Tight Tolerance Ultraviolet LED Lamp
TZ Series (T1, 3mm Round / 15° & 30°)

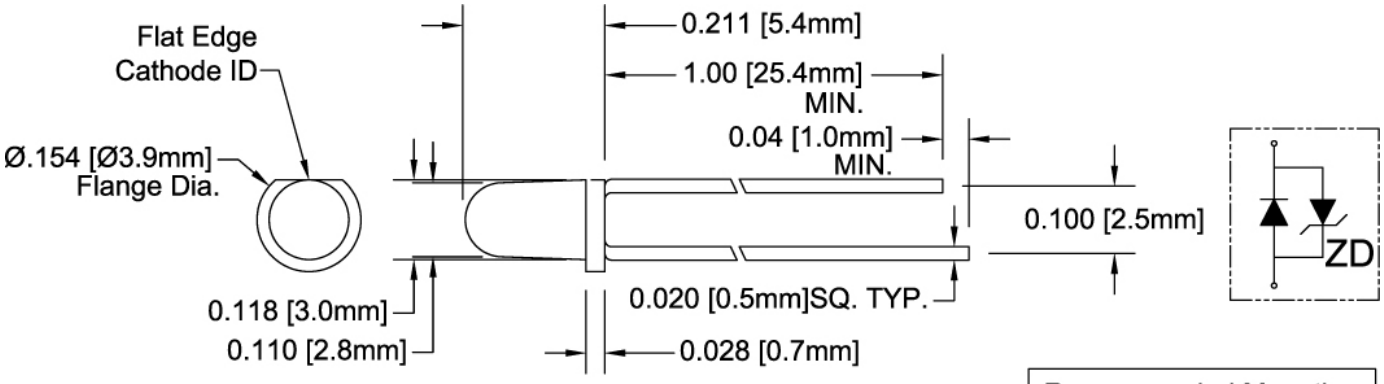
UV3TZ-XXX-XX

- **RoHS Compliant**
- **Low Power Consumption**
- **Low Current Requirement**
- **High Efficiency**
- **Tight Tolerance of Wavelengths**
- **Equipped with a Protective Zener Diode Built-in**

Bivar **UV3TZ-XXX-XX** Tight Tolerance Ultraviolet (UV) LEDs have peak wavelengths in the highly desirable ranges from 390 to 405nm with a tight tolerance of +/-2.5nm. These UV LEDs also have a built-in Zener Diode providing protective circuit against electrostatic discharge (ESD).

Applications: Industrial curing, fluorescence disclosing and verification, air purification, medical and biomedical applications, dermatological equipment, and hazardous materials detection.

Part Number	Chip Material	Emitted Color	Peak Wavelength	Lens Color	Viewing Angle
UV3TZ-390-15	InGaN/Sapphire	Purple	390nm	Water Clear	15°
UV3TZ-395-15			395nm		
UV3TZ-400-15			400nm		
UV3TZ-405-15			405nm		
UV3TZ-390-30	InGaN/Sapphire	Purple	390nm	Water Clear	30°
UV3TZ-395-30			395nm		
UV3TZ-400-30			400nm		
UV3TZ-405-30			405nm		



Recommended Mounting Hole Size = $Ø.032^{+.003}_{-.002}$

Outline Drawings Notes:
1. All dimensions are in inches [millimeters].
2. Standard tolerance: ±0.010" unless otherwise noted.
3. Tolerance of overall epoxy outline: ±0.020" unless otherwise noted.
4. Epoxy meniscus may extend to 0.060" max.

⚠ 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.

ATTENTION
OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

Pb RoHS Compliant

Moisture Sensitivity Levels 1

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Tight Tolerance Ultraviolet LED Lamp
UV3TZ-XXX-XX

Absolute Maximum Ratings

T_A = 25°C unless otherwise noted

Power Dissipation	120 mW
Forward Current (DC)	30 mA
Peak Forward Current [1]	100 mA
Electrostatic Discharge (Class1)	2000 V
Reverse Voltage	— V
Operating Temperature Range	-25 ~ +80°C
Storage Temperature Range	-30 ~ +80°C
Lead Soldering Temperature (3 mm from the base of the epoxy bulb) [2]	260°C

