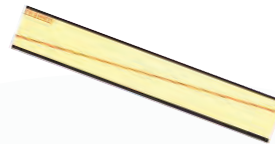


High Power SOA Chip



Part Number: CHP-311

High Power SOA Chip
Single-Mode SOA
Center Wavelength at 1280nm O-band



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.

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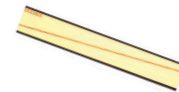
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High Power SOA Chip



Specification

CHP-311

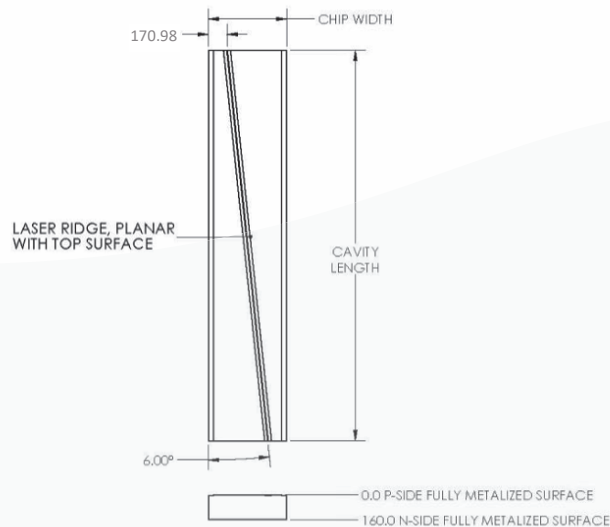
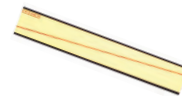


Optical	Symbol	Typ. CHP-311	Units
ASE Center Wavelength	λ_c	1280	nm
Output Power @0.5A*, Pin=5dBm @ 1310nm	P _{out}	70 (or 18.5dBm)	mWatts
Aperture Width	AW	4	μm
Small Signal Gain @0.5A	G	18	dB
Gain Bandwidth	BW	80	nm
Beam Exit Angle	θ _{EXT}	19.5	Degree
Noise Figure	NF	5	dB
Polarization Extinction Ratio	PER	18	dB
Fast Axis Div.	θ _⊥	30	Deg FWHM
Slow Axis Div.	θ	20	Deg FWHM
Front Facet Reflectivity		<0.1%	
Rear Face Reflectivity		<0.1%	
Waveguide		Tilted Straight	
Electrical	Symbol		Units
Operating Current	I _{op}	0.5	A
Operating Voltage	V _{op}	2	V
Mechanical		Range	Units
Chip Length		1500	μm
Chip Width		500	μm
Operating Temp.**		-20 to 75	°C
Storage Temp.		-40 to 85	°C

*Optical Power for 1310nm CHP-311 with SOA drive current @ 0.5A and estimated 5dBm seed laser.
 * 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°C.
 **High temperature operation will reduce performance and MTTF.
 Unless otherwise indicated all values are nominal.

High Power SOA Chip

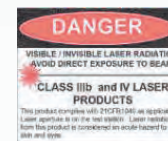


CHIP ATTRIBUTES	
WAVELENGTH	1310nm ± 20 nm
APERTURE WIDTH	4 μ m $\pm 1\mu$ m
CHIP WIDTH	0.500mm $\pm 10\mu$ m
THICKNESS	160 μ m $\pm 10\mu$ m
CAVITY LENGTH	1.5mm $\pm 10\mu$ m

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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