

RoHS

Specification

规格书

Customer Name:

客户名称: _____

Customer P/N:

客户品号: _____

Factory P/N:

公司品号: GT-3528U41YC-T30-4

Sending Date:

送样日期: _____

| Client approval 客户审核 | | | Goozo approval 鸿利国泽审核 | | |
|--|-------------|--|--------------------------|-------------|--------------------|
| Approval 核准 | Audit 确认 | Confirmation 制作 | Approval 核准 | Audit 确认 | Confirmation 制作 |
| | | | 潘桂建 | 钟亚程 | 夏昊 |
| <input type="checkbox"/> Qualified 接受 | | <input type="checkbox"/> Disqualified 不接受 | DATE: 日期: | | |



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地址: 江苏省镇江市丹徒区丹桂路 1 号

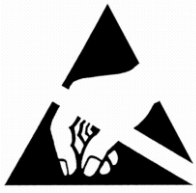
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Web/网址: www.goozo.com.cn

注:

- 1.此规格书以中英文方式书写,若有冲突以中文版本为准文本.
- 2.此规格书的最终解释权归属江苏鸿利国泽光电科技有限公司



ATTENTION 注意
 OBSERVE PRECAUTIONS
 FOR HANDLING
 ELECTROSTATIC
 DISCHARGE
 SENSITIVE
 DEVICES

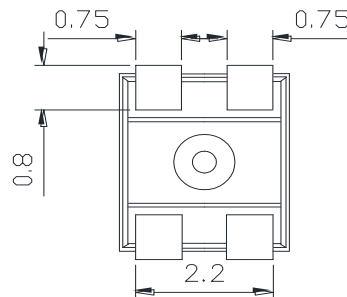
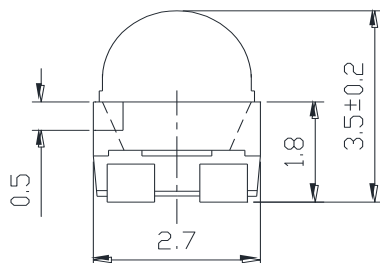
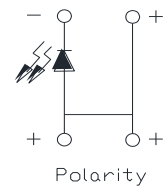
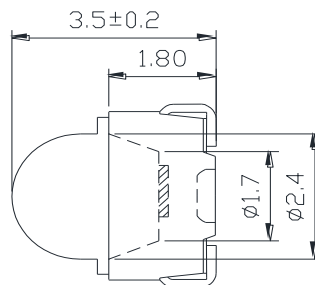
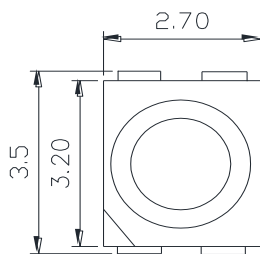
Features

- Compatible with automatic placement equipment
- Compatible with reflow solder process
- Low power consumption and wide viewing angle
- This product doesn't contain restriction substance, comply ROHS standard

Applications

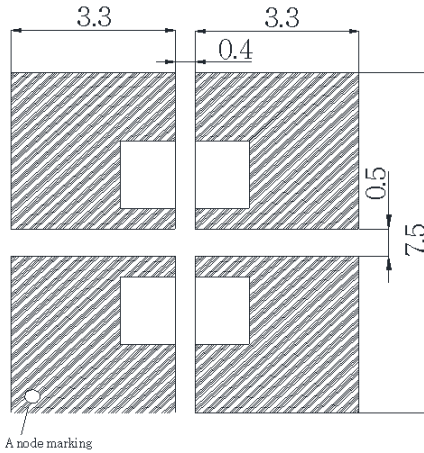
- Automotive and Telecommunication
- General use for indicators
- Indoor display

Package Dimensions



■ Recommended Soldering Patter

<Units:mm>



| Tolerance Grade/公差等级 | Dimension Tolerance/尺寸 (Unit:mm) | | | |
|-------------------------|----------------------------------|-----------------|------------------|--------|
| | 0.5~3 | 3~6 | 6~30 | 30~120 |
| | ±0.1 | ±0.2 | ±0.3 | ±0.5 |
| Chip/晶片 | | Lens Color/胶体颜色 | | |
| Material/材质 | Emitting Color/ 发光颜色 | | Water Clear/无色透明 | |
| AlGaInP | Yellow/黄色 | | | |

