

产品规格书

◆ 产品特性:

- 低电压，高光输出功率；
- 寿命长，低光衰；
- 均匀性和一致性好；
- 100%测试分选。

◆ 物理参数:

| | |
|--------|--------------------------------|
| 芯片结构 | 蓝宝石衬底的倒装结构 |
| 芯片尺寸 | 20*20mil (520±10μm)x(520±10μm) |
| 芯片厚度 | 12mil 300 ±10μm |
| 电极厚度 | 1.8μm~2.2μm |
| P 电极尺寸 | (164 ±10μm)x(478±10μm) |
| N 电极尺寸 | (160 ±10μm)x(470±10μm) |
| 电极间距 | 150 ±10μm |
| P 电极材质 | 金 |
| N 电极材质 | 金 |

◆ 光电特性@Tc=22°C

| 参数 | 符号 | 测试条件 | 最小值 | 典型值 | 最大值 | 单位 | |
|------|-----|----------|-----|-------|-----|-------|----|
| 正向电压 | Vf1 | If =40mA | 5 | — | 8 | V | |
| | Vf3 | If=10uA | 4 | — | — | V | |
| 反向电流 | Ir | Vr =-5V | — | — | 1.0 | μA | |
| 反向电压 | Vr | Ir=-10μA | 10 | — | — | V | |
| 辐射功率 | P | If =40mA | PB0 | 0 | — | 0.5 | mw |
| | | | PC0 | 0.5 | — | 1 | |
| | | | PB1 | 1 | — | 1.5 | |
| | | | PC1 | 1.5 | — | 2 | |
| | | | PB2 | 2 | — | 2.5 | |
| | | | PC2 | 2.5 | — | 3 | |
| 峰值波长 | λp | If=40mA | 25C | 255 | — | 257.5 | nm |
| | | | 25D | 257.5 | — | 260 | |
| | | | 26A | 260 | — | 262.5 | |
| | | | ... | ... | — | ... | |
| | | | 28C | 285 | — | 287.5 | |
| | | | 28D | 287.5 | — | 290 | |

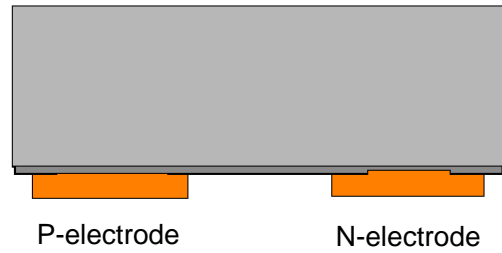
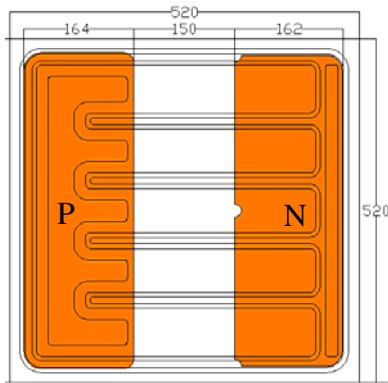
- 1) 可根据客户要求定制特殊规格芯片；
- 2) 光电特性源自杰生半导体测试机的裸芯测试数据，其中正向电压、峰值波长、辐射功率的测量误差分别为±0.1V、±2nm 和±5%；
- 3) UV LED属于静电敏感产品，请注意在运输和使用过程中的静电防护措施。

◆ 绝对最大额定值

| 参数 | 符号 | 条件 | 额定值 | 单位 |
|---------|------|-----------|----------|--------|
| 正向直流电流 | If | Ta = 22°C | ≤60 | mA |
| 反向电压 | Vr | Ta=22°C | ≤10 | V |
| 结温 | Tj | — | ≤110 | °C |
| 储存温度 | Tstg | 蓝膜芯片 | -40~+80 | °C |
| 焊接温度/时间 | — | — | ≤260 (5) | °C (S) |

