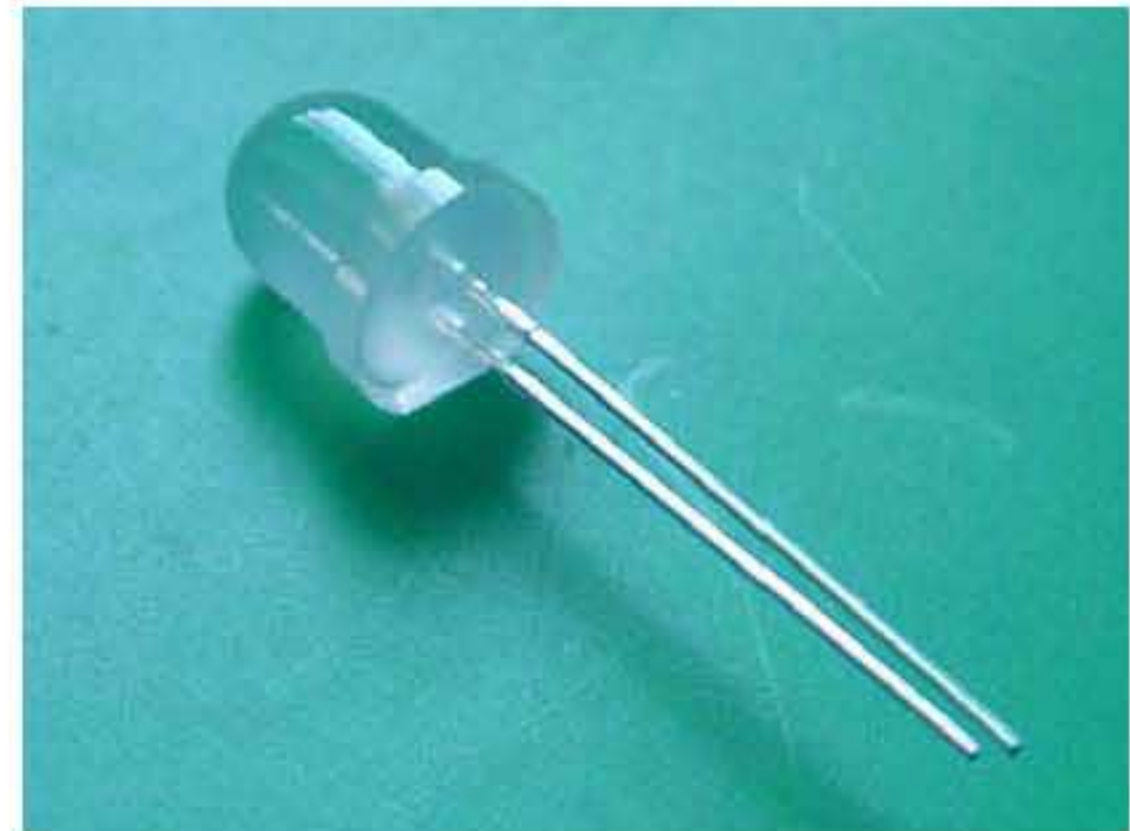




ATTENTION
 OBSERVE PRECAUTIONS
 FOR HANDLING
 ELECTROSTATIC
 DISCHARGE
 SENSITIVE
 DEVICES

808H184WW



