

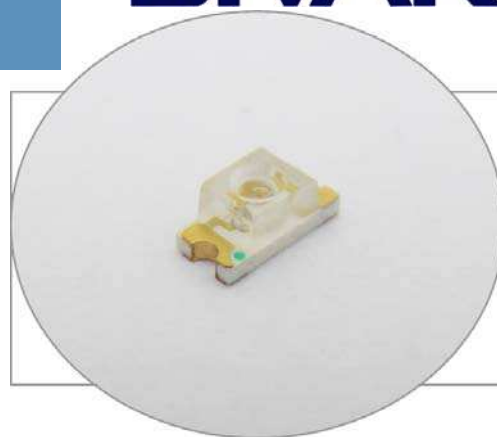
# SURFACE MOUNT LED

## 405 nm, 1206 UV IL PACKAGE

# BIVAR

### SM1206UV-405-IL

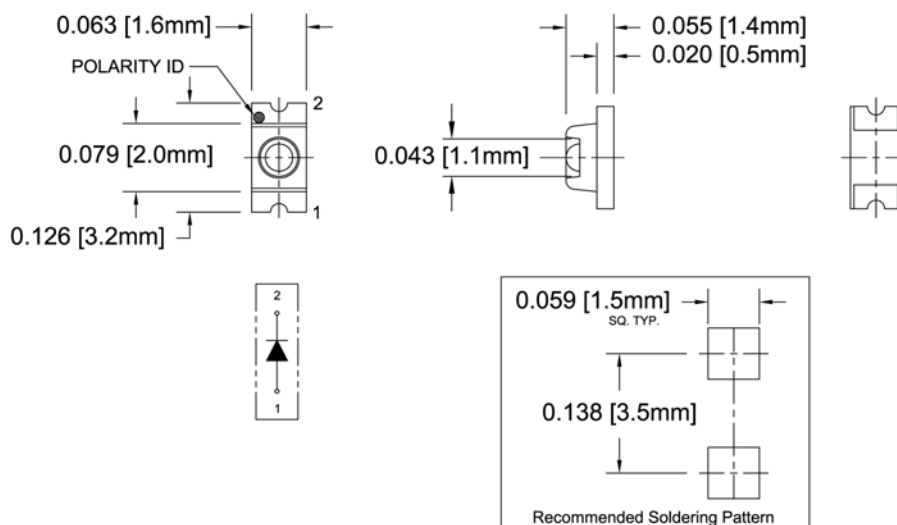
- ◆ Industry Standard 1206 Package
- ◆ RoHS Compliant
- ◆ UV Emitting LED
- ◆ Water Clear Lens
- ◆ Narrow Viewing Angle
- ◆ Ideal for Curing, Detection, and Medical Applications



Bivar's Surface Mount 1206 UV Inner Lens LED is offered in a standard 1206 foot print and is ideal for any UV applications. The water clear inner lens provides a narrow viewing angle and maximum radiation power output. 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. Bivar SM1206 UV-IL LED is packaged in standard tape and reels for pick and place assemblies.

| Part Number     | Material  | Emitted Color | Peak Wavelength $\lambda_p$ (nm) TYP. | Lens Appearance | Luminous Intensity (mW) TYP. | Viewing Angle |
|-----------------|-----------|---------------|---------------------------------------|-----------------|------------------------------|---------------|
| SM1206UV-405-IL | InGaN/SiC | ULTRA VIOLET  | 405 ~ 410                             | Water Clear     | .65                          | 30°           |

## 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.



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

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## Absolute Maximum Ratings

T<sub>A</sub> = 25°C unless otherwise noted

|                                                                                  |             |
|----------------------------------------------------------------------------------|-------------|
| Power Dissipation                                                                | 100 mW      |
| Forward Current ( DC )                                                           | 25 mA       |
| Peak Forward Current <sup>1</sup>                                                | 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 ) <sup>2</sup> | 260°C       |

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

## Electrical / Optical Characteristics

T<sub>A</sub> = 25°C & I<sub>F</sub> = 20 mA unless otherwise noted

| Part Number     | Forward Voltage (V) <sup>1</sup> |     |     | Recommend Forward Current (mA) |     |     | Reverse Current (μA) | Dominant Wavelength (nm) <sup>2</sup> |     |     | Luminous Intensity I <sub>v</sub> (mW) |     |     | Viewing Angle 2 Θ ½ (deg) |
|-----------------|----------------------------------|-----|-----|--------------------------------|-----|-----|----------------------|---------------------------------------|-----|-----|----------------------------------------|-----|-----|---------------------------|
|                 | MIN                              | TYP | MAX | MIN                            | TYP | MAX | MAX                  | MIN                                   | TYP | MAX | MIN                                    | TYP | MAX | TYP                       |
| SM1206UV-405-IL | /                                | 3.4 | 4.2 | /                              | 20  | /   | 10                   | /                                     | /   | /   | .1                                     | /   | 1.2 | 30                        |

Notes: 1. Tolerance of forward voltage : ±0.05V. 2. Tolerance of dominant wavelength : ±1.0nm.

