2.0x1.25mm SMD CHIP LED LAMP

Part Number: KP-2012SGC  Super Bright Green

Features
- 2.0mmx1.25mm SMT LED, 1.1mm thickness.
- Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- 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>Iv (mcd) [2] @ 20mA</th>
<th>Viewing Angle [1]</th>
</tr>
</thead>
<tbody>
<tr>
<td>KP-2012SGC</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>If=20mA</td>
<td></td>
</tr>
<tr>
<td>( \lambda_{D} ) [1]</td>
<td>Dominant Wavelength</td>
<td>Super Bright Green</td>
<td>568</td>
<td>nm</td>
<td>If=20mA</td>
<td></td>
</tr>
<tr>
<td>( \Delta \lambda/2 )</td>
<td>Spectral Line Half-width</td>
<td>Super Bright Green</td>
<td>30</td>
<td>nm</td>
<td>If=20mA</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Capacitance</td>
<td>Super Bright Green</td>
<td>15</td>
<td>pF</td>
<td>V=0,V,f=1MHz</td>
<td></td>
</tr>
<tr>
<td>( V_{F} ) [2]</td>
<td>Forward Voltage</td>
<td>Super Bright Green</td>
<td>2.2</td>
<td>2.5</td>
<td>V=If=20mA</td>
<td></td>
</tr>
<tr>
<td>( I_{R} )</td>
<td>Reverse Current</td>
<td>Super Bright Green</td>
<td>10</td>
<td>( \mu )A</td>
<td>V=5V</td>
<td></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.
4. Excess driving current and/or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## 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  
KP-2012SGC

**Relative Intensity vs. Wavelength**

![Graph showing relative intensity vs. wavelength for Super Bright Green KP-2012SGC.](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 vs. Ambient Temperature**

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

**Relative Luminous Intensity vs. Ambient Temperature**

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

**Spatial Distribution**

![Graph showing spatial distribution.](image)
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.

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

Reel Dimension

Tape Dimensions
(Units: mm)
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