

❖ **Features:**

- 3.2mm x 1.0mm SMT LED, 1.50mm thickness
- Mono-color type
- Soldering methods :All SMT assembly methods
- Comply ROHS standard

❖ **Description**

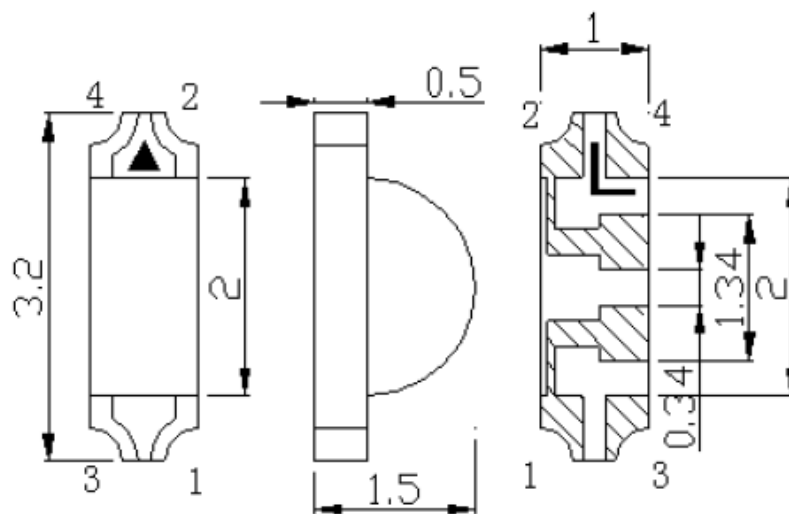
The Red source color devices are made with AlGaInP on sapphire Light Emitting Diode.

The Pure Green source color devices are made with InGaN on sapphire Light Emitting Diode.

❖ **Application**

- Optical indicator
- Indicator and backlighting in telephone and fax
- Flat backlight for LCD, switch and symbol
- Light pipe application
- General use

❖ **Package Dimensions**



NOTES:

1. All dimensions are in millimeter[unit];
2. Tolerance is $\pm 0.1\text{mm}$ ($0.004''$) unless other specified;
3. Specifications are subject to change without notice.

| Emitted Color | Lens Color | Chip Material |
|---------------|-------------|---------------|
| Red | Water clear | AlGaInP |
| Pure Green | Water clear | InGaN |

