

# High Power Laser Diode Chip on Carrier



## Part Number: COC-105

High Power Chip on Carriers  
Multi-Mode Fabry-Perot  
Pulsed Wavelength at 1550nm



## Features

- High Output Power
- High Dynamic Range
- High Efficiency
- Standard Chip on Carrier
- Cost Effective

## Application

- Laser Rangefinders
- Target Illumination



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 Chip on Carrier



## Specification

COC-105



| Optical                    | Symbol               | Typ.      | Units                |
|----------------------------|----------------------|-----------|----------------------|
| Center Wavelength          | $\lambda_c$          | 1550      | nm ( $\pm 20$ )      |
| Output Power (<10ns)*      | $P_{out}$            | 14        | watts ( $\pm 10\%$ ) |
| Output Power (150ns)*      | $P_{out}$            | 9         | watts ( $\pm 10\%$ ) |
| Emitter Width              | $W$                  | 50        | $\mu m$              |
| Spectral Width FWHM        | $\Delta\lambda$      | 15        | nm                   |
| Slope Efficiency           | $\eta$               | 0.25      | W/A                  |
| Fast Axis Div.             | $\theta_{\perp}$     | 28        | deg FWHM             |
| Slow Axis Div.             | $\theta_{\parallel}$ | 14        | deg FWHM             |
| Electrical                 | Symbol               |           | Units                |
| Power Conversion Eff.      | $\eta$               | 2.7       | %                    |
| Operating Current (<10ns)  | $I_{op}$             | 70        | A                    |
| Operating Current (<150ns) | $I_{op}$             | 35        | A                    |
| Threshold Current          | $I_{TH}$             | 0.5       | A                    |
| Operating Voltage          | $V_{op}$             | 8.6       | V                    |
| Duty Cycle                 | DC                   | 0.1       | %                    |
| Mechanical                 |                      | Range     | Units                |
| Operating Temp.**          |                      | -40 to 60 | $^{\circ}C$          |
| Storage Temp.              |                      | -40 to 80 | $^{\circ}C$          |

\*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.

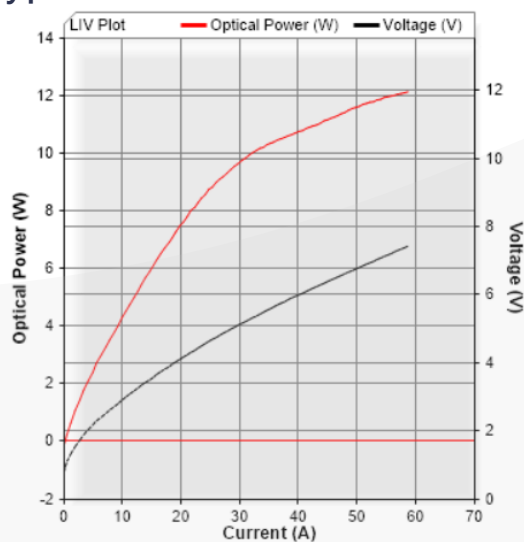
# High Power Laser Diode Chip on Carrier



