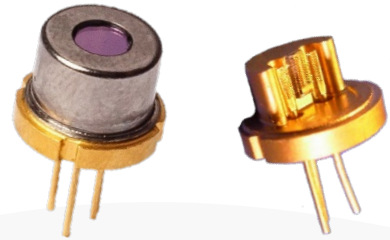


# High Power Laser Diode TO-Cans



## Part Number: TO9-116

High Power TO9 Package  
Multi-Mode Fabry-Perot  
CW Wavelength at 1575nm  
Lensed Options Available



## Features

- High Output Power
- High Dynamic Range
- High Efficiency
- Standard TO9
- Cost Effective

## Application

- Professional Medical
- Home Use Medical
- Laser Range Finder
- Target Illumination
- Military Systems
- TOF LiDAR for Automotive and Drones
- Telecom OTDR
- Optical Comm



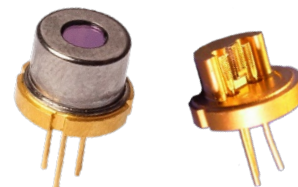
SemiNex delivers the highest available power at infrared wavelengths between 12xx and 19xx nm. When necessary, we will further optimize the design of our InP & GaSb laser chips to meet our customers' specific optical and electrical performance needs. Diodes, bars and packages are tested to meet customer and market performance demands. Typical results and packaging options are shown. Contact SemiNex for additional details or to discuss your specific requirements.

# High Power Laser Diode TO-Cans



## Specification

TO9-116



| Optical               | Symbol               | Typ.      | Units                |
|-----------------------|----------------------|-----------|----------------------|
| Center Wavelength     | $\lambda_c$          | 1575      | nm ( $\pm 20$ )      |
| Output Power (CW)*    | $P_{out}$            | 1.6       | watts ( $\pm 10\%$ ) |
| Emitter Width         | W                    | 95        | $\mu\text{m}$        |
| Spectral Width FWHM   | $\Delta\lambda$      | 10        | nm                   |
| Slope Efficiency      | $\eta$               | 0.3       | W/A                  |
| Fast Axis Div.        | $\Theta_{\perp}$     | 28        | deg FWHM             |
| Slow Axis Div.        | $\Theta_{\parallel}$ | 9         | deg FWHM             |
| Electrical            | Symbol               |           | Units                |
| Power Conversion Eff. | $\eta$               | 12        | %                    |
| Threshold Current     | $I_{TH}$             | 0.5       | A                    |
| Operating Current     | $I_{op}$             | 8         | A                    |
| Operating Voltage     | $V_{op}$             | 1.7       | V                    |
| Mechanical            | Symbol               | Range     | Units                |
| Operating Temp.**     |                      | -40 to 60 | $^{\circ}\text{C}$   |
| Storage Temp.         |                      | -40 to 80 | $^{\circ}\text{C}$   |

\*Specified values are rated at a constant heat sink temperature of 20°C.

\*\*High temperature operation will reduce performance and MTTF.  
Unless otherwise indicated all values are nominal.

\*Available Lenses & Caps

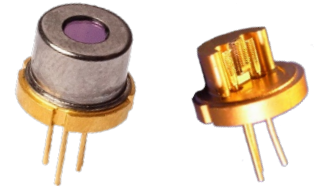
| Part Number | Description                                                |
|-------------|------------------------------------------------------------|
| TO9-116     | TO9 Uncapped                                               |
| TO9-116-114 | TO9 Cap, 4.6mm Tall                                        |
| TO9-116-115 | TO9 5.8mm Tall Cap, Lens Collimated <5mrad f=590um, 5mm lg |
| TO9-116-140 | TO9 5.8mm Tall Cap, Lens Matched f=171um, 5.0 lg           |
| TO9-116-161 | TO9 Cap 5.8mm Tall                                         |

