Technical Data Sheet

Part Number: UV-5050F-□ 0.2W TOP LED, Working Current @IF=60mA

承  认  书
SPECIFICATION FOR APPROVAL

客户名称：
Customer

客户型号：
Customer Part No.

工厂型号：
Manufacturer Part No. 5050UV395-01

产品规格：
Specification

制订人：
Issued By

日期：Date

审核：
Approved By

日期：

客户回签：
Customer Confirmation

日期：

确认结果（Confirm result）：

□ 合格 Approve（请于认可栏中签名 Please sign in the confirmation column.）

□ 不合格 Reject（请填写原因 Please write down the reason for rejecting.）

原因 Reason: _____________________________________________________________________

版本 Version: ____________
Features
- Package Size: 5.0 (L) × 5.0 (W) × 1.5 (T) mm
- Silicone Packed
- Suitable for different working environment
- Super long lifetime: 50000HRs
- Wide viewing angle (2θ1/2=120°)

Device Selection Guide

<table>
<thead>
<tr>
<th>ITEM 项目</th>
<th>MATERIALS 物料</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resin 胶体</td>
<td>Silicone 硅胶</td>
</tr>
<tr>
<td>Bonding wire 焊线</td>
<td>Φ0.8mil Au</td>
</tr>
<tr>
<td>Lens color 胶体颜色</td>
<td>Water Clear 水清透明</td>
</tr>
<tr>
<td>Dice 晶片</td>
<td>InGaN</td>
</tr>
</tbody>
</table>

Product Application
- Most suitable for displayers
- Landscape lighting products
- Decorative lighting: light strip

Product Features
- Package Size: 5.0 (L) × 5.0 (W) × 1.5 (T) mm
- Silicone Packed
- Suitable for different working environment
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**Package Outline Dimensions**

![Diagram of package outline dimensions](image)

1. **Recommended solder pad for TA3-5050 series**

![Recommended solder pad diagram](image)

**Note:** The tolerances unless mentioned is ±0.01 mm. 除非另有说明，以上尺寸的公差为±0.01 mm.
## Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Rating</th>
<th>Unit</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse Voltage</td>
<td>( V_R )</td>
<td>5</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Forward Current</td>
<td>( I_F )</td>
<td>20*3</td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>Topr</td>
<td>-20 ～ +80</td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>Tstg</td>
<td>-20 ～ +80</td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>Soldering Temperature</td>
<td>Tsol</td>
<td>265(for 30seconds)</td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>Power Dissipation</td>
<td>Pd</td>
<td>110</td>
<td>mW</td>
<td></td>
</tr>
<tr>
<td>Peak Forward Current</td>
<td>( I_{FP} )</td>
<td>100</td>
<td>mA</td>
<td></td>
</tr>
</tbody>
</table>

## Electro-Optical Characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viewing Angle</td>
<td>( 2 \theta ) 1/2</td>
<td>-----</td>
<td>120</td>
<td>-----</td>
<td>deg</td>
<td>If=20mA</td>
</tr>
<tr>
<td>Reverse Current</td>
<td>IR</td>
<td>-----</td>
<td>-----</td>
<td>10</td>
<td>μ A</td>
<td>VR=5V</td>
</tr>
<tr>
<td>Dominant Wavelength</td>
<td>( \lambda_d )</td>
<td>390</td>
<td>395</td>
<td>400</td>
<td>nm</td>
<td>If=20mA</td>
</tr>
<tr>
<td>Forward Voltage</td>
<td>( V_f )</td>
<td>3.0</td>
<td>3.6</td>
<td>V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luminous Intensity</td>
<td>( IV )</td>
<td>400</td>
<td>-----</td>
<td>600</td>
<td>mcd</td>
<td>If=20mA</td>
</tr>
</tbody>
</table>

**Notes:**

1. Tolerance of Luminous Intensity is ±15%. 发光强度的公差为±15%。
2. Tolerance of Forward Voltage is ±0.1V. 正向电压的公差为±0.1V

UV-5050F  0.2W TOP LED
Directory Characteristics 配光曲线特性

- Reflow Temp/Time 回流焊温度曲线
  Handing of an SMD LED Should be done only when the Package has been cooled down to below 40℃ or less. This is to Prevent SMD LED failures due to thermal-mechanical stress during handing.

- Reflow soldering
  Temperature (top surface of the SMD LED )profile:
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1. Use with all SMDs
   Solder=Sn63-Pb37
   Average ramp-up rate= 4°C/sec.max.
   Preheat temperature: 100° ~ 150°C
   Preheat time = 120 sec. max.
   Ramp-down rate = 6°C/sec.max.
   Peak temperature = 230°C max
   Time within 5°C of actual peak temperature = 10 sec. max.
   Duration above 183°C is 60 sec. max.

2. Solder = Lead-Free
   Average ramp-up rate = 4°C/sec.max
   Preheat temperature: 150~200°C
   Preheat time = 120 sec. max.
   Ramp-down rate = 6°C/sec.max.
   Peak temperature = 250°C max.
   Time within 5°C of actual peak temperature = 10 sec. max.
   Duration above 217°C is 60 sec. max.
UV. ABCDX®

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- **Test circuit 测试电路**

- **Handling precautions 处理注意事项**

  1. **Over-current-proof 过电流保护**
     
     Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).
     
     客户必须采用电阻进行保护，否则轻微电压漂移将导致电流发生巨大变化（产品将被烧坏）。

  2. **清洗**
     
     2.1 When necessary, cleaning should occur only with isopropyl alcohol (IPA) at room temperature (25°C) for a duration of no more than one minute. Dry at room temperature for 15 minutes before use.
     
     产品如需清洗，只能在室温（25°C）下采用异丙醇（IPA）清洗，清洗时间不超过1秒。使用前在室温下放置15分钟晾干产品。

     2.2 The influence of ultrasonic cleaning on the SMD LED depends on factors such as ultrasonic power and the way the SMD LEDs are mounted. Ultrasonic cleaning should be pre-qualified to ensure this will not cause damage to the SMD LEDs.
     
     超声波清洗对SMD LED的影响取决于超声波功率及SMD LED的贴装方式等因素。超声波清洗需经过预审合格，以确保此举不会对SMD LED造成损害。

  3. **Storage 储存**
     
     3.1 It is recommended to store the products in the following conditions 推荐在下列环境下储存：
     
     Humidity: 60% R.H. Max. 湿度：相对湿度≤60%
     
     Temperature: 5℃~30℃ (41°F~86°F) 温度：5℃~30℃ (41°F~86°F)

     3.2 Shelf life in sealed bag: 12 month at <5℃~30℃ and <30% R.H. after the package is opened, the products should be used within 24hrs or they should be kept stored at ≤20% R.H. with zip-lock sealed.
     
     以密封袋储存保质期：12个月，-5℃~30℃，相对湿度<30%。产品开封后应在24小时内使用，或在相对湿度≤20%环境下储存，并以拉链锁密封。
4. Baking 烘烤

It is recommended to bake before soldering when the pack is unsealed after 24hrs. The conditions are as followings:

如包装敞开超过 24 小时，我们建议焊线前对产品进行烘烤。烘烤条件如下：

4.1 80±3℃(15-25hrs) and <5%RH, taped reel type 卷带
4.2 100±3℃(1hr~2hrs), bulk type 散装
4.3 130±3℃(45min ~1hr), bulk type 散装