1.6X0.8mm SMD CHIP LED LAMP

Part Number: KPT-1608SGC   Super Bright Green

Features

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

Description

The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

Package Dimensions

Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.1 (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>Dice</th>
<th>Lens Type</th>
<th>( I_v ) (mcd) [2] @ 20mA</th>
<th>Viewing Angle [1]</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPT-1608SGC</td>
<td>Super Bright Green (GaP)</td>
<td>Water Clear</td>
<td>5</td>
<td>12</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%.
3. Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Device</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 Green</td>
<td>565</td>
<td>nm</td>
<td></td>
<td>( I_f=20\text{mA} )</td>
</tr>
<tr>
<td>( \lambda_D ) [1]</td>
<td>Dominant Wavelength</td>
<td>Super Bright Green</td>
<td>568</td>
<td>nm</td>
<td></td>
<td>( I_f=20\text{mA} )</td>
</tr>
<tr>
<td>( \Delta \lambda_{1/2} )</td>
<td>Spectral Line Half-width</td>
<td>Super Bright Green</td>
<td>30</td>
<td>nm</td>
<td></td>
<td>( I_f=20\text{mA} )</td>
</tr>
<tr>
<td>C</td>
<td>Capacitance</td>
<td>Super Bright Green</td>
<td>15</td>
<td>pF</td>
<td></td>
<td>( V_f=0\text{V}; f=1\text{MHz} )</td>
</tr>
<tr>
<td>( V_f ) [2]</td>
<td>Forward Voltage</td>
<td>Super Bright Green</td>
<td>2.2</td>
<td>V</td>
<td></td>
<td>( I_f=20\text{mA} )</td>
</tr>
<tr>
<td>( I_{\text{R}} )</td>
<td>Reverse Current</td>
<td>Super Bright Green</td>
<td>10</td>
<td>mA</td>
<td></td>
<td>( V_{\text{R}}=5\text{V} )</td>
</tr>
</tbody>
</table>

Notes:
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

Absolute Maximum Ratings at TA=25°C

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Super Bright Green</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power dissipation</td>
<td>62.5</td>
<td>mW</td>
</tr>
<tr>
<td>DC Forward Current</td>
<td>25</td>
<td>mA</td>
</tr>
<tr>
<td>Peak Forward Current [1]</td>
<td>140</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.
Super Bright Green  KPT-1608SGC

Graphs and data for the Super Bright Green LED (KPT-1608SGC) are shown, including:
- Relative Intensity vs. Wavelength
- Forward Current vs. Forward Voltage
- Luminous Intensity vs. Forward Current
- Forward Current vs. Ambient Temperature
- Relative Luminous Intensity vs. Ambient Temperature
- Spatial Distribution

The graphs illustrate the performance characteristics of the LED under various conditions.
KPT-1608SGC

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 245°C (+/− 5°C). The maximum soldering temperature should be limited to 250°C.
2. Don’t expose stress to the epoxy resin while 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)

TAPE

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PACKING & LABEL SPECIFICATIONS

**KPT-1608SGC**

**USER DIRECTION OF FEED**

- Label
- 2,000pcs / Reel
- 1 Reel / Bag

**OUTSIDE LABEL**

- Kingbright
- 60K / 56# BOX
- 30K / 55# Box

**Kingbright**

**P/N:** KPT-160B

**QTY:** 2,000 pcs Q.C.

**S/N:** XXXX

**CODE:** XXX

**LOT NO:**

RoHS Compliant