■ Absolute Maximum Rating

| Item 项目 | Symbol 符号 | Value 数值 | Unit 单位 |
|------------------------------------|-----------|--------------------------|---------|
| Forward Current 正向电流 | IF | 70 | mA |
| Peak Forward Current* 峰值正向电流 | IFP | 200 | mA |
| Reverse Voltage 反向电压 | VR | 5 | V |
| Power Dissipation 功耗 | PD | 180 | mW |
| Electrostatic discharge 抗静电能力 | ESD | 2000 | V |
| Operation Temperature 操作温度 | Topr | -40~+85 | °C |
| Storage Temperature 储存温度 | Tstg | -40~+100 | °C |
| Lead Soldering Temperature* 引脚焊接温度 | Tsol | Max. 260°C for 5sec Max. | |

*IFP Conditions: Pulse Width≤10msec /IFP 正向峰值电流使用条件: 脉冲宽度≤10 毫秒

■ Typical Optical/ Electrical Characteristics Ta=25°C

| Item/项目 | Symbol/符号 | Condition/条件 | Rank/档次 | Min. 最小值 | Typ. 典型值 | Max. 最大值 | Unit 单位 |
|------------------------------------|----------------|--------------|---------|----------|----------|----------|---------|
| Luminous Intensity/光强 | IV | IF=50mA | | -- | 11000 | -- | mcd |
| Forward Voltage/正向电压 | VF | | | -- | 2.2 | -- | V |
| Dominant Wavelength/主波长 | λ_d | | | -- | 591 | -- | nm |
| Viewing Angle/角度 | 2 θ 1/2 | | | -- | 30 | -- | deg |
| Recommend Forward Current/推荐使用正向电流 | IF(rec) | -- | | -- | -- | 50 | mA |
| Reverse Current/反向电流 | IR | Vr=5V | | -- | -- | 10 | uA |

Notes/注释:

 Tolerance : VF \pm 0.1V, λ_d \pm 2 nm, IV(ϕ) \pm 15%, 2 θ 1/2 \pm 15%, X/Y \pm 0.005.

 公差: 正向电压 \pm 0.1V, 主波长 \pm 2 nm, 光强 (光通量) \pm 15%, 角度 \pm 15%, X/Y \pm 0.005.

■ Ranks
Forward Voltage(IF=50mA)

| | Min | Max | Unit |
|------|-----|-----|------|
| BIN1 | 1.8 | 2.0 | V |
| BIN2 | 2.0 | 2.2 | V |
| BIN3 | 2.2 | 2.4 | V |

Luminous Intensity(IF=50mA)

