3.2x1.6mm SMD CHIP LED LAMP

Part Number: APTR3216MGC       Mega Green

Features
- 3.2mmx1.6mm SMD LED, 1.05mm thickness.
- Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Moisture sensitivity level: level 3.
- RoHS compliant.

Descriptions
- The Mega Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.
- Electrostatic discharge and power surge could damage the LEDs.
- It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.
- All devices, equipment and machinery must be electrically grounded.

Package Dimensions

ATTENTION
OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC DISCHARGE SENSITIVE DEVICES

Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.2(0.008") 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>Iv (md) [2] @ 20mA</th>
<th>Viewing Angle [1]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min.</td>
<td>Typ.</td>
</tr>
<tr>
<td>APTR3216MGC</td>
<td>Mega Green (AlGaInP)</td>
<td>Water Clear</td>
<td>20</td>
<td>60</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 CIE127-2007 standards.

Electrical / Optical Characteristics at TA=25°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>Mega Green</td>
<td>574</td>
<td>nm</td>
<td>IF=20mA</td>
<td></td>
</tr>
<tr>
<td>$\lambda_D$ [1]</td>
<td>Dominant Wavelength</td>
<td>Mega Green</td>
<td>570</td>
<td>nm</td>
<td>IF=20mA</td>
<td></td>
</tr>
<tr>
<td>$\Delta \lambda_{1/2}$</td>
<td>Spectral Line Half-width</td>
<td>Mega Green</td>
<td>26</td>
<td>nm</td>
<td>IF=20mA</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Capacitance</td>
<td>Mega Green</td>
<td>20</td>
<td>pF</td>
<td>VF=0V;f=1MHz</td>
<td></td>
</tr>
<tr>
<td>$V_F$ [2]</td>
<td>Forward Voltage</td>
<td>Mega Green</td>
<td>2.1</td>
<td>2.5</td>
<td>V</td>
<td>IF=20mA</td>
</tr>
<tr>
<td>$I_R$</td>
<td>Reverse Current</td>
<td>Mega Green</td>
<td>10</td>
<td>uA</td>
<td>VR=5V</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. $\lambda$: +/-1nm.
2. $V_F$: +/-0.1V.
3. $\Delta \lambda$ value is traceable to CIE127-2007 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>Values</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power dissipation</td>
<td>75</td>
<td>mW</td>
</tr>
<tr>
<td>DC Forward Current</td>
<td>30</td>
<td>mA</td>
</tr>
<tr>
<td>Peak Forward Current [1]</td>
<td>150</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>

Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.
Mega Green

APTR3216MGC

- Forward Current (mA) vs. Forward Voltage
- Luminous Intensity (Relative Value) vs. Forward Current
- Forward Current (mA) vs. Ambient Temperature
- Relative Luminous Intensity vs. Ambient Temperature
- Spatial Distribution
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 260°C.
2. Don’t expose the product to oven reflow while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.
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