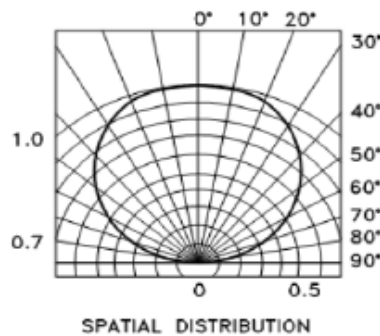
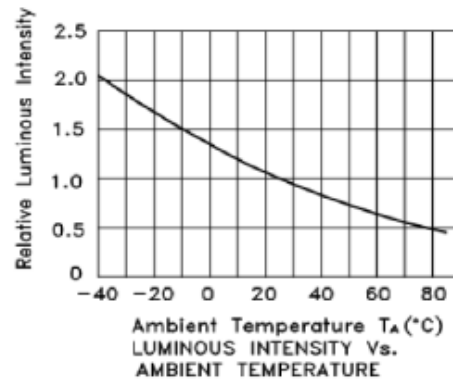
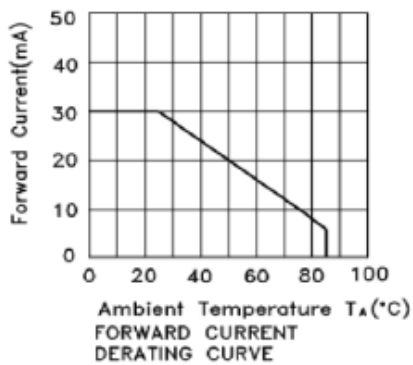
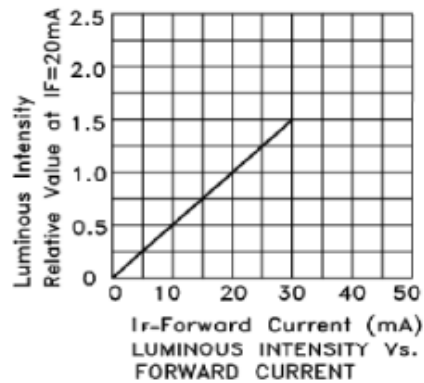
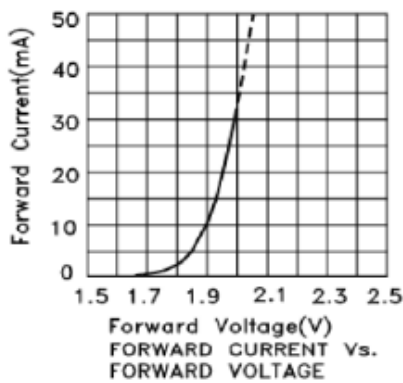
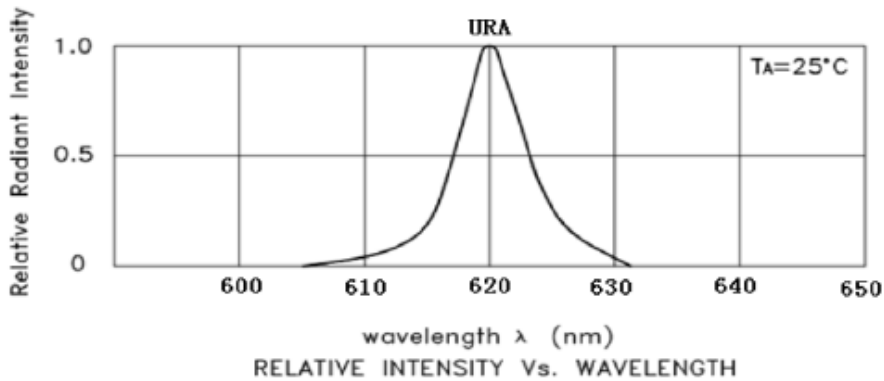
❖ Absolute Maximum Ratings(Ta=25 °C)

| Item | Symbol | Maximum | | Unit |
|---|-------------------|-----------|-----|------|
| | | UR | PG | |
| Power Dissipation | PD | 75 | 135 | mW |
| Continuous Forward Current | I _{Fmax} | 30 | 30 | mA |
| Peak Forward Current(1/10 Duty Cycle 0.1ms Pulse Width) | I _{FP} | 80 | 140 | mA |
| Reverse Voltage | V _R | 5 | 5 | V |
| Operating Temperature Range | T _{opr} | -40 to+85 | | °C |
| Storage Temperature Range | T _{stg} | -40 to+85 | | °C |