- 1) 上述最大额定值是在没有封装的金属印刷PCB板上测试得出；
- 2) 超过绝对最大额定值，特别是正向电流和结温可能导致芯片的损坏。

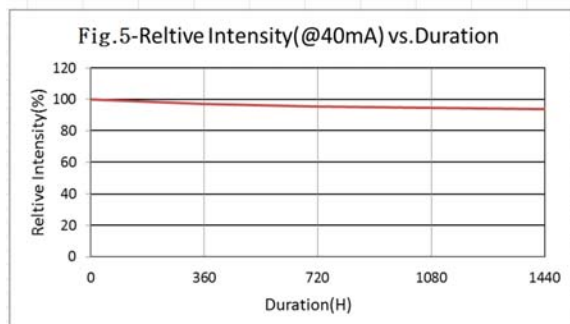
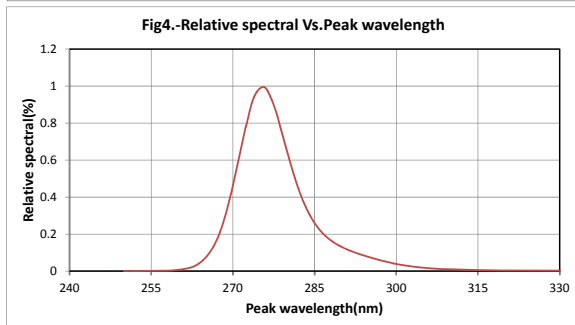
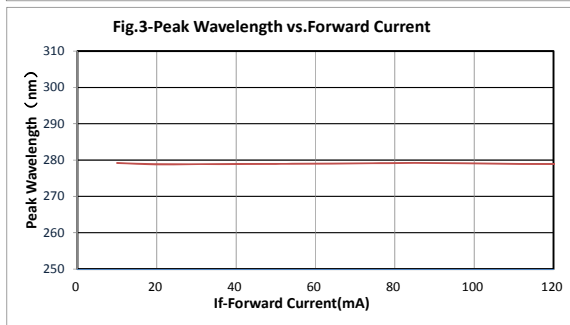
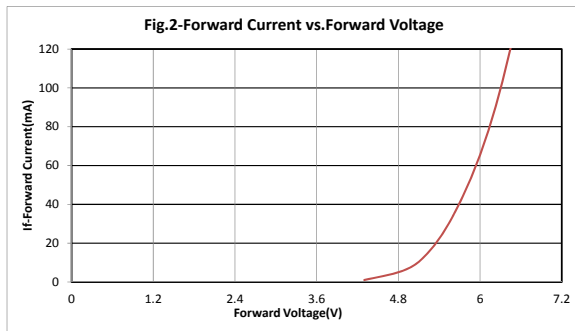
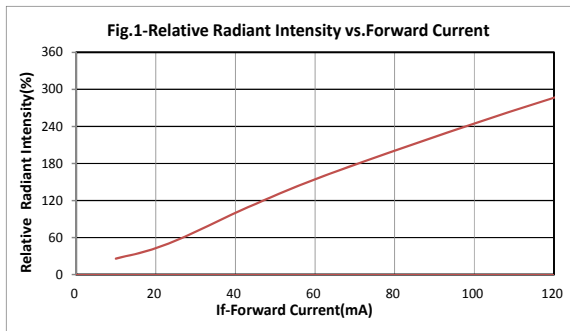
◆ 芯片尺寸和包装:



- 1) 芯片被排列且背面被粘贴在蓝膜的中心位置，芯片的焊线电极朝上且覆盖有离型纸保护；
- 2) 芯片的规格型号、光电参数、数量等信息将被打印成标签并贴在蓝膜的右下角；
- 3) 可以遵照客户要求而提供不同的包装方式或标签信息；

◆ 典型特征曲线:

以下测试数据源自杰生半导体的UV LED产品，视正向电压、峰值波长等参数抽样情况的不同，实际曲线将会呈现不同差异。



Product Specifications

◆ Features:

- Low Voltage, and High Output Power
- Long Operation Life, Low fading;
- Good Uniformity and Consistency
- 100% Probing Test and Sorting

◆ Physical Characteristics:

| | |
|------------------------|---------------------------------|
| Structure | Flip Chip on Sapphire substrate |
| Chip size | 20*20mil, (520±10μm)×(520±10μm) |
| Chip thickness | 12mil, 300 ±10μm |
| Pad thickness | 1.8μm~2.2μm |
| P bonding pad diameter | (164 ±10μm)×(478±10μm) |
| N bonding pad diameter | (160 ±10μm)×(470±10μm) |
| Bonding pad distance | 150 ±10μm |
| Topside P electrode | Au alloy |
| Topside N electrode | Au alloy |