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## Typical Electrical / Optical Characteristics

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

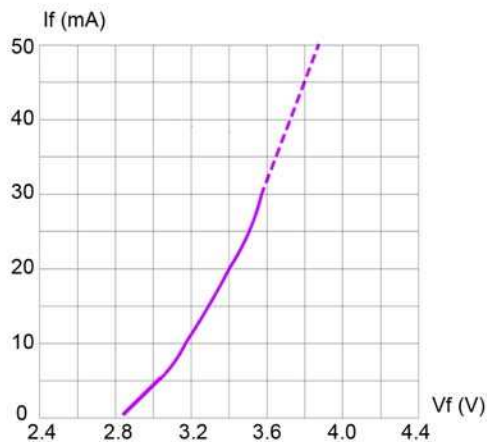


Fig. 1 Forward Current vs. Forward Voltage

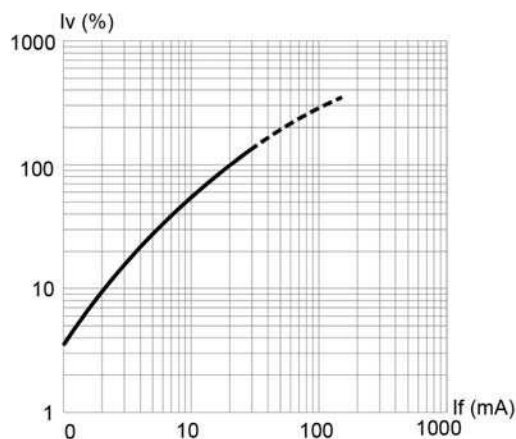


Fig. 2 Relative Luminous Intensity vs. Forward Current

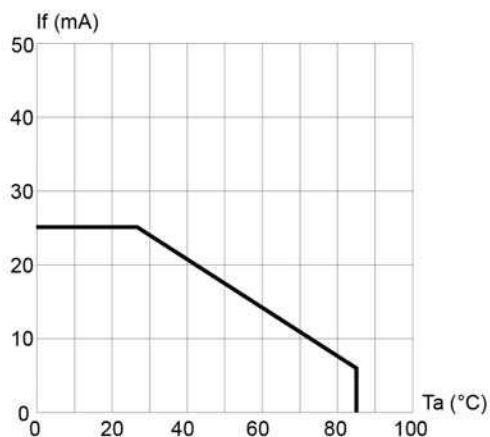