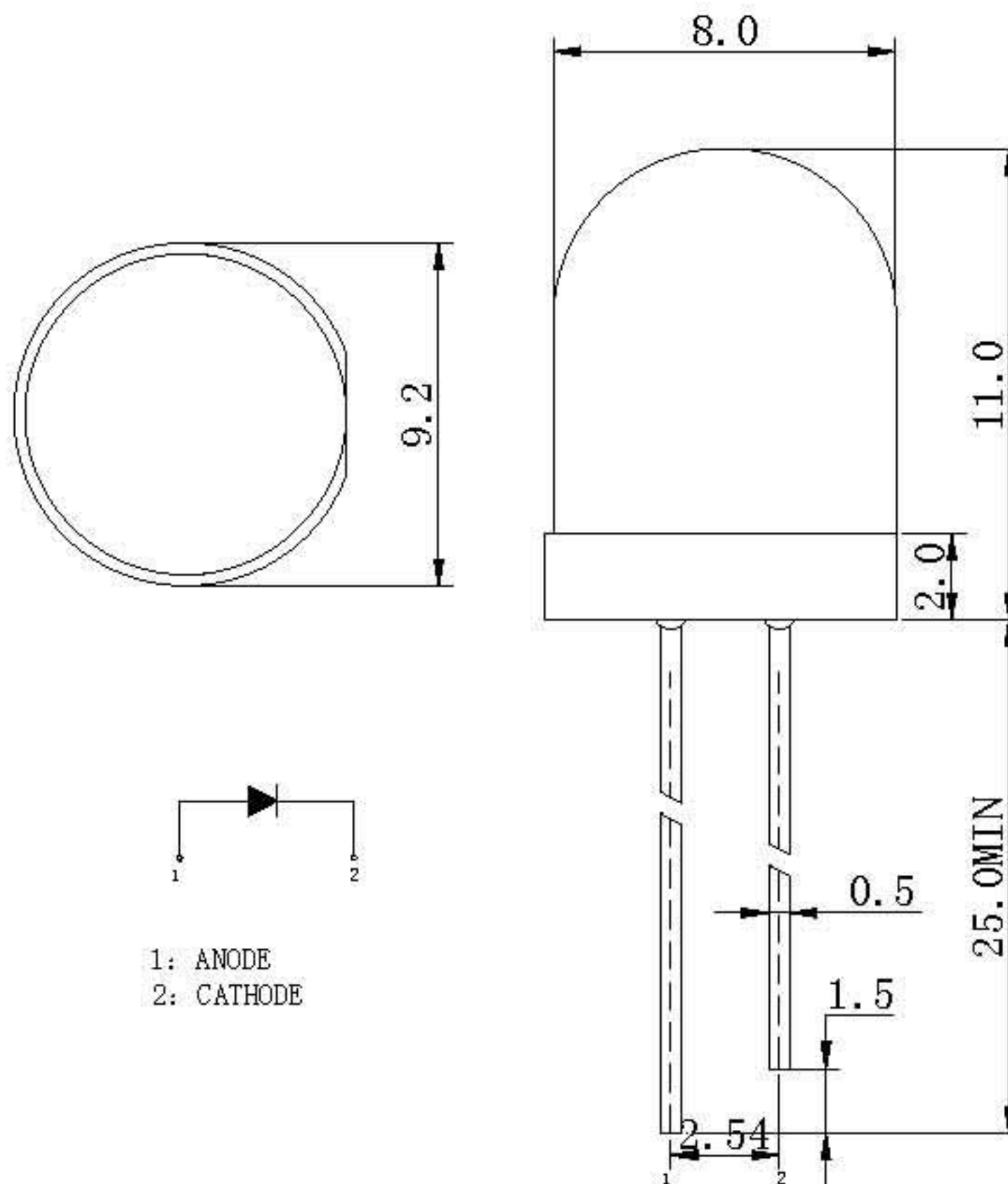
Features

- $\phi 8$ LAMP LED .
- LOW POWER CONSUMPTION.
- CABINED VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- PACKAGE: 200PCS / BAG.

