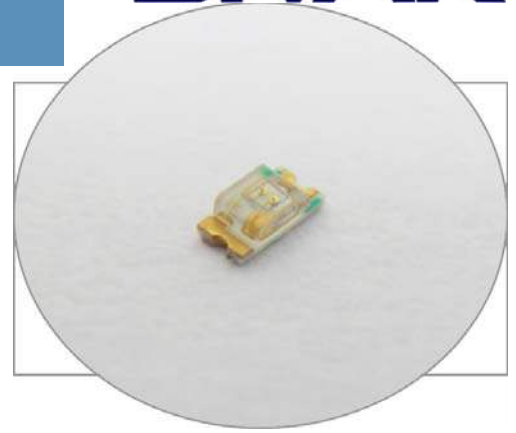


SURFACE MOUNT LED ULTRAVIOLET, 0603 PACKAGE

BIVAR



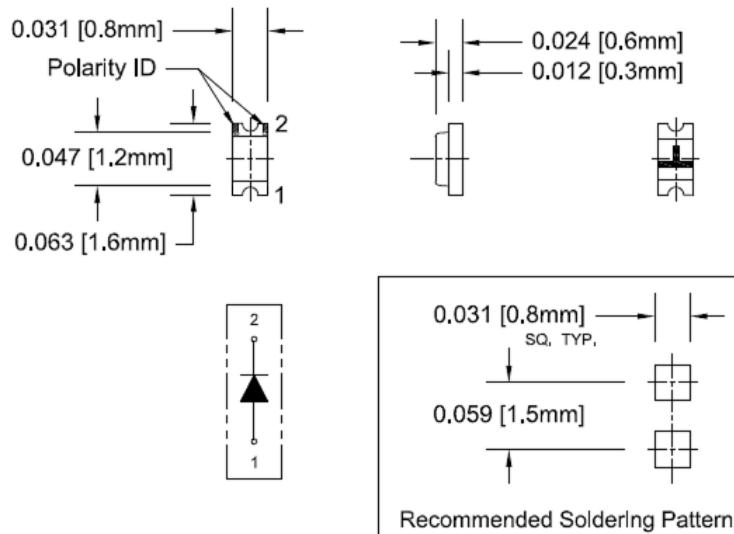
SM0603UV-405

- ◆ 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 foot print 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.

| Part Number | Material | Emitted Color | Peak Wavelength λ_p (nm) | Lens Appearance | Radiant Power (mW) | Viewing Angle |
|--------------|-----------|---------------|----------------------------------|-----------------|--------------------|---------------|
| SM0603UV-405 | InGaN/SiC | ULTRA VIOLET | 405 ~ 410 | Water Clear | 5 ~ 10 | 130° |

Outline Dimensions



Outline Drawings Notes:

1. All dimensions are in inches [millimeters].
2. Standard tolerance: $\pm 0.010''$ 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.



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

SURFACE MOUNT LED ULTRAVIOLET, 0603 PACKAGE



Absolute Maximum Ratings

$T_A = 25^\circ\text{C}$ unless otherwise noted

| | |
|--|-------------|
| Power Dissipation | 100 mW |
| Forward Current (DC) | 25 mA |
| Peak Forward Current ¹ | 100 mA |
| Reverse Voltage | 5 V |
| Operating Temperature Range | -30 ~ +80°C |
| Storage Temperature Range | -40 ~ +85°C |
| Lead Soldering Temperature (3 mm from the base of the epoxy bulb) ² | 260°C |

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

Electrical / Optical Characteristics

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

| Part Number | Forward Voltage (V) ¹ | | | Recommend Forward Current (mA) | | | Reverse Current (μA) | Dominant Wavelength (nm) ² | | | Radiant Power (mW) | | | Viewing Angle $2\theta_{1/2}$ (deg) |
|--------------|----------------------------------|-----|-----|--------------------------------|-----|-----|-----------------------------------|---------------------------------------|-----|-----|--------------------|-----|-----|-------------------------------------|
| | MIN | TYP | MAX | MIN | TYP | MAX | MAX | MIN | TYP | MAX | MIN | TYP | MAX | TYP |
| SM0603UV-405 | / | 3.4 | 4.2 | / | 20 | / | 10 | / | / | / | 5 | / | 10 | 130 |

Notes: 1. Tolerance of forward voltage : $\pm 0.05\text{V}$. 2. Tolerance of dominant wavelength : $\pm 1.0\text{nm}$.

