

## High Power SOA Chip on Carrier



### Part Number: COC-287 / COC-287C

High Power SOA Chip on Carrier  
Single-Mode SOA  
Wavelength at 1520nm & 1550nm C-band



### Features

- High Output Power
- Broad Gain Bandwidth
- High Dynamic Range
- High Efficiency
- Standard SOA Chip on Carrier
- Cost Effective

### Application

- Optical Fiber Communications
- Coherent LiDAR
- Free Space Communications
- Network Test Equipment



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.

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### Specification

COC-287 / COC-287C



| Optical                       | Symbol               | Typ.<br>COC-287 | Typ.<br>COC-287C | Units       |
|-------------------------------|----------------------|-----------------|------------------|-------------|
| Center Wavelength             | $\lambda_c$          | 1520            | 1550nm           | nm          |
| Output Power @1A*             | $P_{out}$            | 0.375           | 0.375            | watts       |
| Aperture Width                | AW                   | 4               | 4                | $\mu m$     |
| 3dB Bandwidth                 | BW                   | 80              | 80               | nm          |
| Gain @ Pin = 10 $\mu$ W       | G                    | 32              | 32               | dB          |
| Gain Bandwidth                | BW                   | 80              | 80               | nm          |
| Beam Exit Angle               | $\theta_{EXT}$       | 19.5            | 19.5             | degree      |
| Noise Figure                  | NF                   | 7               | 7                | dB          |
| Polarization Extinction Ratio | PER                  | 18              | 18               | dB          |
| Fast Axis Div.                | $\theta_{\perp}$     | 30              | 30               | deg FWHM    |
| Slow Axis Div.                | $\theta_{\parallel}$ | 20              | 20               | deg FWHM    |
| Front Facet Reflectivity      |                      | <0.1%           | <0.1%            |             |
| Rear Face Reflectivity        |                      | <0.1%           | <0.1%            |             |
| Waveguide                     |                      | Tilted Straight | Tilted Straight  |             |
| Electrical                    | Symbol               |                 |                  | Units       |
| Operating Current             | $I_{op}$             | 1               | 1                | A           |
| Operating Voltage             | $V_{op}$             | 2               | 2                | V           |
| Mechanical                    |                      | Range           | Range            | Units       |
| Chip Width                    |                      | 500             | 500              | $\mu m$     |
| Operating Temp.**             |                      | -20 to 75       | -20 to 75        | $^{\circ}C$ |
| Storage Temp.                 |                      | -40 to 85       | -40 to 85        | $^{\circ}C$ |

\*Optical Power for 1310nm COC-288 and COC-290 with SOA drive current @ 1A and estimated Pin @ 10mW

\*Optical Power for 1550nm COC-285 and COC-287 with SOA drive current @ 1A and estimated Pin @ 21mW

\* Optical output power depends on the seed laser power, coupling efficiency, and thermal management.

\*Specified values are rated at a constant heat sink temperature of 20 $^{\circ}C$ .

\*\*High temperature operation will reduce performance and MTTF.

Unless otherwise indicated all values are nominal.

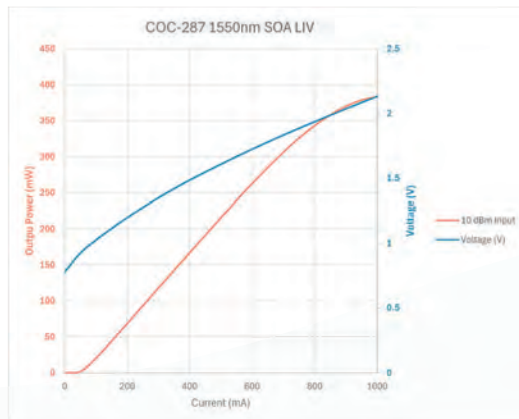
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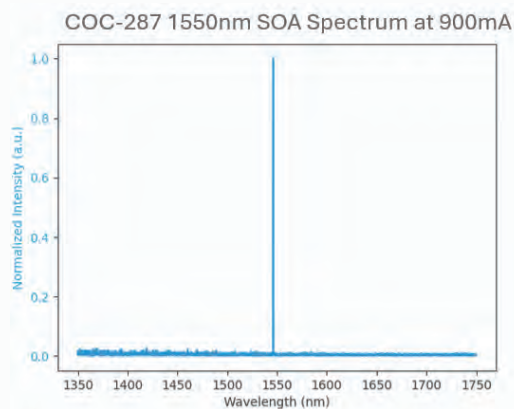
### SemiNex SOA COC-287 & COC-287C

#### Graphs & Data

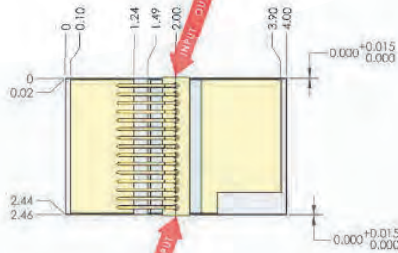
#### Typical COC L-I-V Characteristics



#### Typical COC Output Spectrum



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**DANGER**

VISIBLE / INVISIBLE LASER RADIATION  
AVOID DIRECT EXPOSURE TO BEAM

**CLASS IIIb and IV LASER  
PRODUCTS**

This product complies with 26911440 as applicable.  
Laser aperture is on the test switch. Laser radiation  
from this product is considered an acute hazard to the  
skin and eyes.

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