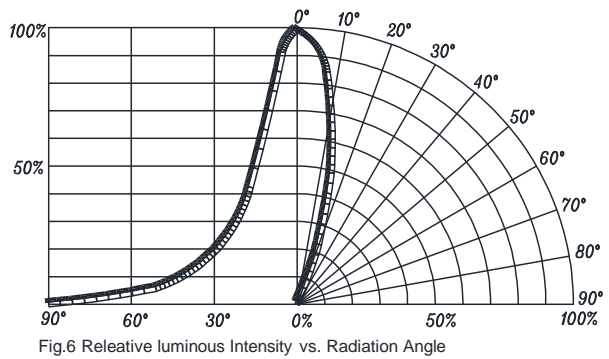
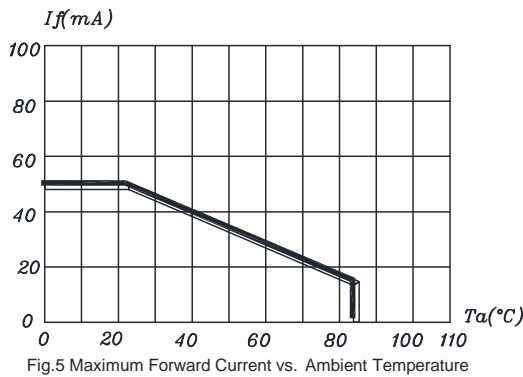
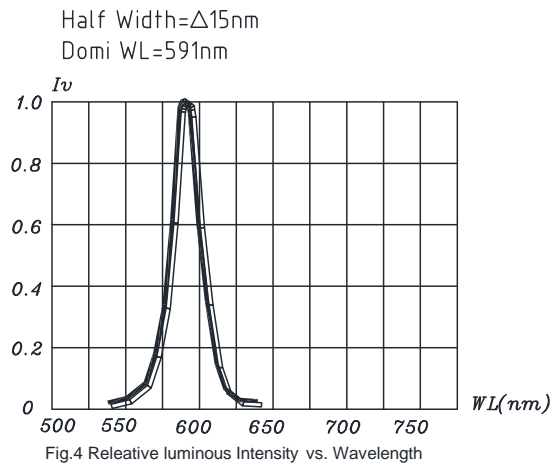
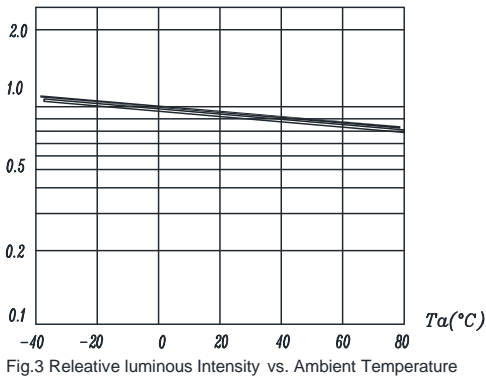
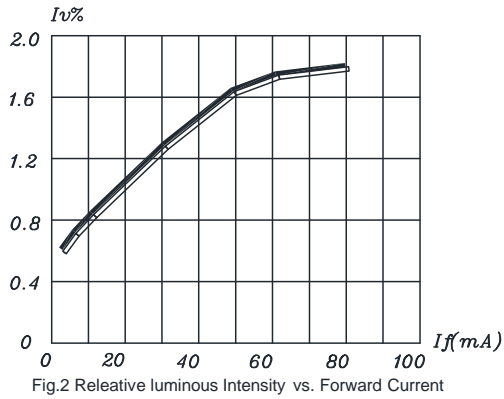
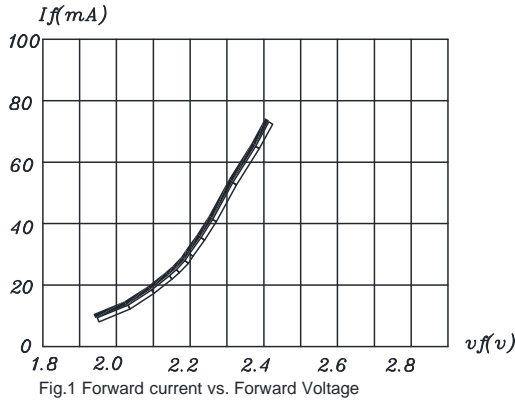
| | Min | Max | Unit |
|------|-------|-------|------|
| BIN1 | 7500 | 9000 | mcd |
| BIN2 | 9000 | 11250 | mcd |
| BIN3 | 11250 | 14050 | mcd |
| BIN4 | 14050 | 17625 | mcd |

Dominant Wavelength(IF=50mA)

| | Min | Max | Unit |
|------|-----|-----|------|
| BIN1 | 588 | 590 | nm |
| BIN2 | 590 | 592 | nm |
| BIN3 | 592 | 594 | nm |