Fig. 3 Forward Current vs. Temperature

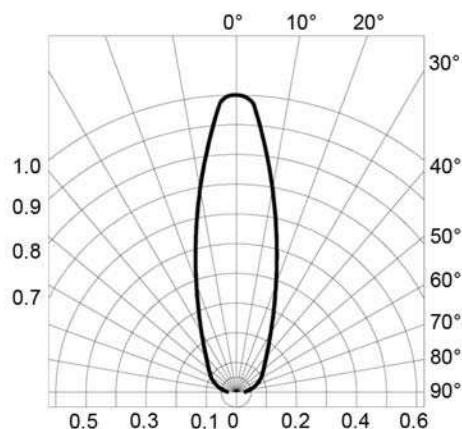


Fig. 4 Directivity Radiation Diagram

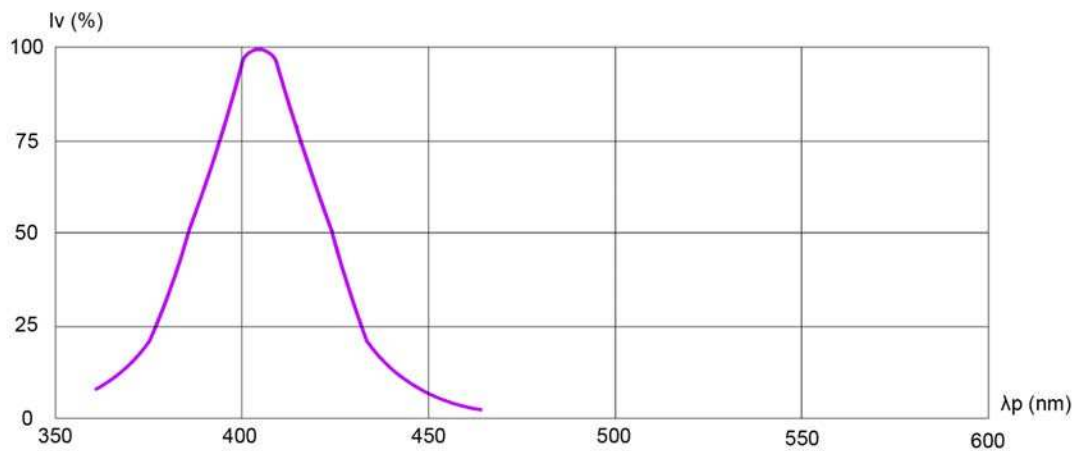


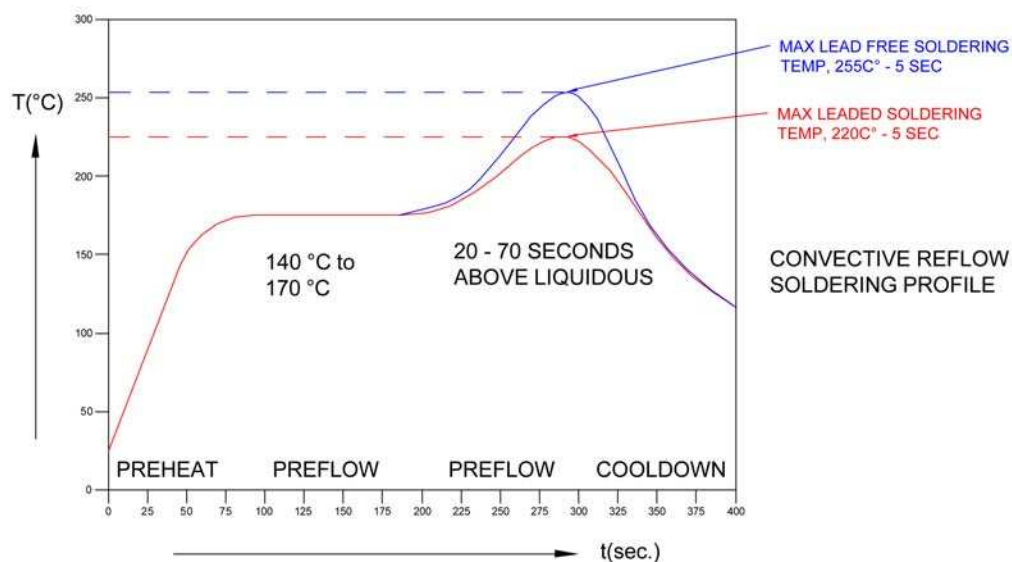
Fig. 5 Relative Luminous Intensity vs. Peak Wavelength

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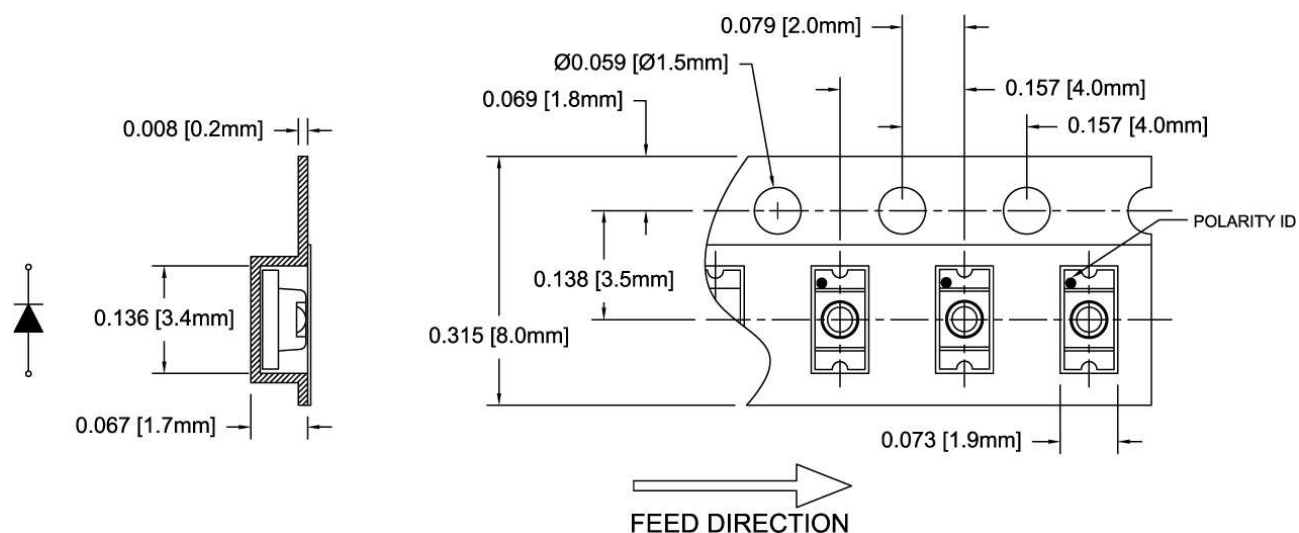
## Recommended Soldering Conditions