Package Dimensions

Description

This devices are made with TS InGaN.



| Torlerance Grade | Dimension Torlerance (UNIT:mm) | | | |
|------------------|--------------------------------|----------------|-----------|-----------|
| | 0.5~3 | 3~6 | 6~30 | 30~120 |
| Medium(m) | ± 0.1 | ± 0.1 | ± 0.2 | ± 0.3 |
| Chip | | Lens Color | | |
| Material | Emitting Color | White Diffused | | |
| InGaN | White | | | |

■ Absolute Maximum Rating

| Item | Symbol | Absolute Maximum Rating | 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} | 600 | V |
| Operation Temperature | T_{opr} | -25~+80 | °C |
| Storage Temperature | T_{stg} | -5~+45 | °C |
| Lead Soldering Temperature* | T_{sol} | Max. 260°C for 5sec Max. | |

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

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

■ Typical Optical/ Electrical Characteristics

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---------------------------|-----------------|-------------|------|------|------|----------------|
| Forward Voltage | V_F | $I_F=20$ mA | 2.8 | 3.2 | 3.6 | V |
| 50% Power Angle | $2\theta_{1/2}$ | | -- | 50 | -- | deg |
| Luminous Intensity | I_v | | 800 | 1200 | -- | mcd |
| Chromaticity coordinates | X | | -- | 0.30 | -- | X: ± 0.015 |
| | Y | | -- | 0.32 | -- | Y: ± 0.025 |
| Peak Wavelength | λ_D | | -- | -- | -- | nm |
| Recommend Forward Current | $I_{F(rec)}$ | -- | -- | -- | 20 | mA |
| Reverse Current | I_R | $V_r=5$ V | -- | -- | 10 | μ A |

Notes:

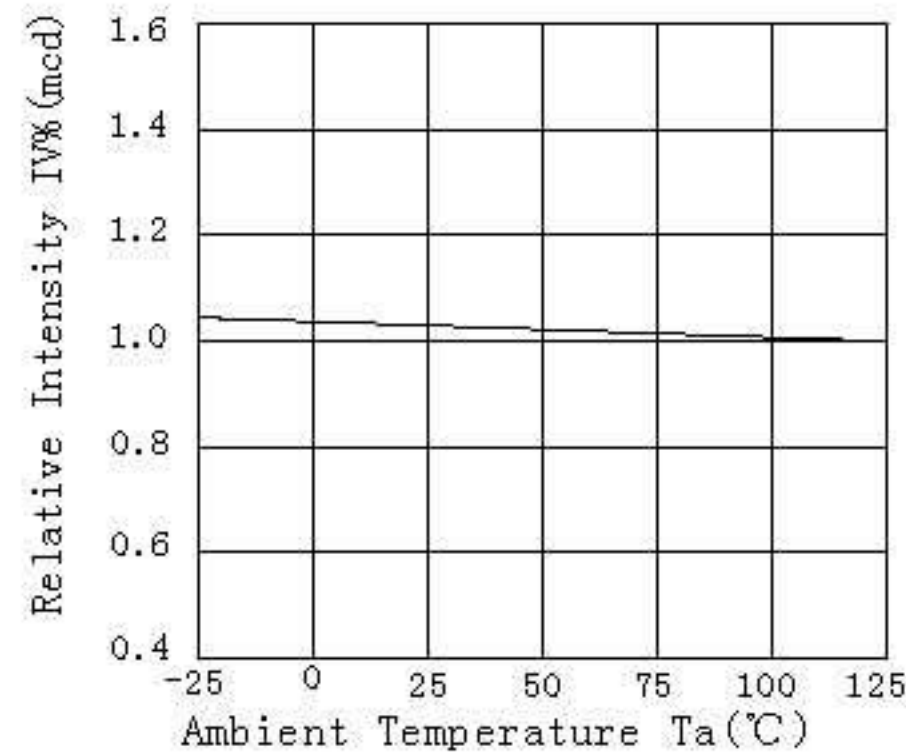
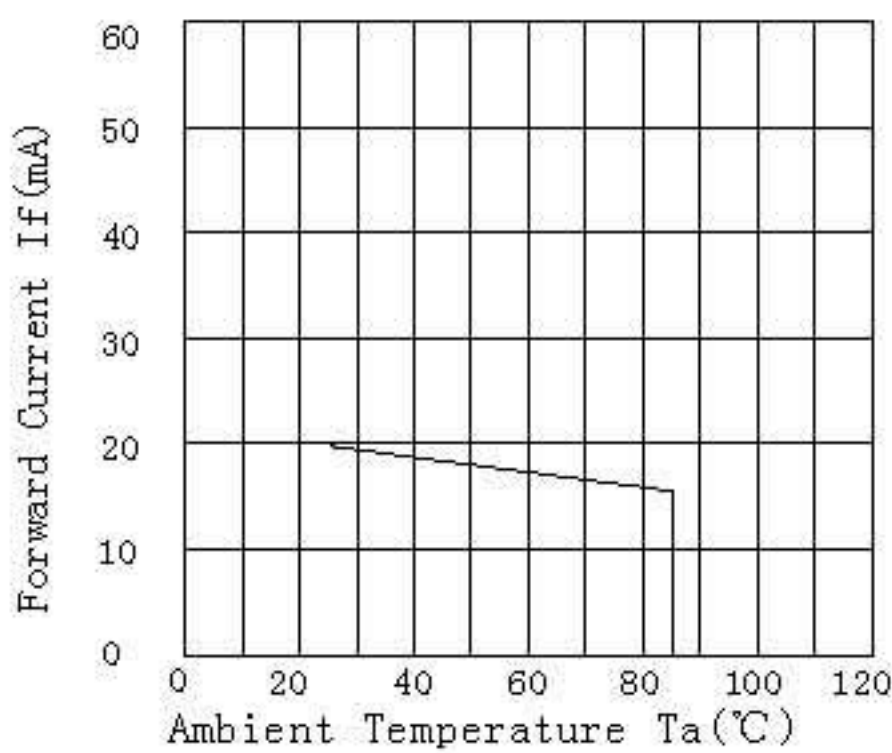
1. Absolute maximum ratings $T_a=25^\circ\text{C}$.
2. Tolerance of measurement of forward voltage ± 0.1 V.
3. Tolerance of measurement of peak Wavelength ± 2.0 nm.
4. Tolerance of measurement of luminous intensity $\pm 15\%$.
5. Tolerance of measurement of angle intensity $\pm 15\%$.