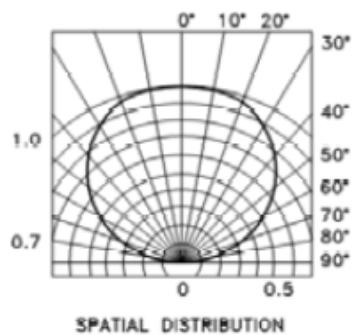
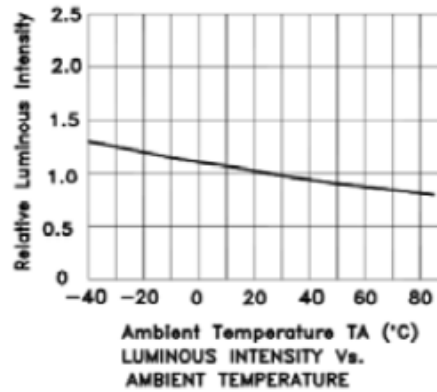
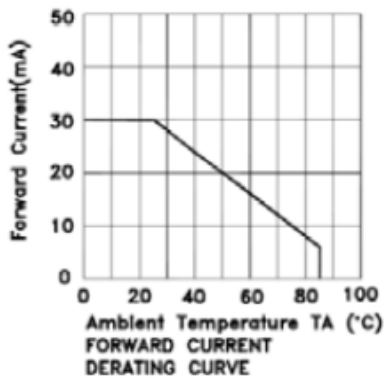
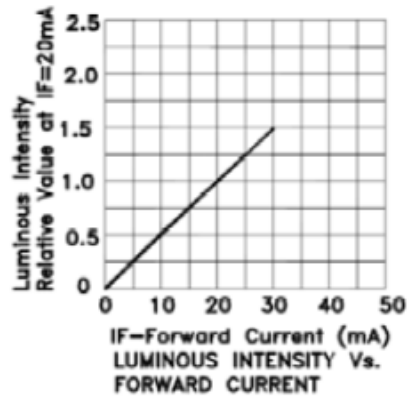
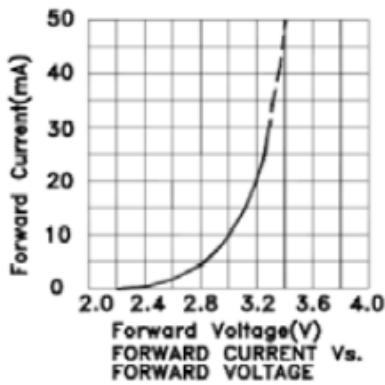
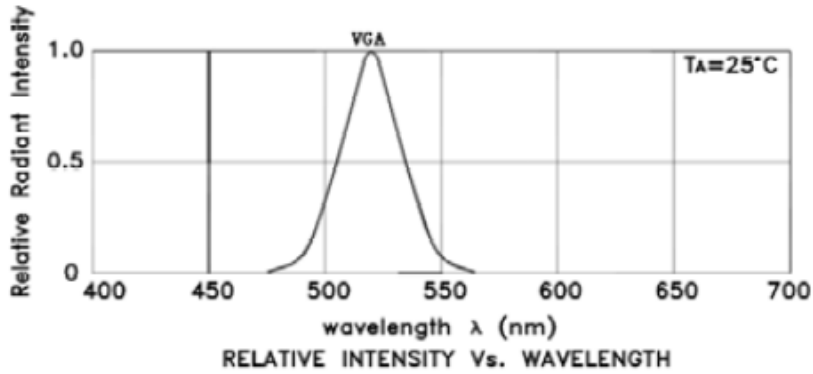
❖ Electrical/Optical Characteristics(Ta=25 °C)

| Item | Symbol | Condition | Min. | | Typ. | | Max | | Unit |
|---------------------|------------------|----------------------|------|-----|------|-----|-----|-----|------|
| | | | UR | PG | UR | PG | UR | PG | |
| Forward Voltage | V _F | I _F =20mA | -- | -- | 1.9 | 3.0 | 2.1 | 3.4 | V |
| Luminous Intensity | I _V | I _F =20mA | 100 | 350 | 200 | 450 | -- | -- | mcd |
| Dominate Wavelength | λ_d | I _F =20mA | -- | -- | 620 | 518 | 625 | 522 | nm |
| Viewing Angle | 2 $\theta_{1/2}$ | I _F =20mA | --- | --- | 120 | 120 | --- | --- | Deg |
| Reverse Current | I _R | V _R =5V | --- | --- | --- | --- | 10 | 10 | uA |

✧ Typical Electro-Optical Characteristics Curves (Red)



❖ Typical Electro-Optical Characteristics Curves (Pure Green)

