SURFACE MOUNT LED
BLUE, 1206 IL PACKAGE

SM1206NBWC-IL
- Industry Standard 1206 Package
- RoHS Compliant
- Water Clear Inner Lens
- High Luminous Intensity
- Narrow Viewing Angle
- Ideal for Status Indication, Display, and Backlighting

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 $\lambda_p$(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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</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$^\circ C$</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>-40 ~ +85$^\circ C$</td>
</tr>
<tr>
<td>Lead Soldering Temperature (3 mm from the base of the epoxy bulb) $^2$</td>
<td>260$^\circ C$</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 / 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 (μA)</th>
<th>Dominant Wavelength (nm)$^2$</th>
<th>Luminous Intensity $I_v$ (mcd)</th>
<th>Viewing Angle 2$\Theta$ ½ (deg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM1206NBWC-IL</td>
<td>3.1 - 3.6</td>
<td>20 - 40</td>
<td>10 - 470</td>
<td>750 - 950</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

Notes: 1. Tolerance of forward voltage : ±0.05V.  
2. Tolerance of dominant wavelength : ±5.0nm.
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**

- **Radiation Diagram**
  \[ T_a = 25^\circ C \]

- **Spectrum Distribution**

Bivar reserves the right to make changes at any time without notice.
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 ± 0.010"
   X.X ± 0.1"

Part No. XXXX-XXX-XXX
Prod. No. XXXX-XXX-XXX
PO No. XXXX
Lot No. XXXXXXXXXX
Q'ty: X.XXX PCS
Q.C. XXX BIN
Date: 2008.XX.XX

Bivar Standard Packaging Label

Bivar, Inc. — 4 Thomas, Irvine, CA 92618-2593
LOT: XXX.XXXXXX.XX

Part: XXXX-XXX-XXX
Quantity: X.XXX

RoHS
Compliant

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