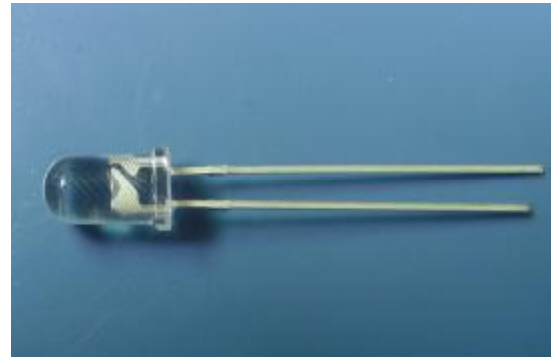


ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

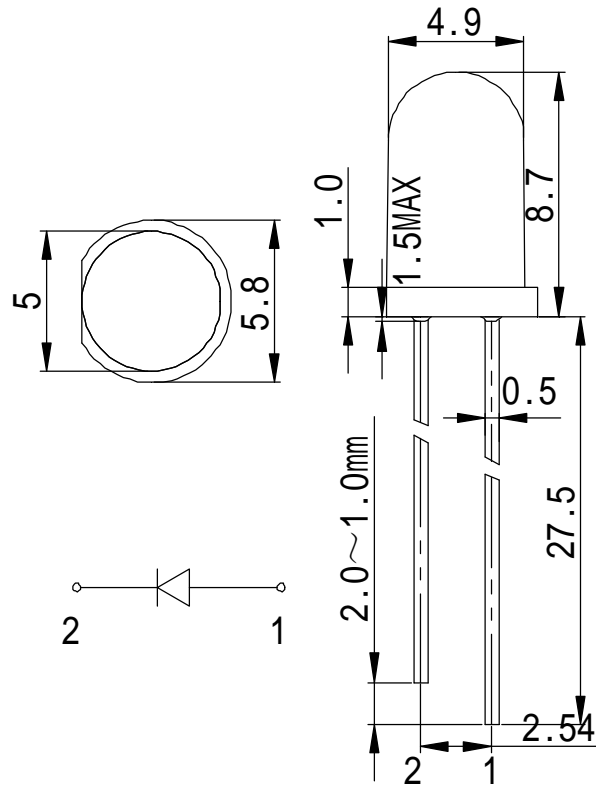
HL-503S22OC-4B-2.8



Features

- $\phi 5$ LAMP LED
- LOW POWER CONSUMPTION.
- CABINED VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- PACKAGE: 1000PCS / BAG.

Package Dimensions



Description

This devices are made with TS AlGaInP

| Tolerance Grade | Dimension Tolerance (UNIT:mm) | | | |
|-----------------|-------------------------------|-------------|-----------|-----------|
| | 0.5~3 | 3~6 | 6~30 | 30~120 |
| | ± 0.1 | ± 0.2 | ± 0.3 | ± 0.5 |
| Chip | | Lens Color | | |
| Material | Emitting Color | Water clear | | |
| AlGaInP | Orange | | | |

■ Absolute Maximum Rating

| Item | Symbol | Value | Unit |
|-----------------------------|------------------|--------------------------|------|
| Forward Current | I _F | 20 | mA |
| Peak Forward Current* | I _{FP} | 100 | mA |
| Reverse Voltage | V _R | 5 | V |
| Power Dissipation | P _D | 80 | mW |
| Electrostatic discharge | E _{SD} | 2000 | V |
| Operation Temperature | T _{opr} | -30~+80 | °C |
| Storage Temperature | T _{stg} | -30~+80 | °C |
| Lead Soldering Temperature* | T _{sol} | Max. 260°C for 5sec Max. | |

*I_{FP} Conditions: Pulse Width ≤ 10msec

*T_{sol} Conditions: 3mm from the base of the epoxy bulb

■ Typical Optical/ Electrical Characteristics Ta=25°C

| Item | Symbol | Condition | Rank | Min. | Typ. | Max. | Unit |
|---------------------------|----------------------|----------------------|------|------|------|------|------|
| Luminous Intensity | I _v | I _F =20mA | R | 780 | | 1015 | mcd |
| | | | S | 1015 | | 1320 | mcd |
| | | | T | 1320 | | 1715 | mcd |
| Forward Voltage | V _F | | | 1.8 | 2.2 | 2.6 | V |
| Viewing Angle | 2θ 1/2 | | | -- | 25 | -- | deg |
| Dominant Wavelength | λ _D | | | | 600 | -- | 610 |
| Recommend Forward Current | I _F (rec) | -- | | -- | -- | 20 | mA |
| Reverse Current | I _R | V _r =5V | | -- | -- | 20 | uA |

