Bivar SMS1105 LED is offered in a side viewing PLCC2 package exhibiting high luminous intensity and wide viewing angles. The miniature package is ideal for small scale applications such as displays, general indication, and backlighting. Low power consumption and excellent long life reliability are suitable for battery powered equipment where minimal maintenance is required. Wide variety of color and intensity combinations are available to meet any illumination needs. Bivar SMS1105 LED is packaged in standard tape and reels for pick and place assemblies.

**Part Number | Material | Emitted Color | Lumen Typ. mcd | Lens Color | Viewing Angle**
---|---|---|---|---|---
SMS1105PGC | InGaN | Pure Green | 800 | Water Clear | 120°

**Outline Dimensions**

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Outline Drawings Notes:
1. All dimensions are in inches [millimeters].
2. Standard tolerance: ±0.010” unless otherwise noted.
Absolute Maximum Ratings

$T_A = 25^\circ C$ unless otherwise noted

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Dissipation</td>
<td>100 mW</td>
</tr>
<tr>
<td>Continuous Forward Current</td>
<td>30 mA</td>
</tr>
<tr>
<td>Peak Forward Current</td>
<td>100 mA</td>
</tr>
<tr>
<td>Electrostatic Discharge Classification (HBM)</td>
<td>2000 V</td>
</tr>
<tr>
<td>Reverse Voltage</td>
<td>5 V</td>
</tr>
<tr>
<td>Derating Linear From 25°C</td>
<td>0.4 mA/°C</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-30 ~ +85°C</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>-40 ~ +100°C</td>
</tr>
<tr>
<td>Soldering Temperature</td>
<td>260°C</td>
</tr>
</tbody>
</table>

Notes:
1. 10% Duty Cycle, Pulse Width ≤ 0.1 msec.
2. Solder time less than 5 seconds at temperature extreme.

Electrical Characteristics

$T_A = 25^\circ C$ & $I_F = 20$ mA unless otherwise noted

<table>
<thead>
<tr>
<th>Emission Color</th>
<th>Forward Voltage (V)</th>
<th>Recommend Forward Current (mA)</th>
<th>Reverse Current (µA) $V_R=5V$</th>
<th>Dominant Wavelength (nm)</th>
<th>Luminous Intensity (mcd)</th>
<th>Viewing Angle $2 \Theta \frac{1}{2}$ (deg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MIN</td>
<td>TYP</td>
<td>MAX</td>
<td>TYP</td>
<td>MAX</td>
<td>MIN</td>
</tr>
<tr>
<td>Pure Green</td>
<td>2.9</td>
<td>3.3</td>
<td>3.7</td>
<td>20</td>
<td>10</td>
<td>520</td>
</tr>
</tbody>
</table>

Notes:
1. Tolerance of Forward Voltage : ±0.05V.
2. Tolerance of Dominant Wavelength : ±0.1nm.
3. Tolerance of Luminous Intensity : ±15%.

Directivity Radiation

$T_A = 25^\circ C$ unless otherwise noted
Typical Electrical / Optical Characteristics Curves

\( T_A = 25^\circ C \) unless otherwise noted

Relative Spectrum Emission \( I_{rel} = f(I) \), \( T_A = 25^\circ C \), \( I_F = 20 \text{ mA} \)

\( V(I) = \) Standard eye response curve

Forward Current \( I_F = f(V_F) \), \( T_A = 25^\circ C \)

![Graph showing relative luminous intensity vs. wavelength](image1)

**Fig. 1** Relative Luminous Intensity vs. Wavelength

![Graph showing forward current vs. forward voltage](image2)

**Fig. 2** Forward Current vs. Forward Voltage

Relative Luminous Intensity \( I_L/I_L(20\text{mA}) = f(I_F) \), \( T_A = 25^\circ C \)

![Graph showing relative luminous intensity vs. forward current](image3)

**Fig. 3** Relative Luminous Intensity vs. Forward Current

Ambient Temperature vs. Allowable Forward Current

![Graph showing ambient temperature vs. allowable forward current](image4)

**Fig. 4** Forward Current vs. Ambient Temperature
Recommended Soldering Conditions

![Soldering Profile Diagram]

**Tape and Reel Dimensions**

*Note: 3000 pcs/Reel*
Packaging and Labeling Plan

Note: 1 Reel / Bag

Vacuum and Heat Sealed
Clear AntiStatic Poly Bag

Humidity Indicator Card
Desiccant

Internal Quality Control Label

Bivar Standard Packaging Label

Outline Drawings Notes:
1. All dimensions are in inches [millimeters].
2. Standard tolerance unless otherwise noted: X.XXX ± 0.010
X.X ± 0.1