■ Reliability Performance

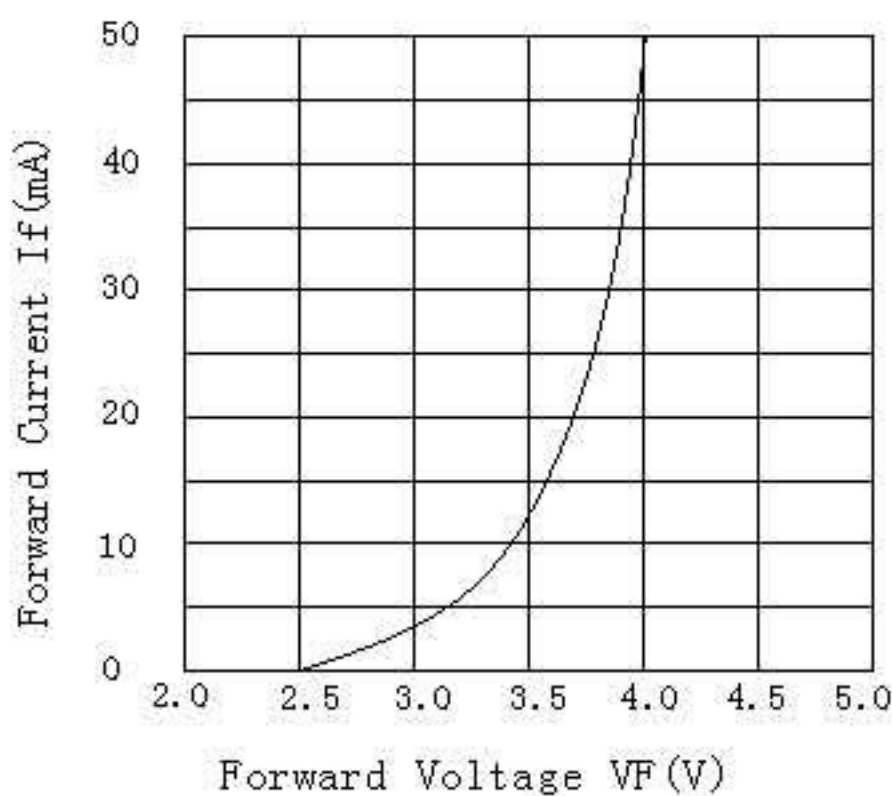
Test Items And Result

| Test Classification | Test Item | Test Conditions | Test Duration | Sample Size | AC/RE |
|---------------------|---|--|---------------|-------------|-------|
| Life Test | Room Temperature DC Operating Life Test | Ta=25°C±5°C, IF=20mA | 1000hrs | 22 pcs | 0/1 |
| Environment Test | Thermal Shock Test | -10°C±5°C ← → +100°C±5°C 5min. 10sec. 5min. | 50 cycles | 22 pcs | 0/1 |
| | Temperature Cycle Test | -40°C±5°C ← → +85°C±5°C 30min. 5min. 30min. | 50 cycles | 22 pcs | 0/1 |
| | High Temperature & High Humidity Test | Ta=85°C±5°C RH =85%±5 %RH | 1000hrs | 22 pcs | 0/1 |
| | High Temperature Storage | Ta=100°C±5°C | 1000hrs | 22 pcs | 0/1 |
| | Low Temperature Storage | Ta=-55°C±5°C | 1000hrs | 22 pcs | 0/1 |
| Mechanical Test | Resistance to Soldering Heat | Ta=230°C±5°C | 5sec. | 22 pcs | 0/1 |
| | Lead Integrity | Load 2.5N(0.25kgf) 0° ~ 90° ~0° | 3times | 22 pcs | 0/1 |

