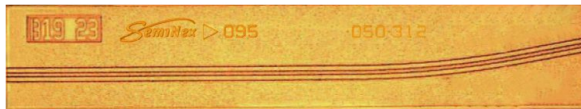
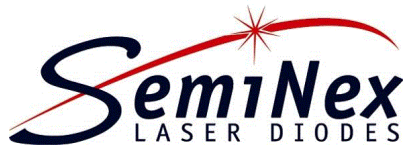


Preliminary Data Sheet



Semiconductor Optical Amplifier

High Gain SemiNex SOA
High Saturation Output Power
Curved or Tilted Waveguide and Array
13xx and 15xx nm
Custom Design and Waveguide available

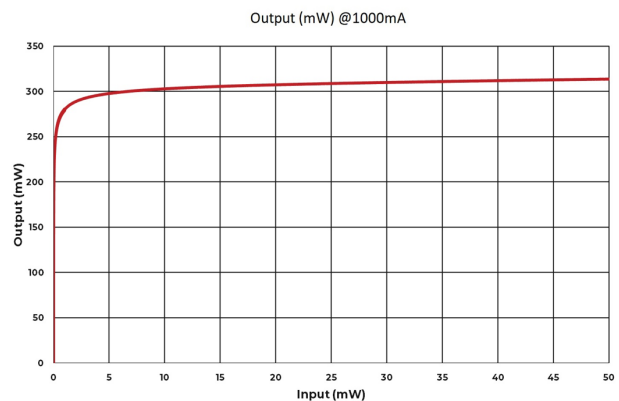
Applications

- FMCW LiDAR
- Telecom & Data Center
- Tunable Laser
- Spectroscopy
- Research

Features

- High Gain
- High Saturation Power
- High Efficiency
- Cost Effective

SemiNex delivers SOAs with the highest gain and available saturation power at infrared wavelengths. When necessary we will further optimize the design of our InP SOA to meet our customers' specific optical and electrical performance needs. Single waveguide or arrays are tested to meet customer and market performance demands. Typical results and packaging options are shown. Contact SemiNex for additional details or performance demands.

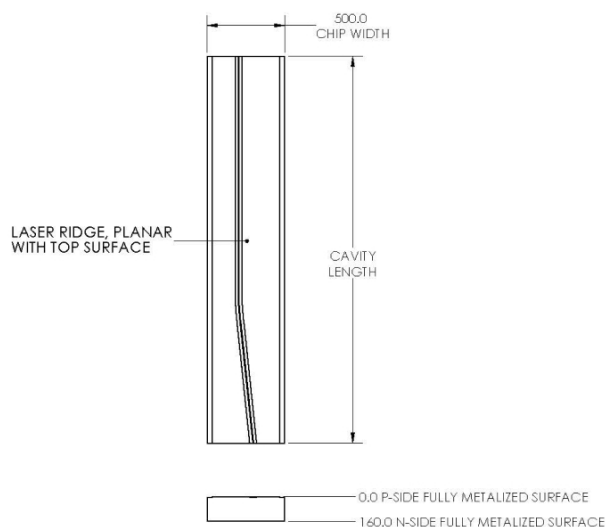




| | Symbol | CHP-288 | Units |
|-------------------------------|---------------------|------------|-------------------|
| Optical | | | |
| Wavelength | λ_c | 1310 | nm (± 20) |
| Output Power@1000mA | P_{out} | 450 | mW ($\pm 10\%$) |
| Aperture Width | AW | 4 | μm |
| Aperture Height | AH | 1 | μm |
| Spectral Width | $\delta\lambda$ | 85 | nm @ 3dB |
| Gain @ $P_{in}=10\mu W$ | G | 30 | dB |
| Beam Exit Angle | Θ_{EXT} | 19.5 | degree |
| Noise Figure | NF | 6 | dB |
| Polarization Extinction Ratio | PER | 18 | dB |
| Fast Axis Div. | Θ_{perp} | 30 | deg FWHM |
| Slow Axis Div. | $\Theta_{parallel}$ | 16 | deg FWHM |
| Front Facet Reflectivity | | <0.1% | |
| Rear Face Reflectivity | | <0.1% | |
| Waveguide | | Curved | |
| Electrical | | | |
| Operating Voltage | V_{op} | 2 | V |
| Operating Current | I_{op} | 1 | A |
| Mechanical | | | |
| Chip Length | CL | 2500 | μm |
| Chip Width | W | 500 | μm |
| Weight | | 0.05 | g |
| Operating Temp.** | | -40 to 100 | $^{\circ}C$ |
| Storage Temp. | | -40 to 100 | $^{\circ}C$ |

**Specified operating conditions are based on 20°C heat sink temperature. High temperature operation will reduce performance and MTTF.

**Specified values are based on the P-side down configuration and rated at a constant heat sink temperature of 20°C. Unless otherwise indicated all values are nominal.



| CHIP ATTRIBUTES | |
|-----------------|-------------------------|
| WAVELENGTH | 1550nm ± 20 nm |
| APERTURE WIDTH | 4 $\mu m \pm 1\mu m$ |
| CHIP WIDTH | 0.500mm $\pm 10\mu m$ |
| THICKNESS | 160 $\mu m \pm 10\mu m$ |
| CAVITY LENGTH | 2.5mm $\pm 10\mu m$ |

| P-METAL | | |
|----------|----------------|----------------|
| MATERIAL | THICKNESS (nm) | TOLERANCE (nm) |
| Ti | 50 | ± 10 |
| Pt | 125 | ± 25 |
| Au | 250 | ± 50 |

| N-METAL | | |
|----------|----------------|----------------|
| MATERIAL | THICKNESS (nm) | TOLERANCE (nm) |
| Ti | 30 | ± 10 |
| Pt | 125 | ± 25 |
| Au | 400 | ± 40 |

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SemiNex Corporation • 153 Andover St • Danvers, MA 01923 • 978-326-7700 • Email: info@seminex.com • www.seminex.com

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