◆ Electro-optical Characteristics@Tc=22°C

| Parameter | Symbol | Condition | Min. | Typ. | Max. | Unit | |
|-----------------|--------|-----------|------|-------|------|-------|----|
| Forward Voltage | Vf1 | If =40mA | 5 | — | 8 | V | |
| | Vf3 | If=10uA | 4 | — | — | V | |
| Reverse Current | Ir | Vr =-5V | — | — | 1.0 | μA | |
| Reverse Voltage | Vr | Ir=-10μA | 10 | — | — | V | |
| Radiant Flux | P | If =40mA | PB0 | 0 | — | 0.5 | mw |
| | | | PC0 | 0.5 | — | 1 | |
| | | | PB1 | 1 | — | 1.5 | |
| | | | PC1 | 1.5 | — | 2 | |
| | | | PB2 | 2 | — | 2.5 | |
| | | | PC2 | 2.5 | — | 3 | |
| Peak Wavelength | λp | If=40mA | 25C | 255 | — | 257.5 | nm |
| | | | 25D | 257.5 | — | 260 | |
| | | | 26A | 260 | — | 262.5 | |
| | | | ... | ... | — | ... | |
| | | | 28C | 285 | — | 287.5 | |
| | | | 28D | 287.5 | — | 290 | |

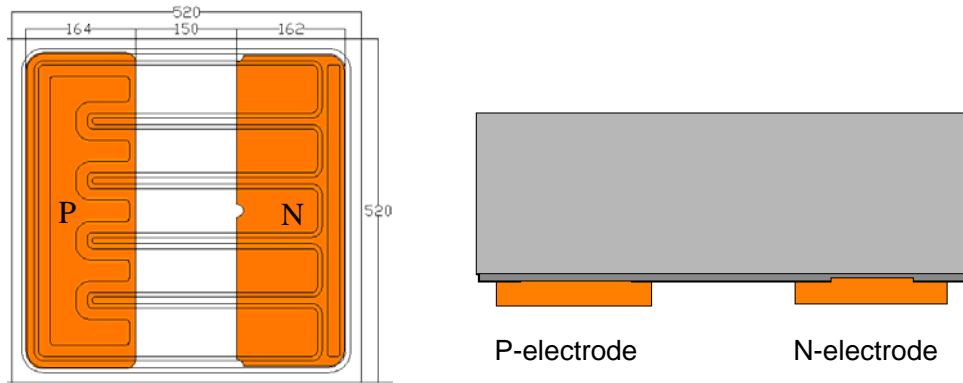
- 1) Custom-made special requirements are welcome;
- 2) Electro-optical Characteristics are measured by Jason's equipment on bare chips. The measured tolerances of Forward Voltage, Peak Wavelength, Radiant Flux are ±0.1V, ±2nm, ±5% respectively;
- 3) UV LED is Electrostatic Sensitive Device, Electrostatic protection should be paid attention to during transportation and use.

◆ Absolute Maximum Ratings

| Parameter | Symbol | Condition | Rating | Unit |
|-----------------------|--------|-----------|----------|--------|
| Forward DC Current | If | Ta = 22°C | ≤60 | mA |
| Reverse Voltage | Vr | Ta=22°C | ≤10 | V |
| Junction Temperature | Tj | — | ≤110 | °C |
| Storage Temperature | Tstg | — | -40~+80 | °C |
| Soldering temperature | — | — | ≤260 (5) | °C (S) |

- 1) Maximum ratings are package dependent;
- 2) The above maximum ratings were determined using a Metal Core Printed Circuit Board without encapsulation;
- 3) Stresses in excess of the absolute maximum ratings such as forward current and junction temperature may cause damage to the LED.

◆ Chip Diagram and Packing:



- 1) The chips are located at the center of the adhesion paper, the bonding pad should face toward the cover glossy paper ;
- 2) The model name , E-O value and quantity is labeled and at the right corner of the adhesion paper;
- 3) Packaging can be changed according to customer's needs.

◆ Typical Characteristic Curves:

These are representative measurements for the Jason UV LED product. Actual curves will vary slightly for the various radiant flux and Peak wavelength bins.