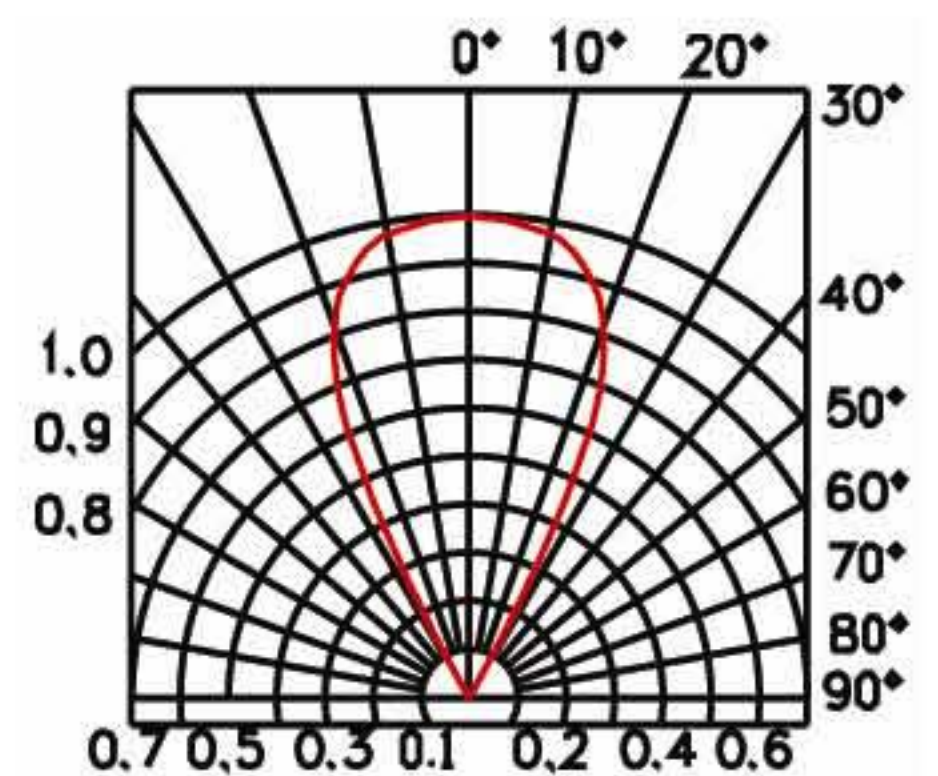
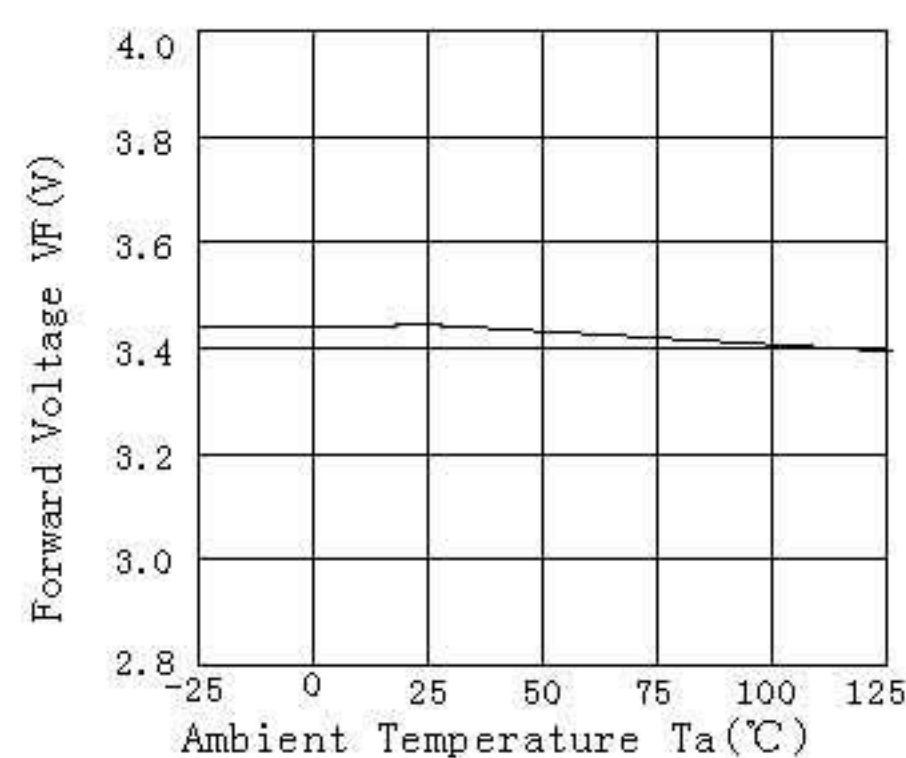
Forward Current vs. Ambient Temperature Relative Intensity vs. Ambient Temperature

