Thermal Shock                       | H : +100°C 5min<br>∫ 10 sec<br>L : -10°C 5min | 50 CYCLES        | 76 PCS      | 0/1   |
| 4  | High Temperature Storage            | TEMP : 100°C                                  | 1000 HRS         | 76 PCS      | 0/1   |
| 5  | Low Temperature Storage             | TEMP : -55°C                                  | 1000 HRS         | 76 PCS      | 0/1   |
| 6  | DC Operating Life                   | I <sub>F</sub> = 20 mA                        | 1000 HRS         | 76 PCS      | 0/1   |
| 7  | High Temperature /<br>High Humidity | 85°C/85% RH                                   | 1000 HRS         | 76 PCS      | 0/1   |



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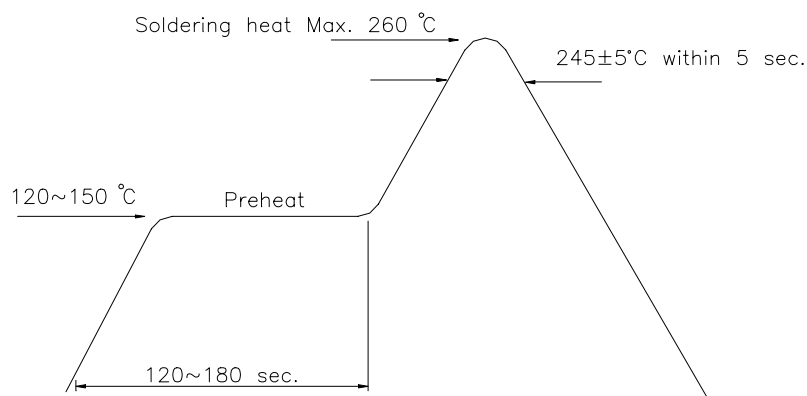
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### ■ Soldering heat reliability ( DIP ) :

Please refer to the following figure :

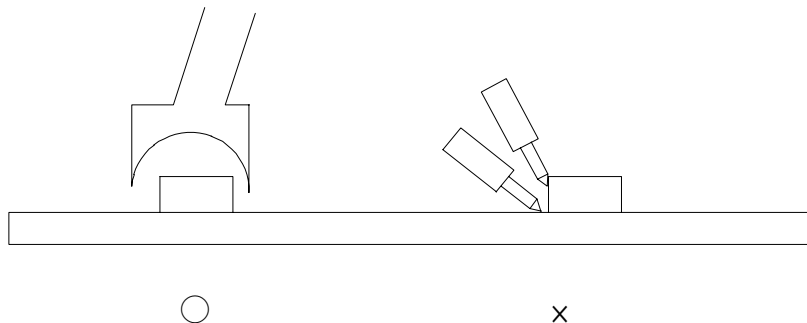


### ■ Soldering Iron :

Basic spec is  $\leq 5$  sec when 245°C. If temperature is higher, time should be shorter (+10°C → -1sec). Power dissipation of Iron should be smaller than 15 W , and temperature should be controllable. Surface temperature of the device should be under 230 °C.

### ■ Rework :

1. Customer must finish rework within 5 sec under 245°C.
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.





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■ Reflow Temp. / Time :

