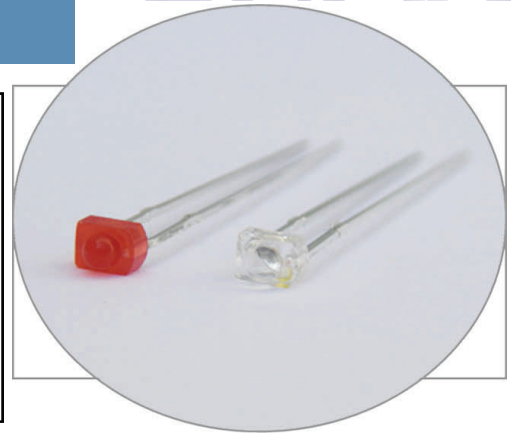


# 1.8mm Package Discrete LED RED, Low Current

# BIVAR

## 1.8HXL

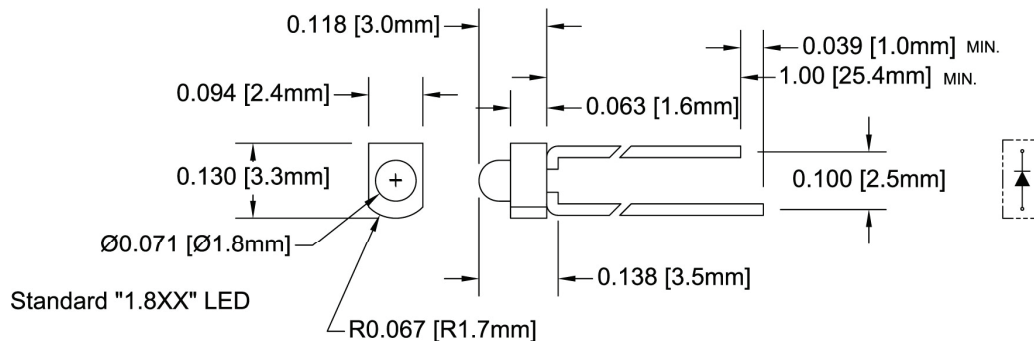
- ◆ 1.8mm Small Footprint Package
- ◆ RoHS Compliant
- ◆ Water Clear (C) and Diffused (D) Lenses
- ◆ Available in a Shouldered Lead Frame style
- ◆ 2 mA Low Operating Current
- ◆ Ideal for Status Indication and Display
- ◆ Recommended for Bivar H-381C and H-485C holder assemblies



Bivar 1.8mm Package 2 mA Low Current LED is special binned at 2 mA and is ideal for those applications where lower power budget and smaller indication lighting are required such as solar panel or battery-powered portable devices. Bivar offers water clear LED lens for maximum light output and diffused LED lens for uniform light output, The Shouldered Lead frame LED has a built in strain relief feature which is ideal for Right Angle Holder assemblies that require lead bends.

Part Number	Material	Emitted Color	Peak. Wavelength $\lambda_p$ (nm) TYP.	Lens Appearance	Viewing Angle
1.8HCL	GaAsP/GaP	RED	625nm	Water Clear	35°
1.8HDL				Red Diffused	50°

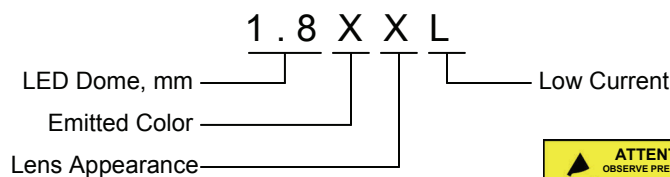
## Outline Dimensions



Recommended Mounting  
Hole Size =  $\varnothing 0.032^{+0.003}_{-0.002}$

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

## Part Number Designation



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

# 1.8mm Package Discrete LED RED, Low Current



## Absolute Maximum Ratings

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

Power Dissipation	10 mW
Forward Current ( DC )	7 mA
Peak Forward Current <sup>1</sup>	/ mA
Reverse Voltage	5 V
Operating Temperature Range	-25 ~ +85°C
Storage Temperature Range	-30 ~ +100°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  $\leq$  0.1 msec.    2. Solder time less than 5 seconds at temperature extreme.

## Electrical / Optical Characteristics

$T_A = 25^\circ\text{C}$  &  $I_F = 2$  mA unless otherwise noted

Part Number	Forward Voltage (V) <sup>1</sup>			Recommend Forward Current (mA)			Reverse Current ( $\mu\text{A}$ )	Dominant Wavelength (nm) <sup>2</sup>			Luminous Intensity $I_v$ (mcd)			Viewing Angle $2\theta_{1/2}$ (deg)
	MIN	TYP	MAX	MIN	TYP	MAX	MAX	MIN	TYP	MAX	MIN	TYP	MAX	TYP
1.8HCL	/	2.0	2.6	/	2	/	100	/	/	/	/	4.5	/	35
1.8HDL								/	/	/	/	2	/	50

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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# 1.8mm Package Discrete LED RED, Low Current



