Bivar Surface Mount 1206 Inner Lens package LED may be used in nearly any lighting or indication application. The water clear inner lens provides a narrow viewing angle and high luminous intensity making it suitable for small scale applications such as display, backlighting, and general indication. Low power consumption and excellent long life reliability are ideal for battery powered equipment. Wide variety of wavelength and intensity combinations are available to meet any illumination need. The SM1206-IL LED is packaged in standard tape and reels for pick and place assemblies.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>Emitted Color</th>
<th>Peak Wavelength λp(nm) TYP.</th>
<th>Lens Appearance</th>
<th>Luminous Intensity (mcd) TYP.</th>
<th>Viewing Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM1206NBWC-IL</td>
<td>InGaN</td>
<td>BLUE</td>
<td>468</td>
<td>Water Clear</td>
<td>950</td>
<td>30°</td>
</tr>
</tbody>
</table>

Outline Dimensions:

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>Forward Current (DC)</td>
<td>25 mA</td>
</tr>
<tr>
<td>Peak Forward Current (^1)</td>
<td>100 mA</td>
</tr>
<tr>
<td>Reverse Voltage</td>
<td>5 V</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-30 ~ +80°C</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>-40 ~ +85°C</td>
</tr>
<tr>
<td>Lead Soldering Temperature (3 mm from the base of the epoxy bulb) (^2)</td>
<td>260°C</td>
</tr>
</tbody>
</table>

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

Electrical / Optical Characteristics

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Forward Voltage (V) (^1)</th>
<th>Recommend Forward Current (mA)</th>
<th>Reverse Current ((\mu A))</th>
<th>Dominant Wavelength (nm) (^2)</th>
<th>Luminous Intensity (I_v) (mcd)</th>
<th>Viewing Angle (2 \Theta ) 1/2 (deg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM1206NBWC-IL</td>
<td>/</td>
<td>3.1 (\text{TYP}) 3.6</td>
<td>/</td>
<td>20 (\text{TYP}) 10 (\text{MAX})</td>
<td>470 (\text{MIN}) 750 (\text{TYP}) 950 (\text{MAX})</td>
<td>30 (\text{TYP})</td>
</tr>
</tbody>
</table>

Notes:
1. Tolerance of forward voltage : \(\pm 0.05\)\(\text{V}\).
2. Tolerance of dominant wavelength : \(\pm 5.0\)nm.
Typical Electrical / Optical Characteristics

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

**Forward Current vs. Forward Voltage**

$T_A = 25^\circ C$

**Luminous Intensity vs. Forward Current**

$T_A = 25^\circ C$

**Forward Current Derating Curve**

$T_A = 25^\circ C$

**Radiation Diagram**

$T_A = 25^\circ C$

**Spectrum Distribution**
Recommended Soldering Conditions

Tape and Reel Dimensions
Note: 3000 pcs/Reel

Outline Drawings Notes:
1. All dimensions are in inches [millimeters].
2. Standard tolerance: ±0.010" unless otherwise noted.
Packaging and Labeling Plan
Note: 1 Reel / Bag

Vacuum and Heat Sealed
ESD/MBB Bag

Humidity Indicator Card
Desiccants

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

Bivar Standard Packaging Label

Bivar reserves the right to make changes at any time without notice.

Bivar, Inc. — 4 Thomas, Irvine, California 92618, U.S.A.
Phone: (949) 951-8808   Fax: (949) 951-3974   Web: www.bivar.com

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Authorized Distributor

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**BIVAR:**

SM1206NBWC-IL