3.0mmx1.0mm RIGHT ANGLE SMD CHIP LED LAMP

Features
- 3.0mmx1.0mm RIGHT ANGLE SMT LED, 2.0mm THICKNESS.
- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE: 2000PCS / REEL.
- LEAD AND CADMIUM FREE.

Description
The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

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 ±0.15 (0.006") unless otherwise noted.
3. Specifications are subject to change without notice.
### Selection Guide

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dice</th>
<th>Lens Type</th>
<th>Iv (mcd) @ 20mA</th>
<th>Viewing Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPBA-3010ESGC-F01</td>
<td>HIGH EFFICIENCY RED (GaAsP/GaP)</td>
<td>WATER CLEAR</td>
<td>4</td>
<td>140°</td>
</tr>
<tr>
<td></td>
<td>SUPER BRIGHT GREEN (GaP)</td>
<td></td>
<td>2.6</td>
<td></td>
</tr>
</tbody>
</table>

Note:
1. \( \theta_{1/2} \) is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

### Electrical / Optical Characteristics at \( T_A = 25°C \)

<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>High Efficiency Red Super Bright Green</td>
<td>627</td>
<td>565</td>
<td>nm</td>
<td>( I_F = 20mA )</td>
</tr>
<tr>
<td>( \lambda_D )</td>
<td>Dominate Wavelength</td>
<td>High Efficiency Red Super Bright Green</td>
<td>625</td>
<td>568</td>
<td>nm</td>
<td>( I_F = 20mA )</td>
</tr>
<tr>
<td>( \Delta \lambda_{1/2} )</td>
<td>Spectral Line Half-width</td>
<td>High Efficiency Red Super Bright Green</td>
<td>45</td>
<td>30</td>
<td>nm</td>
<td>( I_F = 20mA )</td>
</tr>
<tr>
<td>C</td>
<td>Capacitance</td>
<td>High Efficiency Red Super Bright Green</td>
<td>15</td>
<td>15</td>
<td>pF</td>
<td>( V_F = 0V; f = 1MHz )</td>
</tr>
<tr>
<td>( V_F )</td>
<td>Forward Voltage</td>
<td>High Efficiency Red Super Bright Green</td>
<td>2.0</td>
<td>2.5</td>
<td>V</td>
<td>( I_F = 20mA )</td>
</tr>
<tr>
<td>( I_R )</td>
<td>Reverse Current</td>
<td>All</td>
<td>10</td>
<td></td>
<td>( V_R = 5V )</td>
<td></td>
</tr>
</tbody>
</table>

### Absolute Maximum Ratings at \( T_A = 25°C \)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>High Efficiency Red</th>
<th>Super Bright Green</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power dissipation</td>
<td>105</td>
<td>105</td>
<td>mW</td>
</tr>
<tr>
<td>DC Forward Current</td>
<td>30</td>
<td>25</td>
<td>mA</td>
</tr>
<tr>
<td>Peak Forward Current [1]</td>
<td>160</td>
<td>140</td>
<td>mA</td>
</tr>
<tr>
<td>Reverse Voltage</td>
<td>5</td>
<td>5</td>
<td>V</td>
</tr>
<tr>
<td>Operating / Storage Temp.</td>
<td>-40°C to +85°C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
KPBA-3010ESGC-F01
High Efficiency Red

Relative Radiant Intensity

wavelength $\lambda$ (nm)

RELATIVE INTENSITY Vs. WAVELENGTH

Forward Current (mA)

Forward Voltage (V)

Forward Current vs. FORWARD VOLTAGE

Luminous Intensity

Relative Value at $I=20mA$

1$=$Forward Current (mA)

LUMINOUS INTENSITY Vs. FORWARD CURRENT

Forward Current (mA)

Ambient Temperature $T_a$(°C)

FORWARD CURRENT DERATING CURVE

Relative Luminous Intensity

Ambient Temperature $T_a$(°C)

LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

Spatial Distribution

SPEC NO: DSAD4666
REV NO: V.2
DATE: MAY/07/2004
PAGE: 3 OF 5
APPROVED: J. Lu
CHECKED: Allen Liu
DRAWN: L.L.NIE
Super Bright Green

Forward Voltage (V) vs. Forward Current (mA)

Luminous Intensity vs. Forward Current (mA)

Ambient Temperature T_a (°C) vs. Forward Current Derating Curve

Relative Luminous Intensity vs. Ambient Temperature

Spatial Distribution
Recommended Soldering Pattern
(Units : mm)

Tape Specifications
(Units : mm)