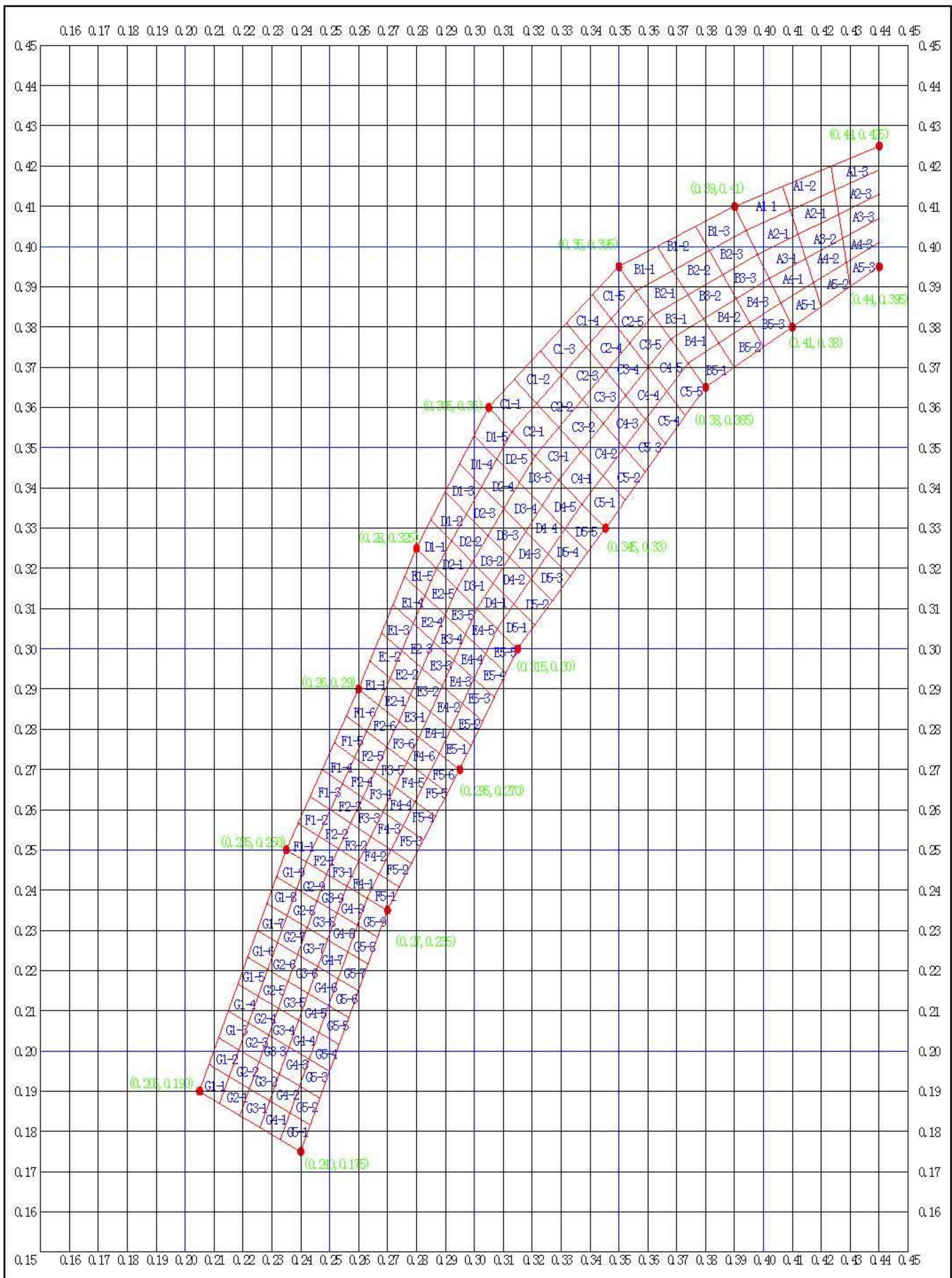


Forward Current vs. Forward Voltage



Forward Voltage vs. Ambient Temperature





Soldering:

