SURFACE MOUNT LED
ULTRAVIOLET, 0603 PACKAGE

SM0603UV-390
♦ Industry Standard 0603 Package
♦ RoHS Compliant
♦ UV Emitting LED
♦ Water Clear Lens
♦ Wide Viewing Angle
♦ Ideal for Curing, Detection, and Medical Applications

Bivar’s Surface Mount 0603 UV package LED is offered in a standard 0603 footprint and is ideal for any UV applications. The miniature package provides long life and reliability making it ideal for industrial curing, hazard detection, medical applications such as instrument sterilization, fluorescent counterfeit watermark detection, and forensic applications. The water clear LED lens provides for maximum radiant power output and wide viewing angles. Bivar SM0603 UV 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)</th>
<th>Lens Appearance</th>
<th>Radiant Power (mW)</th>
<th>Viewing Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM0603UV-390</td>
<td>InGaN/SiC</td>
<td>ULTRAVIOLET</td>
<td>390 ~ 395</td>
<td>Water Clear</td>
<td>5 ~ 10</td>
<td>130°</td>
</tr>
</tbody>
</table>

Outline Dimensions

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

CAUTION: EMITS ULTRAVIOLET RADIATION!!

- This UV (ultraviolet) LED during operation radiates intense UV light.
- Do not look directly into the UV light during operation of device. This can be harmful to human body especially to the eyes and skin, even for brief period due to the intense UV light.
- If viewing the UV light is necessary, please use UV filtered glasses to avoid damage by the UV light.
- If the UV LED in your product might be viewed directly, please affix a caution label to your product to that effect.

Avoid direct eye and skin exposure to UV light. Keep out of reach of children.
Absolute Maximum Ratings

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rating</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 $^2$</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 / 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>Radiant Power (mW)</th>
<th>Viewing Angle 2 θ ½ (deg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MIN  TYP  MAX</td>
<td>MIN  TYP  MAX</td>
<td>MIN  TYP  MAX</td>
<td>MIN  TYP  MAX</td>
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<td>MIN  TYP  MAX</td>
</tr>
<tr>
<td>SM0603UV-390</td>
<td>/               3.4  4.2</td>
<td>/               20  /</td>
<td>10</td>
<td>/               /</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>

Notes: 1. Tolerance of forward voltage : ±0.05V.  2. Tolerance of dominant wavelength : ±1.0nm.
Typical Electrical / Optical Characteristics

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

**Fig. 1** Forward Current vs. Forward Voltage

**Fig. 2** Relative Luminous Intensity vs. Forward Current

**Fig. 3** Forward Current vs. Temperature

**Fig. 4** Directivity Radiation Diagram

**Fig. 5** Relative Luminous Intensity vs. Peak Wavelength
Recommended Soldering Conditions

Tape and Reel Dimensions
Note: 4000 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-XXXX-XXX
Prod. No.  XXXX-XXXX-XXX
PO No.  XXXX
Lot No.  XXXXXXXXXX
Q'ty:  X.XXX PCS
Q.C.  XXX BIN
Date:  2008.XX.XX

Internal Quality Control

Bivar Standard Packaging Label
Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

BIVAR:
SM0603UV-390