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SURFACE MOUNT LED ULTRAVIOLET, 0603 PACKAGE



Typical Electrical / Optical Characteristics

$T_A = 25^\circ\text{C}$ unless otherwise noted

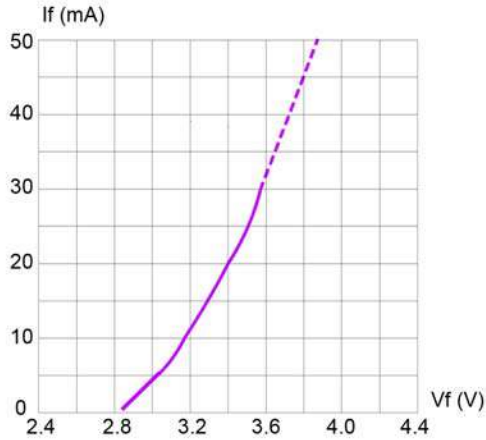


Fig. 1 Forward Current vs. Forward Voltage

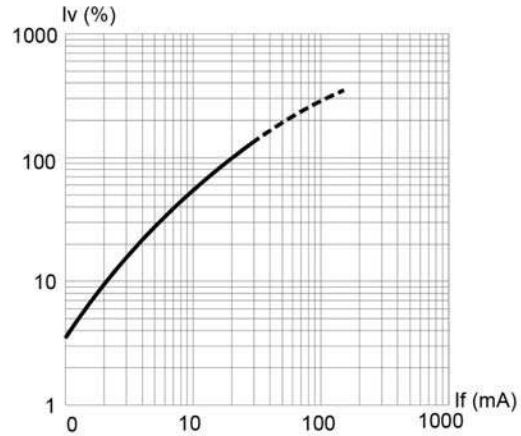


