1.6X0.8mm SMD CHIP LED LAMP

Part Number: KPT-1608SECK
Super Bright Orange

**Features**
- 1.6mmX0.8mm SMT LED, 0.75mm thickness.
- Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Moisture sensitivity level: level 3.
- RoHS compliant.

**Description**
The Super Bright Orange device is made with AlGaInP (on GaAs substrate) light emitting diode chip.

**Package Dimensions**

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**Notes:**
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.004" unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.
### Selection Guide

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Emitting Color (Material)</th>
<th>Lens Type</th>
<th>( I_v ) (mod) ([2]) @ 20mA</th>
<th>Viewing Angle ([1])</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPT-1608SECK</td>
<td>Super Bright Orange (AlGaInP)</td>
<td>Water Clear</td>
<td>120 250 80 180</td>
<td>120°</td>
</tr>
</tbody>
</table>

Notes:
1. \( \theta_{1/2} \) is the angle from optical centerline where the luminous intensity is \( 1/2 \) of the optical peak value.
2. Luminous intensity / luminous flux: \( +/ -15\% \).
   * Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

### Electrical / Optical Characteristics at \( TA=25^\circ C \)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Emitting Color</th>
<th>Typ.</th>
<th>Max.</th>
<th>Units</th>
<th>Test Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \lambda_{\text{peak}} )</td>
<td>Peak Wavelength</td>
<td>Super Bright Orange</td>
<td>610</td>
<td>nm</td>
<td>( I_r=20mA )</td>
<td></td>
</tr>
<tr>
<td>( \lambda_{D} [1] )</td>
<td>Dominant Wavelength</td>
<td>Super Bright Orange</td>
<td>601</td>
<td>nm</td>
<td>( I_r=20mA )</td>
<td></td>
</tr>
<tr>
<td>( \Delta \lambda_{1/2} )</td>
<td>Spectral Line Half-width</td>
<td>Super Bright Orange</td>
<td>29</td>
<td>nm</td>
<td>( I_r=20mA )</td>
<td></td>
</tr>
<tr>
<td>( C )</td>
<td>Capacitance</td>
<td>Super Bright Orange</td>
<td>15</td>
<td>pF</td>
<td>( V_r=0V; f=1MHz )</td>
<td></td>
</tr>
<tr>
<td>( V_F [2] )</td>
<td>Forward Voltage</td>
<td>Super Bright Orange</td>
<td>2.1</td>
<td>2.5 V</td>
<td>( I_r=20mA )</td>
<td></td>
</tr>
<tr>
<td>( I_{R} )</td>
<td>Reverse Current</td>
<td>Super Bright Orange</td>
<td>10</td>
<td>uA</td>
<td>( V_r=5V )</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Wavelength: \( +/ -1\text{nm} \).
2. Forward Voltage: \( +/ -0.1V \).
3. Excess driving current and/or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.
4. Wavelength value is traceable to the CIE127-2007 compliant national standards.

### Absolute Maximum Ratings at \( TA=25^\circ C \)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Values</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power dissipation</td>
<td>75</td>
<td>mM</td>
</tr>
<tr>
<td>DC Forward Current</td>
<td>30</td>
<td>mA</td>
</tr>
<tr>
<td>Peak Forward Current ([1])</td>
<td>195</td>
<td>mA</td>
</tr>
<tr>
<td>Reverse Voltage</td>
<td>5</td>
<td>V</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C To +85°C</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40°C To +85°C</td>
<td></td>
</tr>
</tbody>
</table>

Note:
1. \( 1/10 \) Duty Cycle, 0.1ms Pulse Width.
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**Relative Intensity vs. Wavelength**

![Graph showing relative intensity vs. wavelength](image)

**Forward Current vs. Forward Voltage**

![Graph showing forward current vs. forward voltage](image)

**Luminous Intensity vs. Forward Current**

![Graph showing luminous intensity vs. forward current](image)

**Forward Current Derating Curve**

![Graph showing forward current derating curve](image)

**Luminous Intensity vs. Ambient Temperature**

![Graph showing luminous intensity vs. ambient temperature](image)

**Spatial Distribution**

![Spatial distribution graph](image)
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Reflow soldering is recommended and the soldering profile is shown below. Other soldering methods are not recommended as they might cause damage to the product.

NOTES:
1. We recommend the reflow temperature 246°C (+4°C). The maximum soldering temperature should be limited to 260°C.
2. Do not cause stress to the epoxy in the part it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

Recommended Soldering Pattern
(Units: mm; Tolerance: ± 0.1)

Reel Dimension

Tape Dimensions
(Units: mm)
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