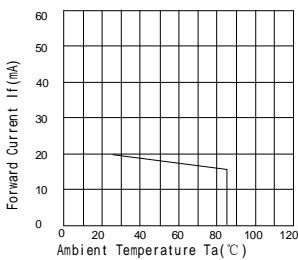
Notes:

Tolerance : V_F ± 0.1V, λ_D ± 2 nm, I_v(φ V) ± 15%, 2θ 1/2 ± 15%

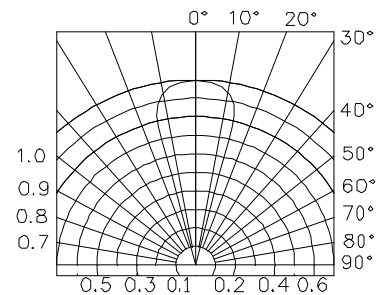
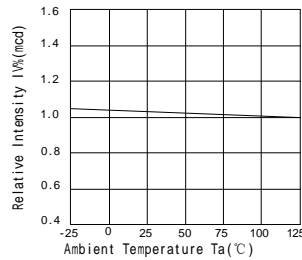
**■ Reliability Performance
 Test Items And Result**

| Test Classification | Test Item | Test Conditions | Test Duration | Sample Size | AC/RE |
|---------------------|---|---|---------------|-------------|-------|
| Life Test | Room Temperature DC Operating Life Test | $T_a=25^{\circ}\text{C}\pm 5^{\circ}\text{C}$, $I_f=20\text{mA}$ | 1000hrs | 22 pcs | 0/1 |
| Environment Test | Thermal Shock Test | $100^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 5min ↑ ↓ $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 5min. | 100 cycles | 22 pcs | 0/1 |
| | Temperature Cycle Test | $100^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 30min ↑ ↓ 5min $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 30min. | 100 cycles | 22 pcs | 0/1 |
| | High Temperature & High Humidity Test | $85^{\circ}\text{C}\pm 5^{\circ}\text{C}/85\% \text{RH}$ $I_f=5\text{mA}$ | 1000hrs | 22 pcs | 0/1 |
| | High Temperature Storage | $T_a=100^{\circ}\text{C}\pm 5^{\circ}\text{C}$ | 1000hrs | 22 pcs | 0/1 |
| | Low Temperature Storage | $T_a=-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ | 1000hrs | 22 pcs | 0/1 |
| Mechanical Test | Resistance to Soldering Heat | Temp= 260°C max T=5sec max | 1times | 22 pcs | 0/1 |
| | Lead Integrity | Load 2.5N(0.25kgf) $0^{\circ} \sim 90^{\circ} \sim 0^{\circ}$ | 3times | 22 pcs | 0/1 |

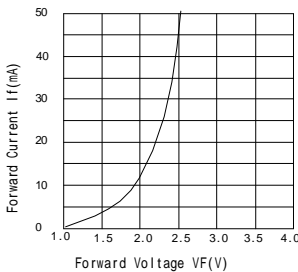
Forward Current vs. Ambient Temperature



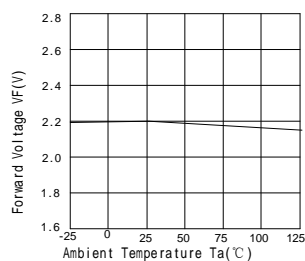
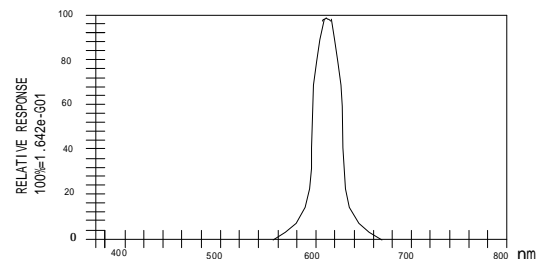
Relative Intensity vs. Ambient Temperature



Forward Current vs. Forward Voltage



Forward Voltage vs. Ambient Temperature


 Luminous Spectrum ($T_a=25^{\circ}\text{C}$) SPECTRAL RADIANCE


Soldering:

1. Manual Of Soldering

The temperature of the iron tip should not be higher than 300°C and Soldering within 3 seconds per solder-land is to be observed.

2. DIP soldering (Wave Soldering):

Preheating: 120°C~150°C, within 120~180 sec.

Operation heating: 245°C±5°C within 5 sec. 260°C (Max)

Gradual Cooling (Avoid quenching).