Fig. 2 Relative Luminous Intensity vs. Forward Current

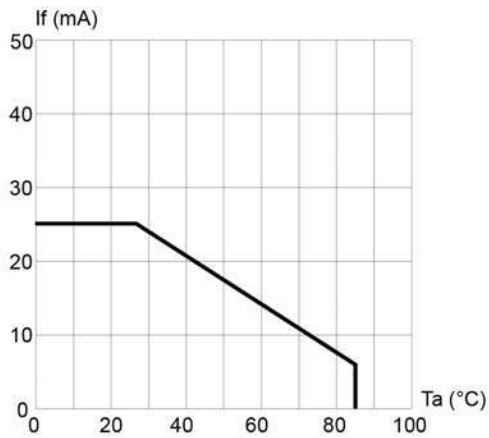


Fig. 3 Forward Current vs. Temperature

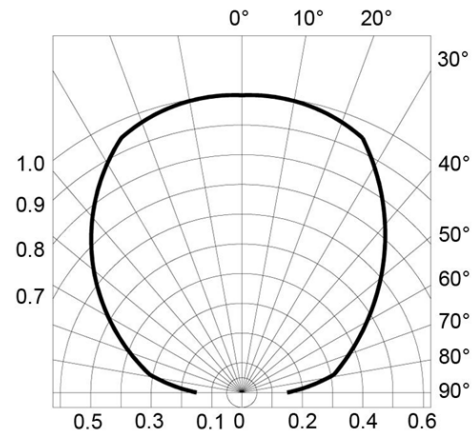


Fig. 4 Directivity Radiation Diagram

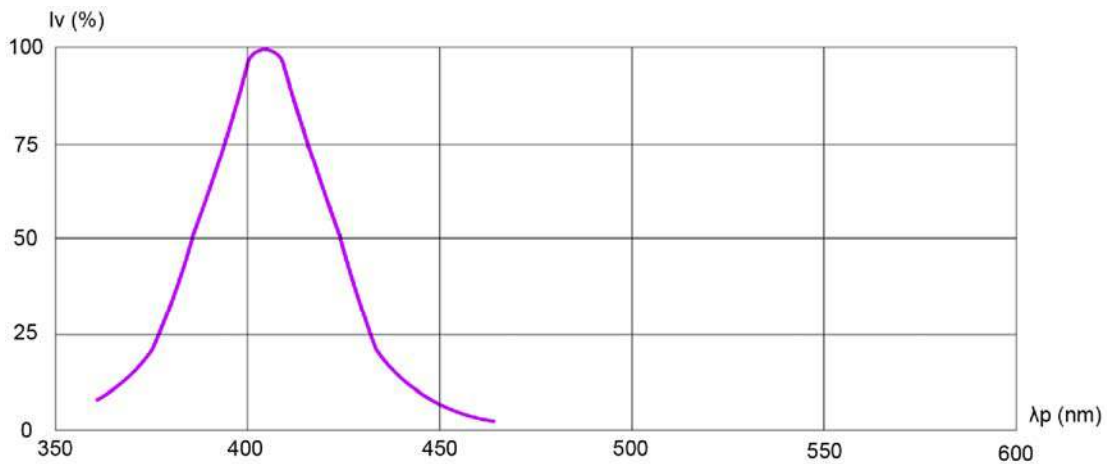


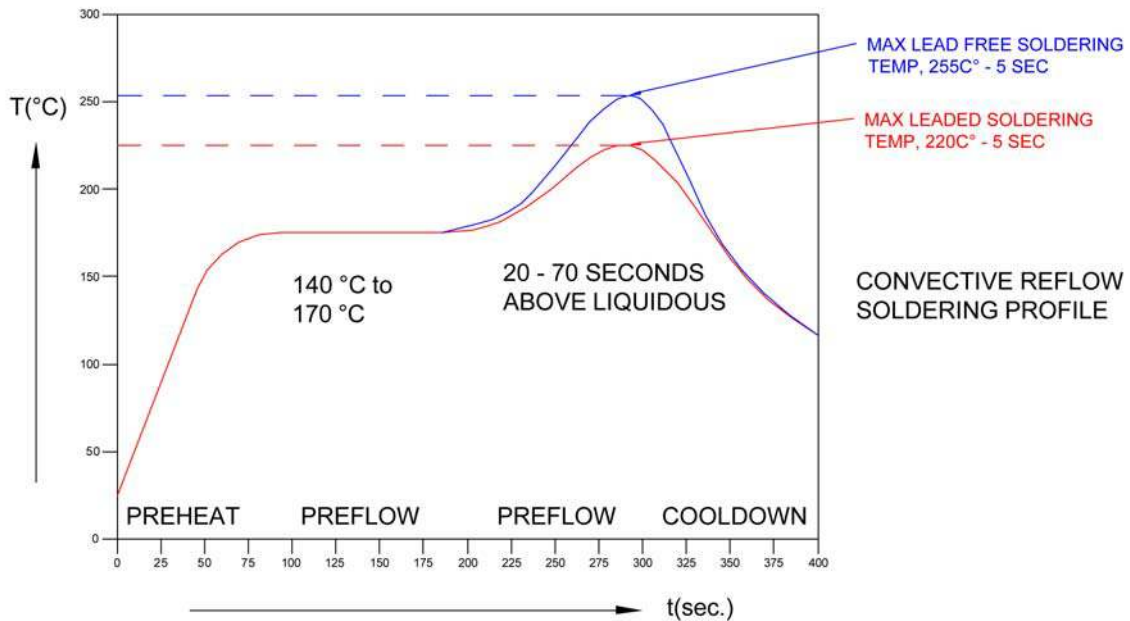
Fig. 5 Relative Luminous Intensity vs. Peak Wavelength