| Recommended Lead Free Wave Soldering Profile                                                       |                                         |
|----------------------------------------------------------------------------------------------------|-----------------------------------------|
| Preheat Temperature: 100°C Max.                                                                    | Peak Temperature: 260°C Max.            |
| Preheat Time: 20 ~ 50 Seconds                                                                      | Solder Time Above 217°C: 5 Seconds Max. |
| Note: Turn off top heater at preheat to prevent the lamp body directly exposed to the heat source. |                                         |

## Tape and Reel Dimensions

**Note: 3000 pcs/Reel**



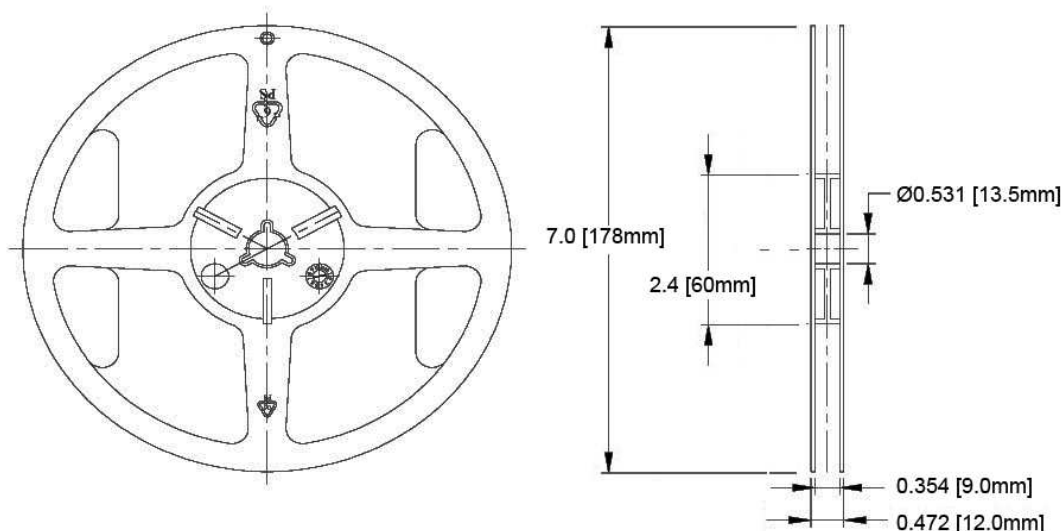
### Outline Drawings Notes:

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

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# BIVAR

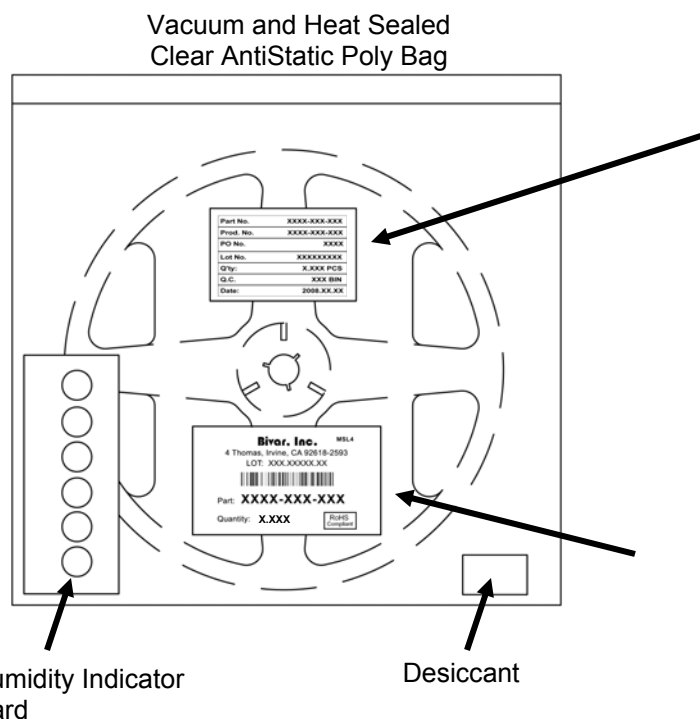


## Outline Drawings Notes:

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

## Packaging and Labeling Plan

**Note: 1 Reel / 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 Standard Packaging Label

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