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

Electrical Characteristics

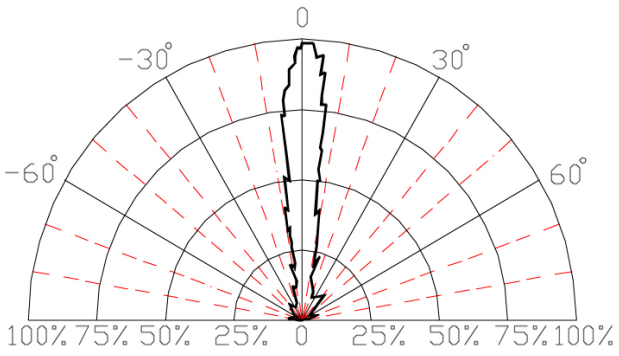
T_A = 25°C & I_F = 20 mA unless otherwise noted

Part Number	Forward Voltage (V)[1]			Recommend Forward Current (mA)			Reverse Current (mA)	Peak Wavelength λp (nm)[2]			Emitting Power (mW)		50% Power Angle (deg)
	MIN	TYP	MAX	MIN	TYP	MAX	MAX	MIN	TYP	MAX	MIN	TYP[3]	TYP
UV3TZ-390-15	3.0	3.4	3.8	10	15	20	100	387.5	390.0	392.5	5	10	15
UV3TZ-395-15								392.5	395.0	397.5			
UV3TZ-400-15								397.5	400.0	402.5			
UV3TZ-405-15								402.5	405.0	407.5			
UV3TZ-390-30	3.0	3.4	3.8	10	15	20	100	387.5	390.0	392.5	5	10	30
UV3TZ-395-30								392.5	395.0	397.5			
UV3TZ-400-30								397.5	400.0	402.5			
UV3TZ-405-30								402.5	405.0	407.5			

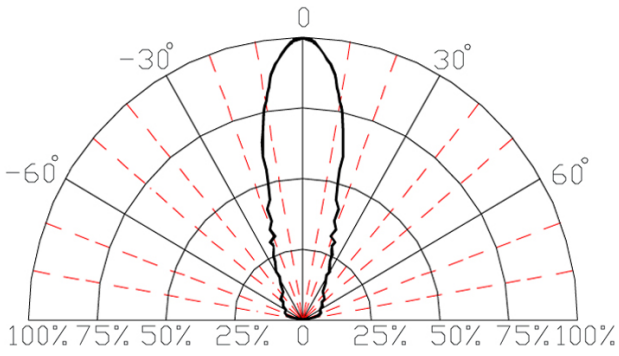
Notes: 1. Tolerance of forward voltage : ±0.05V. 2. Tolerance of peak wavelength : ±1.0nm. 3. Tolerance of emitting power (Typ) : ±15%.

Directivity Radiation — Relative Luminous Intensity vs. Radiation Angle

T_A = 25°C unless otherwise noted



(15° Viewing Angle)



(30° Viewing Angle)