■ Typical Electrical/ Optical Characteristics Curves

Ta=25°C



■ Reliability Performance 可靠性
Test Items And Result 测试项目和判定

| Test Classification 测试类别 | Test Item 测试项目 | Test Conditions 测试条件 | Test Duration 测试持续时间 | Sample Size 样品数量 | AC/RE 接受/拒收 |
|-----------------------------------|--|---|-------------------------|---------------------|----------------|
| Life Test 寿命测试 | Room Temperature DC Operating Life Test 室温直流寿命测试 | $T_a=25^{\circ}\text{C}\pm 5^{\circ}\text{C}$, $I_f=50\text{mA}$ | 1000 hrs | 22 pcs | 0/1 |
| Environment Test 环境模拟 实验 | Thermal Shock Test 冷热冲击 | $100^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 5min ↑↓ $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 5min. | 100 cycles | 22 pcs | 0/1 |
| | Temperature Cycle Test 高低温循环实验 | $100^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 30min ↑↓5min $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 30min. | 100 cycles | 22 pcs | 0/1 |
| | High Temperature & High Humidity Test 高温高湿实验 | $60^{\circ}\text{C}\pm 5^{\circ}\text{C}/90\% \text{RH}$ $I_f=50\text{mA}$ | 1000 hrs | 22 pcs | 0/1 |
| | High Temperature Storage 高温储存 | $T_a=100^{\circ}\text{C}\pm 5^{\circ}\text{C}$ | 1000 hrs | 22 pcs | 0/1 |
| | Low Temperature Storage 低温储存 | $T_a=-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ | 1000 hrs | 22 pcs | 0/1 |
| Mechanica Test 机械测试 | Resistance to Soldering Heat 耐焊接实验 | Temp= 260°C max T=5sec max | 1 times | 22 pcs | 0/1 |

■ Failure criteria

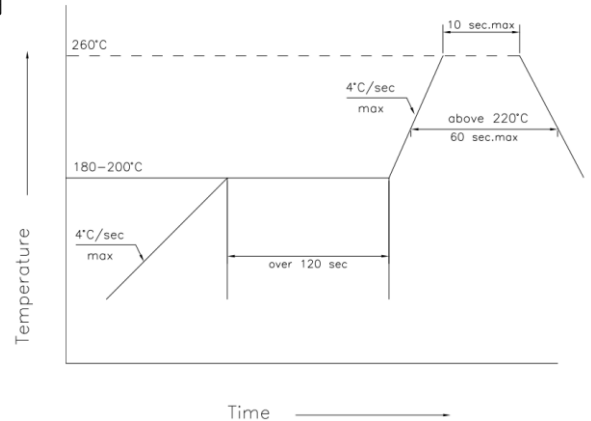
| Item | Symbol | Test Conditions | Critical for judgment | |
|--------------------|--------|-------------------|-----------------------|-----------|
| | | | Min | Max |
| Forward Voltage | VF | $I_f=50\text{mA}$ | - | U.S.L*1.2 |
| Reverse Current | IR | $V_R=5\text{V}$ | - | U.S.L*2.0 |
| Luminous Intensity | IV | $I_f=50\text{mA}$ | L.S.L*0.7 | - |

If the led is not dead and meets the above requirements, it is deemed qualified.

PS: U.S.L:Upper Standard Level L.S.L:Lower Standard Level

SMT Reflow Soldering Instructions SMT 回流焊说明

1. Reflow soldering should not be done more than two times. 回流焊不可以做两次以上
2. When soldering, do not put stress on the LEDs during heating
 当焊接时，不要在材料受热时用力压胶体表面



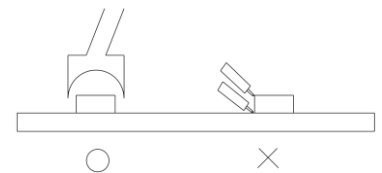
Soldering iron 烙铁焊接

1. When hand soldering, keep the temperature of iron below less 300°C less than 3 seconds
 当手工焊接时，烙铁的温度必须小于 300°C，时间不可超过 3 秒
2. The hand solder should be done only one times
 手工焊接只可焊接一次

Repairing 修补

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed in advance whether the characteristics of LEDs will or will not be damaged by repairing.

LED 回流焊后不应该修复，当修复是不可避免时，必须使用双头烙铁（如下图），但必须事先确认此种方式会或不会损坏 LED 本身的特性。



Cautions 注意事项

The encapsulated material of the LEDs is silicone. Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when use the picking up nozzle, the pressure on the silicone resin should be proper.

LED 封装为硅胶，故 LED 胶体表面较软，用力按压胶体表面会影响 LED 可靠性，因此应有预防措施避免在封装的零件上的强大压力，当使用吸嘴时，胶体表面的压力应是恰当的。

3. Do not stack together assembled PCBs containing LEDs. Impact may scratch the silicone lens or damage the internal circuitry
 不可将模组材料堆积在一起，它可能会损坏内部电路

4. Not suitable to operate in acidic environment, PH<7
 不可用在 PH<7 的酸性场所