## Typical Electrical / Optical Characteristics

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

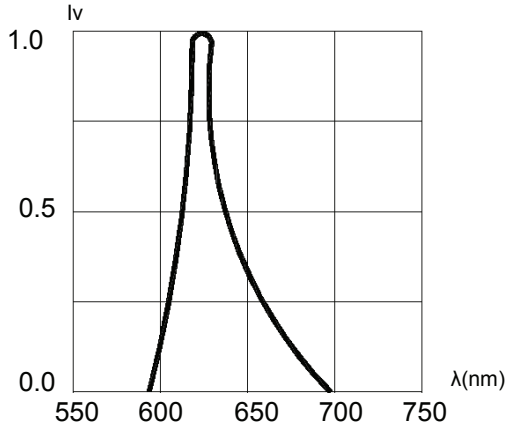


Fig. 1 Relative Luminous Intensity vs. Wavelength

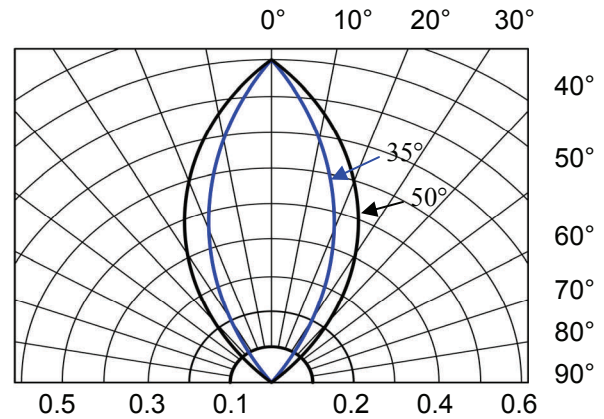


Fig. 2 Directivity Radiation Diagram

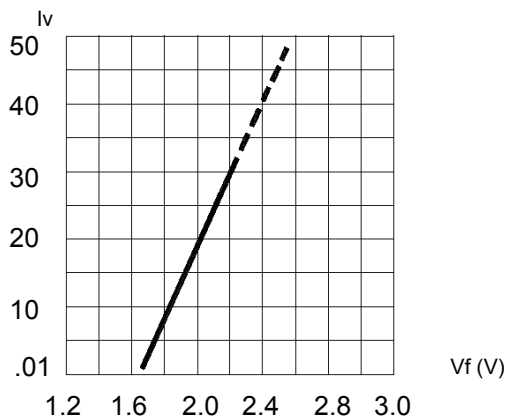


Fig. 3 Relative Intensity vs. Forward Voltage

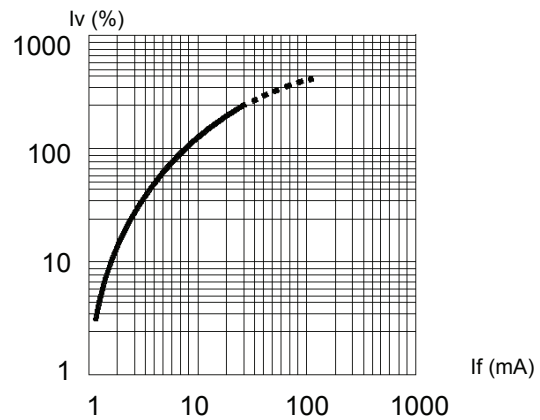


Fig. 4 Relative Luminous Intensity (%) vs. Forward Current

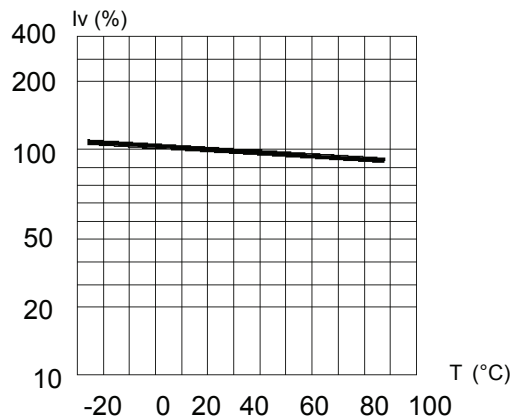


Fig. 5 Relative Intensity (%) vs. Temperature

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# 1.8mm Package Discrete LED RED, Low Current

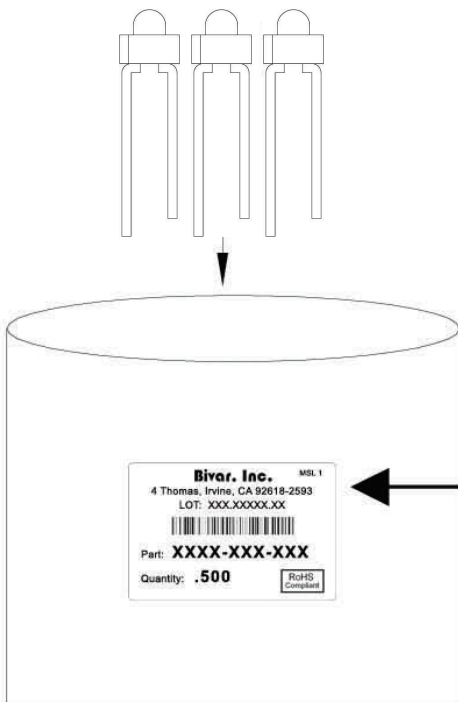


## Recommended Soldering Conditions



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.	

## Packaging and Labeling Plan



**Bivar, Inc.** MSL 1

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

Part: **XXXX-XXX-XXX**

Quantity: **.500**

RoHS  
Compliant

AntiStatic Poly Bag with Desiccant  
(500 pcs Max. per Bag)

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