Typical Electrical / Optical Characteristics Curves

T_A = 25°C unless otherwise noted

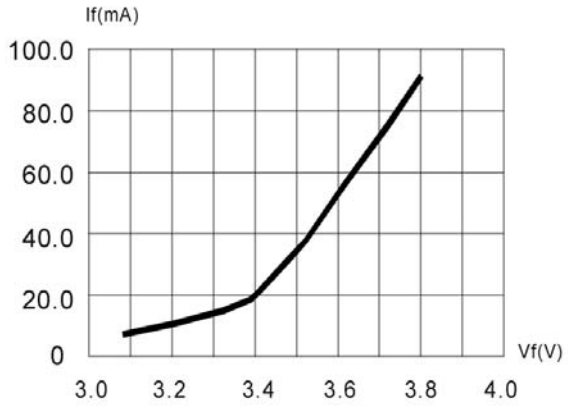


Fig.1 Forward Current vs.Forward Voltage

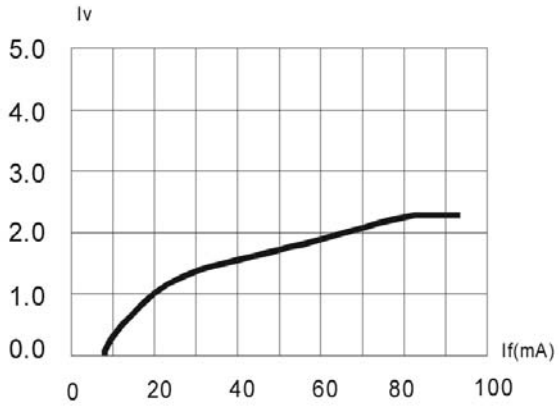


Fig.2 Relative Luminous Intensity vs.Forward Current

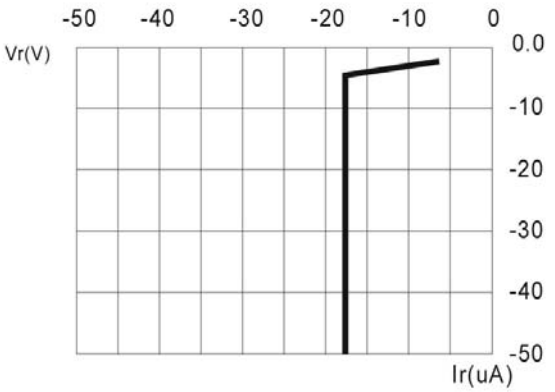


Fig.3 Reverse Current vs.Reverse Voltage

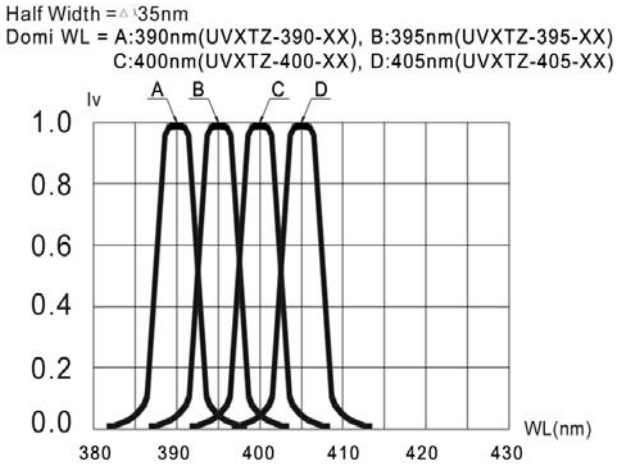


Fig.4 Relative Luminous Intensity vs.Wavelength

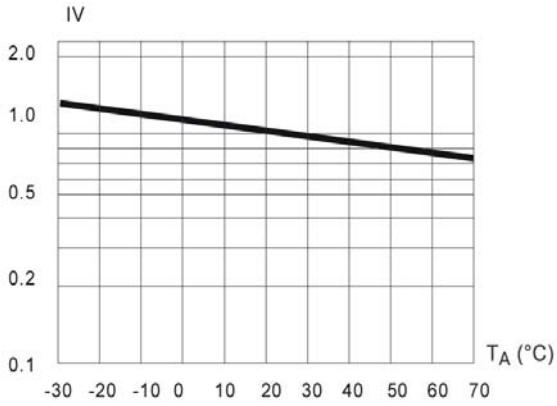


Fig. 5 Relative Luminous Intensity vs. Ambient Temperature

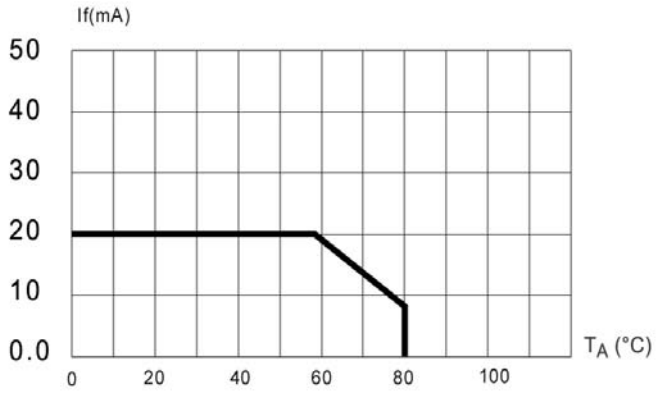
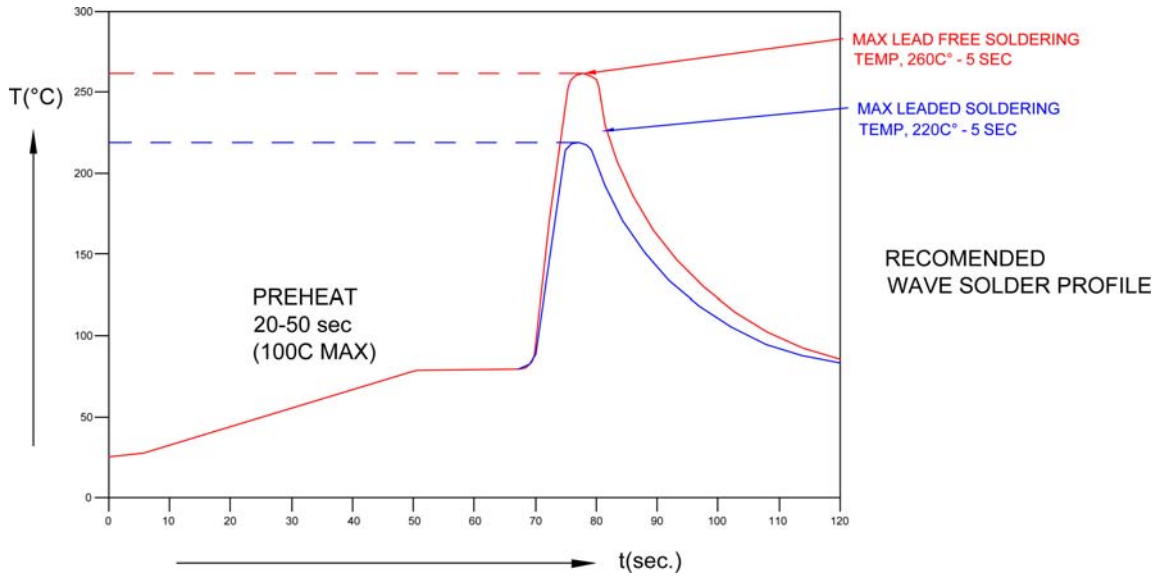