# High Power Laser Diode TO-Cans

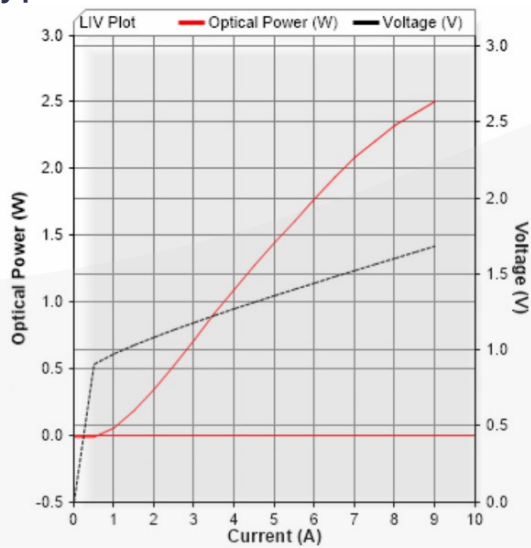


## SemiNex Laser Diodes TO9-116

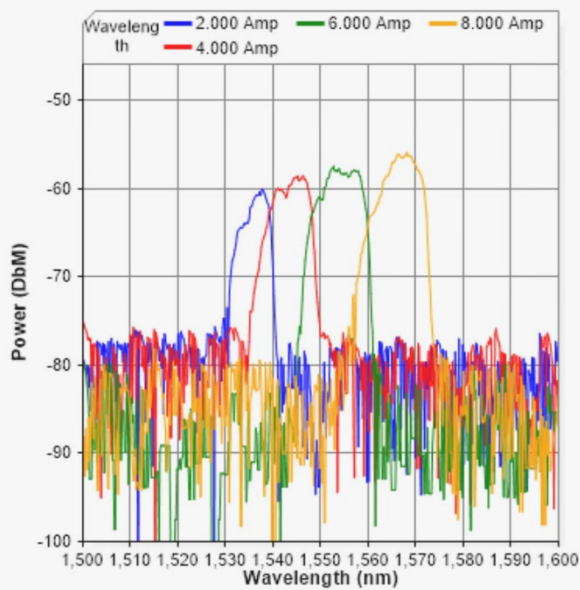
### Graphs & Data



### Typical TO9 L-I-V Characteristics



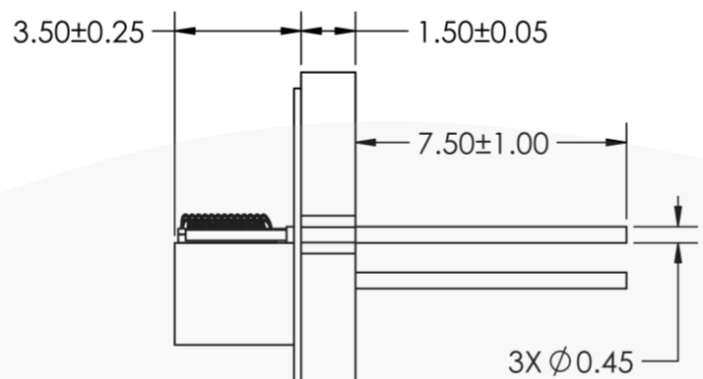
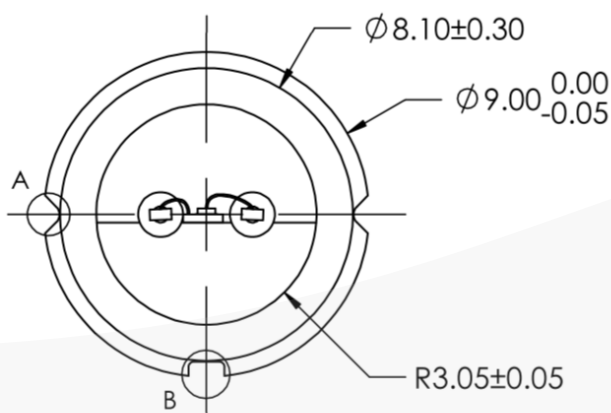
### Typical TO9 Output Spectrum