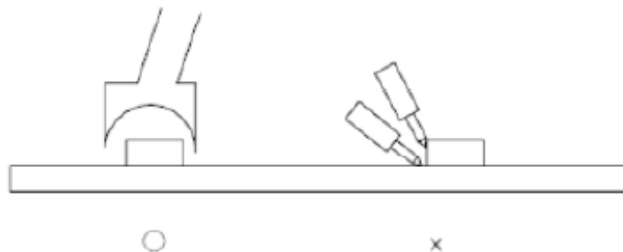


❖ Reliability Test Items And Conditions

| NO. | Item | Test Condition | Test Hr/cycle/time | Sample Q'ty | Ac/Re |
|-----|--------------------------|--|--------------------|-------------|-------|
| 1 | Reflow | TEMP:260±5°C; Min.5Sec | 6 min | 22pcs | 0/1 |
| 2 | Temperature Cycle | H:+100°C 15mins To(5mins) L:-40°C 15mins | 300 cycles | 22pcs | 0/1 |
| 3 | Thermal Shock | H:+100°C 15mins To(5mins) L:-40°C 15mins | 300 cycles | 22pcs | 0/1 |
| 4 | High Temperature Storage | TEMP:+260°C | 1000hrs | 22pcs | 0/1 |
| 5 | Low Temperature Storage | TEMP:-40°C | 1000hrs | 22pcs | 0/1 |
| 6 | DC Operating Life | IF=20MA | 1000hrs | 22pcs | 0/1 |
| 7 | High Temperature | 85°C | 1000hrs | 22pcs | 0/1 |
| 8 | High Humidity | 85%R.H. | 1000hrs | 22pcs | 0/1 |

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.



❖ Precautions For Use

1. Over-current-proof

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

2. Storage time

2.1 The operation of Temperature and RH are : $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$, RH60%.

2.2 Once the package is opened, the products should be used within a week.

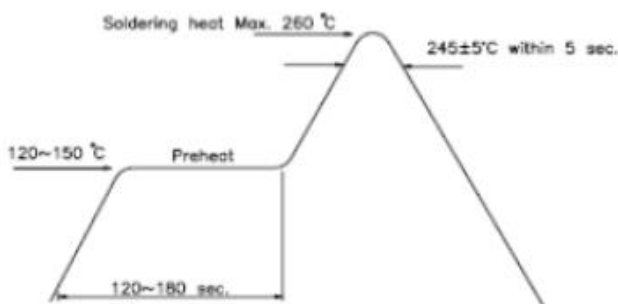
Otherwise, they should be kept in a damp proof box with desiccating agent.

Considering the tape life , we suggest our customers to use our products within a year(from production date).

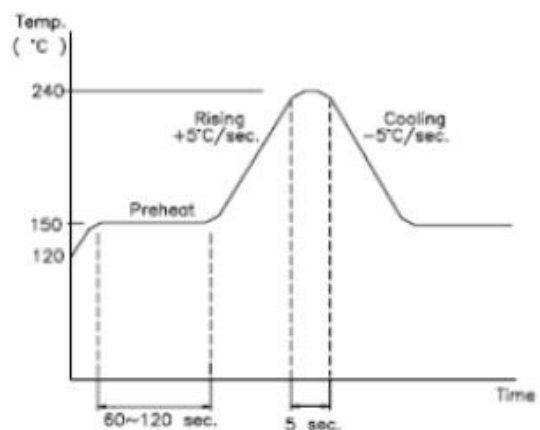
2.3 If opened more than one week in an atmosphere $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$, RH 60%, they should be treated at $60^{\circ}\text{C}\pm 5^{\circ}\text{C}$ for 15hrs.

2.4 When you discover that the desiccant in the package has a pink color (Normal = blue) , you should treat them in the same conditions as 2.3.

Soldering heat



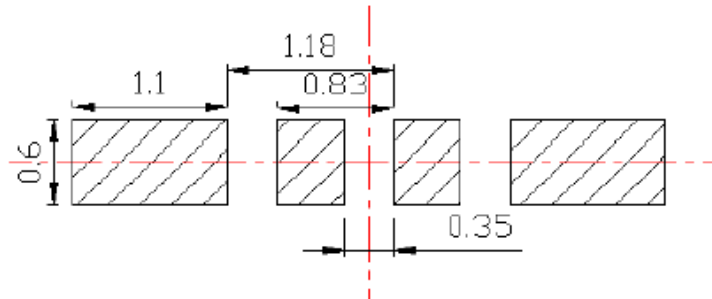
Reflow Temp / Time



Soldering Iron

Basic spec is ≤ 5 sec when 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1$ sec). 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 .

❖ Recommended Soldering Pad Dimensions



❖ Tape Specification: 2,000PCS per reel

