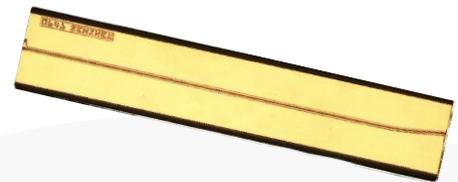


High Power SOA Chip



Part Number: CHP-288

High Power SOA Chip
Single-Mode SOA Fabry-Perot
Wavelength at 1310nm



Features

- High Output Power
- High Dynamic Range
- High Efficiency
- Standard SOA Bare Die
- Cost Effective

Application

- OTDR
- LiDAR
- Free Space Communications
- Network Test Equipment



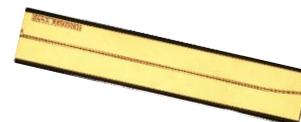
SemiNex delivers the highest available power at infrared wavelengths between 12xx and 19xx nm. When necessary, we will further optimize the design of our InP & GaSb laser chips to meet our customers' specific optical and electrical performance needs. Diodes, bars and packages are tested to meet customer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

High Power SOA Chip



Specification

CHP-288



| Optical | Symbol | Typ. | Units |
|-------------------------------|----------------------|-----------|--------------|
| Center Wavelength | λ_c | 1310 | nm |
| Output Power @1A* | P _{out} | 0.45 | watts (±10%) |
| Aperture Width | AW | 4 | μm |
| Aperture Height | AH | 1 | μm |
| Gain @ Pin = 10μW | G | 25 | 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} | 28 | Deg FWHM |
| Slow Axis Div. | θ_{\parallel} | 16 | Deg FWHM |
| Front Facet Reflectivity | | <0.1% | |
| Rear Face Reflectivity | | <0.1% | |
| Waveguide | | Curved | |
| Electrical | Symbol | | Units |
| Operating Current | I _{op} | 1 | A |
| Operating Voltage | V _{op} | 2 | V |
| Mechanical | | Range | Units |
| Chip Length | | 2500 | μm |
| Chip Width | | 500 | μm |
| Operating Temp.** | | -20 to 75 | °C |
| Storage Temp. | | -40 to 85 | °C |

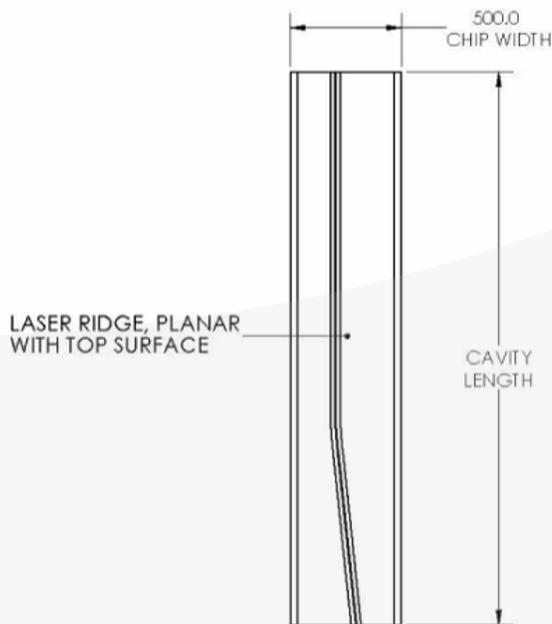
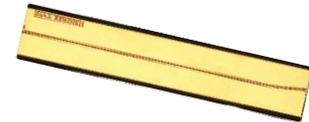
*Optical Power for 1310nm Chips CHP-288 and CHP-290 has an SOA current @ 1.2A and Pin @ 7mW
 *Optical Power for 1550nm Chips CHP-285 and CHP-287 has an SOA current @ 1.4A and Pin @ 36mW

*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 SOA Chip



Mechanical Drawing



| CHIP ATTRIBUTES | |
|-----------------|---------------|
| WAVELENGTH | 1550nm ±20nm |
| APERTURE WIDTH | 4µm ±1µm |
| CHIP WIDTH | 0.500mm ±10µm |
| THICKNESS | 1.60µm ±10µm |
| CAVITY LENGTH | 2.5mm ±10µm |

| 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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