Fig.6 Maximun Forward Current vs.Ambient Temperature

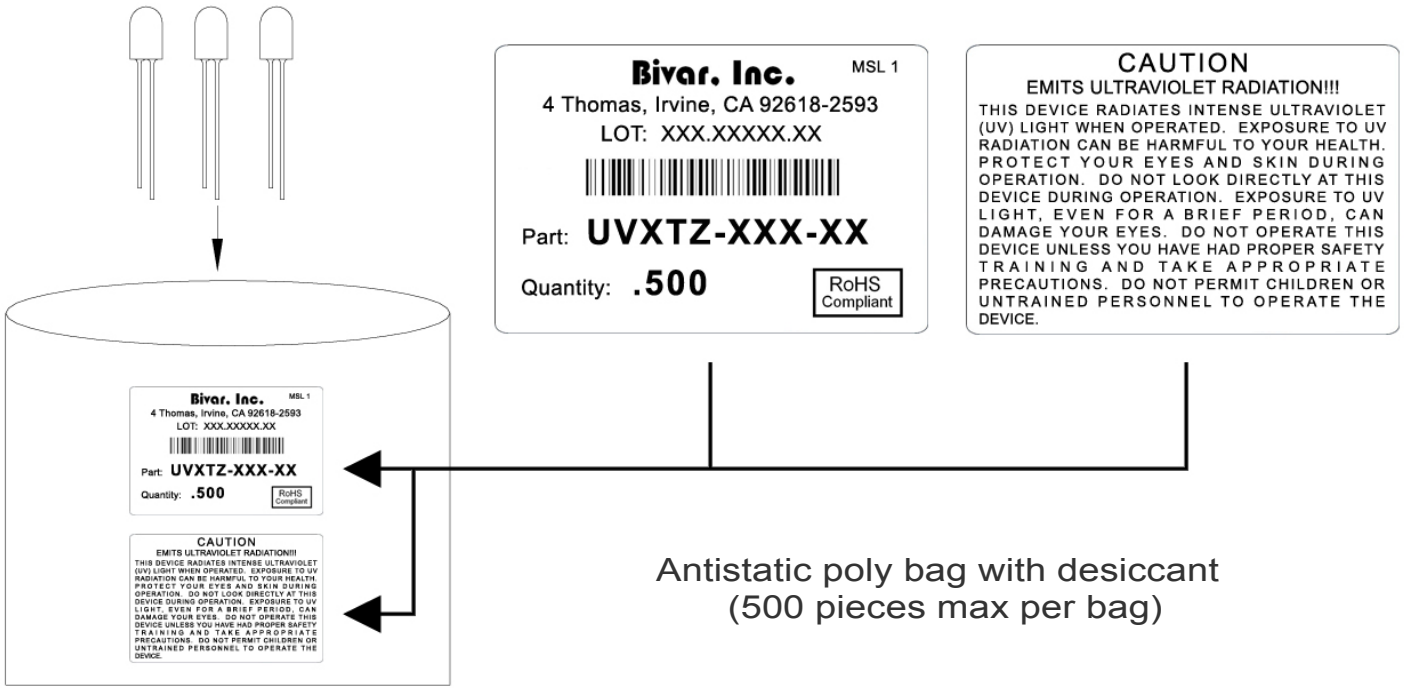
Recommended Soldering Conditions



Recommended Lead Free Wave Soldering Profile	
Preheat Temperature: 100ºC Max.	Peak Profile Temperature: 260ºC Max.
Preheat Time: 20 ~ 50 Seconds	Solder Time Above 217ºC: 5 Seconds Max.

Note:
1. All top preheat stages are to be turned off so that the lamp body is not directly exposed to the heat source.
2. Profile taken on the LED lead at the bottom of the PCB.

Packaging and labeling plan



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