1. Manual Of Soldering

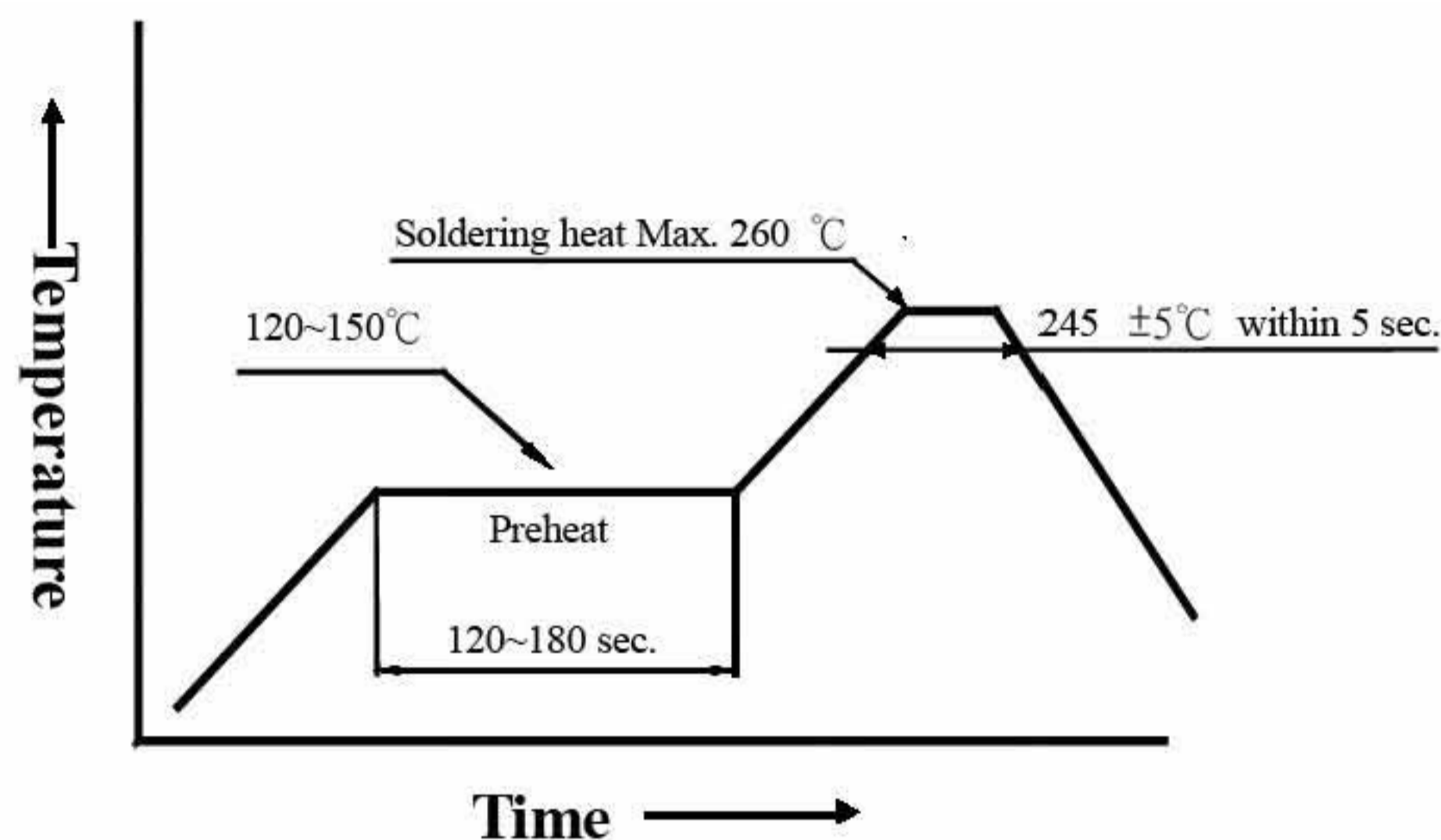
The temperature of the iron tip should not be higher than 260°C (500°F) and Soldering within 3 seconds per solder-land is to be observed.

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).



Handling:

Care must be taken not to cause to the epoxy resin portion of LED while it is exposed to high temperature. Care must be taken not rub the epoxy resin portion of LED with hard or sharp article such as the sand blast and the metal hook.

Care must be taken there should be more than 3mm from jointing point to the epoxy resin.

Notes for designing:

Care must be taken to provide the current limiting resistor in the circuit so as to drive the LED within the rated figures. Also caution should be taken not to overload LED with exorbitant voltage at the turning ON and OFF of the circuit.

When using the pulse drive care must be taken to keep the average current within the rated figures. Also the circuit should be designed so as be subjected to reverse voltage when turning off the LED.

Storage:

In order to avoid the absorption of moisture, it is recommended to solder LED as soon as possible after unpacking the sealed envelope.

If the envelope is still packed to store it in the environment as following:

Temperature: -5°C~45°C (23°F~113°F) Humidity : RH 60% Max.