# High Power Laser Diode TO-Cans

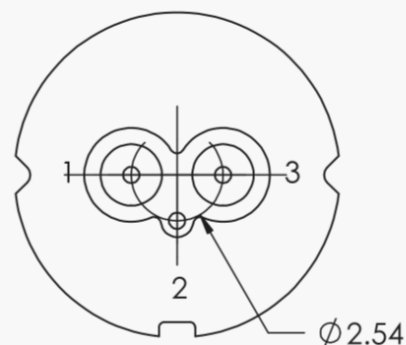


## Mechanical Drawing TO9-116



### PIN OUT:

1. LD CATHODE ( - )
2. CASE
3. LD ANODE ( + )



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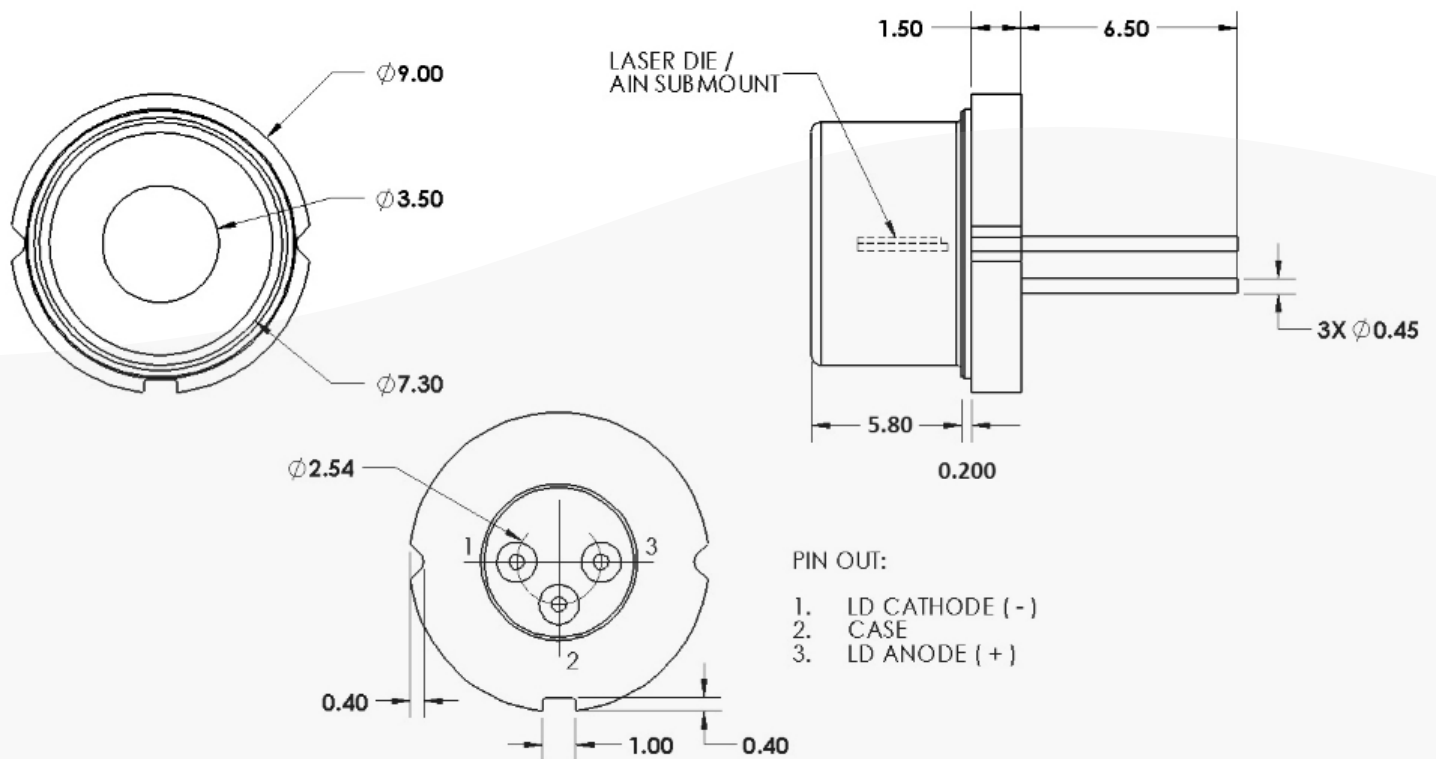
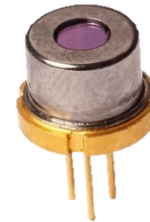