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

SURFACE MOUNT LED ULTRAVIOLET, 0603 PACKAGE

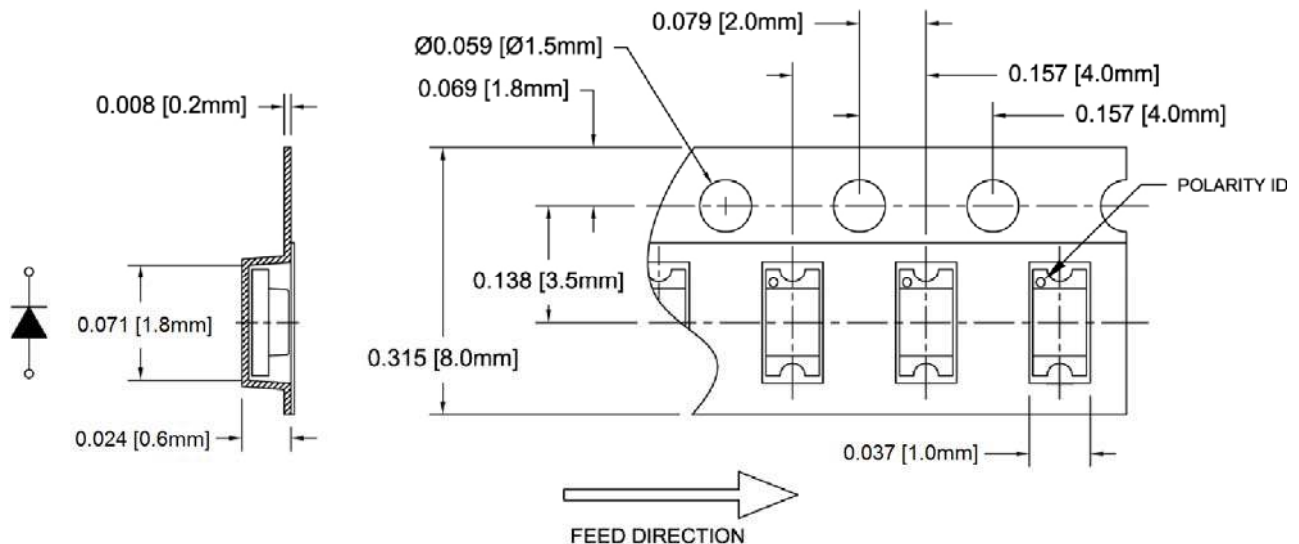


Recommended Soldering Conditions



Tape and Reel Dimensions

Note: 4000 pcs/Reel

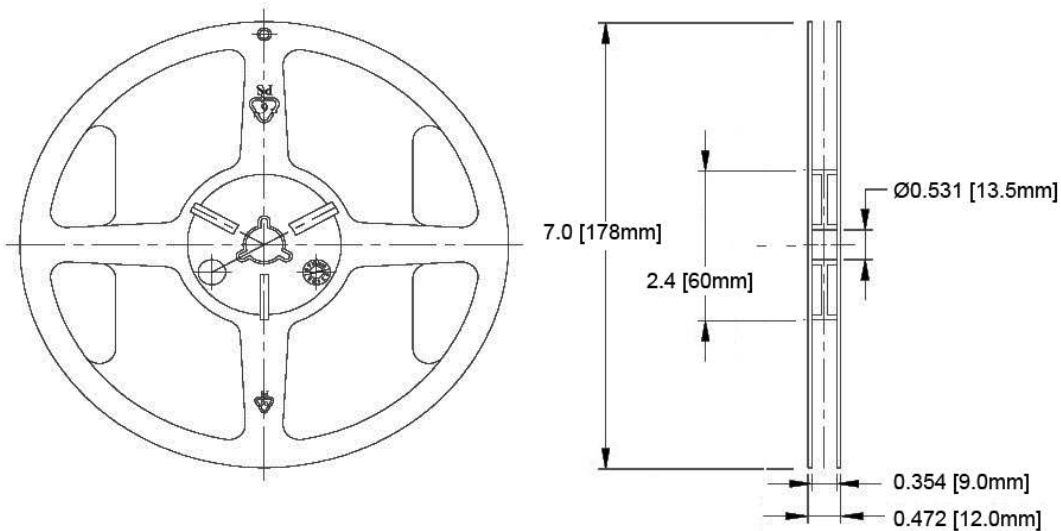


Outline Drawings Notes:

1. All dimensions are in inches [millimeters].
2. Standard tolerance: $\pm 0.010''$ unless otherwise noted.

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SURFACE MOUNT LED ULTRAVIOLET, 0603 PACKAGE



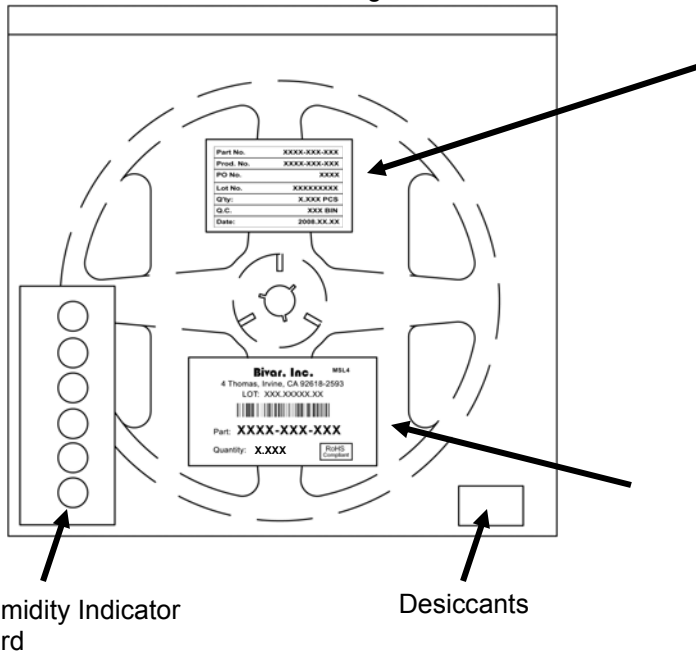
Outline Drawings Notes:

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

Packaging and Labeling Plan

Note: 1 Reel / Bag

Vacuum and Heat Sealed
ESD/MBB Bag



| | |
|-----------|--------------|
| 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 |

Internal Quality Control

Bivar, Inc. MSL4

4 Thomas, Irvine, CA 92618-2593
LOT: XXX.XXXXX.XX



Part: **XXXX-XXX-XXX**

Quantity: **X.XXX**

RoHS
Compliant

Bivar Standard Packaging Label

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