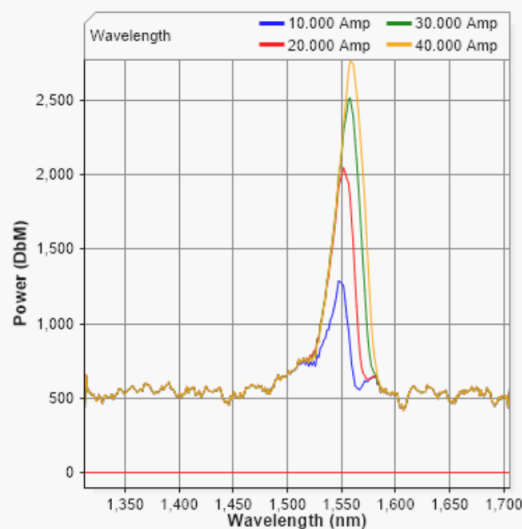
## SemiNex Laser Diodes COC-105

### Graphs & Data

#### Typical COC L-I-V Characteristics



#### Typical COC Output Spectrum

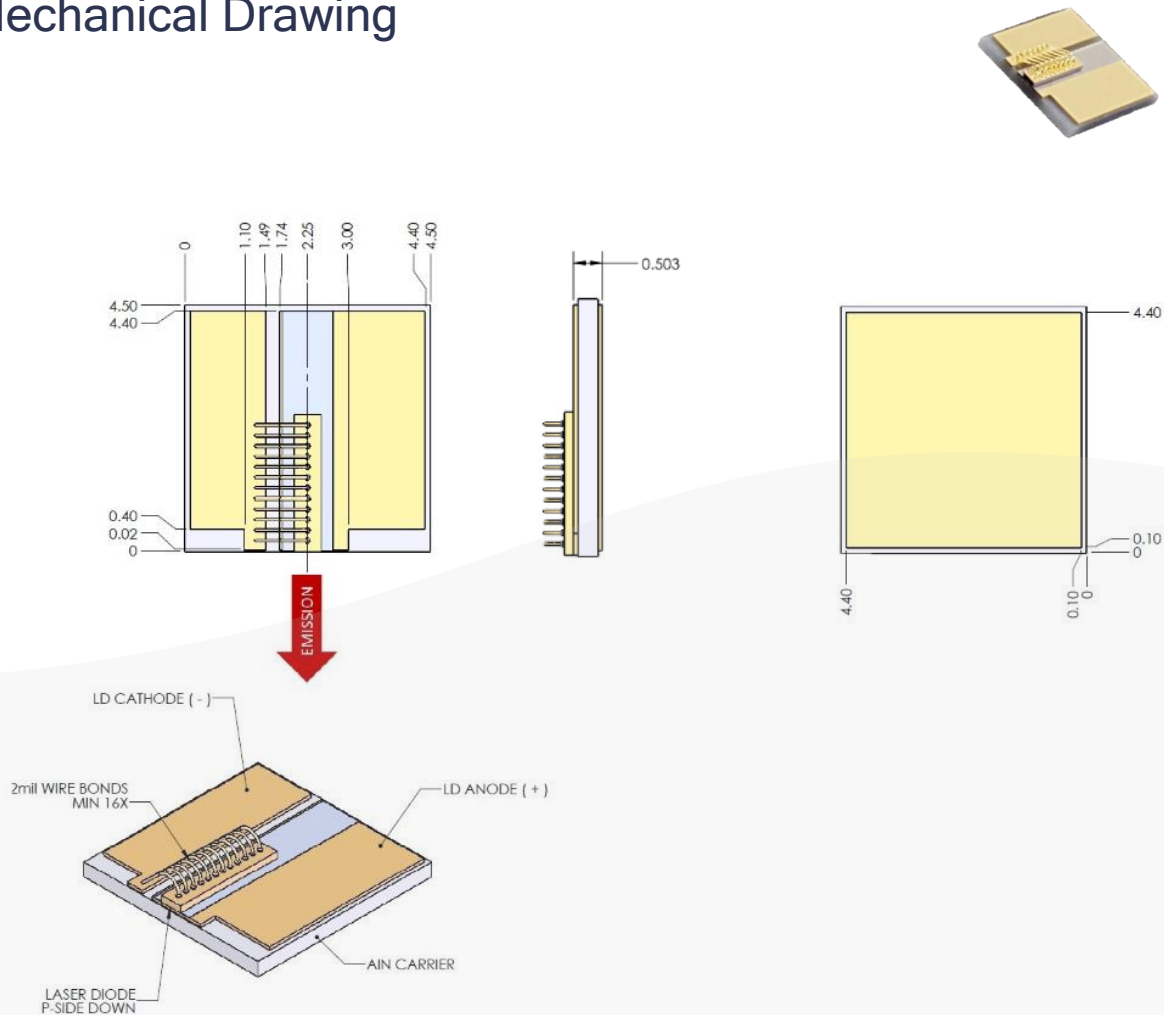


\*Tested with 150nsec pulse @ 0.1% Duty Cycle

# High Power Laser Diode Chip on Carrier



## Mechanical Drawing



All statements, technical information and recommendations related to the product herein are based upon information believed to be reliable or accurate. The accuracy or completeness herein is not guaranteed, and no responsibility is assumed for any inaccuracies. The user assumes all risks and liability whatsoever in connection with the use of a product or its application. SemiNex Corporation reserves the right to change at any time without notice the design, specification, deduction, fit or form of its described herein, including withdrawal at any time of a product offered for sale herein. Users are encouraged to visit [www.seminex.com](http://www.seminex.com) for the latest data. SemiNex Corporation makes no representations that the products herein are free from any intellectual property claims of others. Please contact SemiNex for more information. 2024 SemiNex Corporation