## Mechanical Drawing

TO9-116-115

TO9-116-140

TO9-116-161



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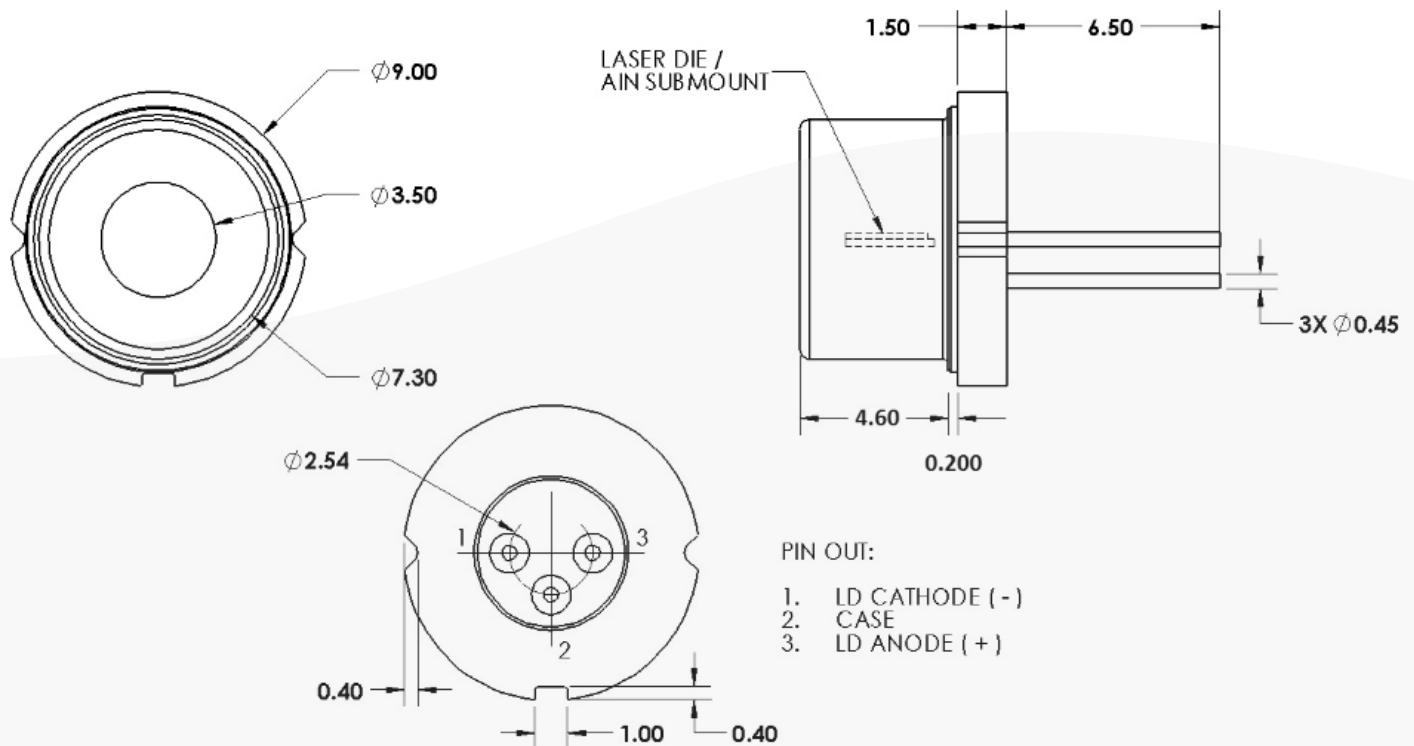
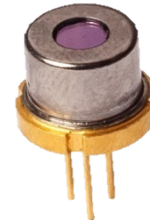
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# High Power Laser Diode TO-Cans



## Mechanical Drawing TO9-116-114



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