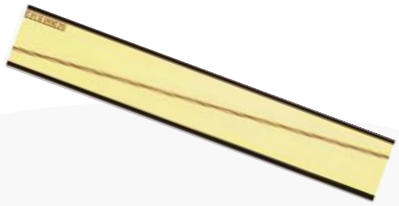
High Power SOA Chip

Part Number: CHP-291C

High Power SOA Chip
Single-Mode SOA
Center Wavelength at 1550nm C-band



Features

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

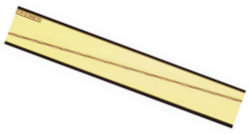
Application

- 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.

High Power SOA Chip

Specification CHP-291C



Optical	Symbol	Typ. CHP-291C	Units
ASE Center Wavelength	λ_c	1550	nm
Output Power @0.5A*, Pin=5dBm @ 1550nm	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.	$\Theta_{\perp}$	30	Deg FWHM
Slow Axis Div.	$\Theta_{\parallel}$	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 1550nm CHP-291 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.

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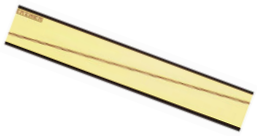

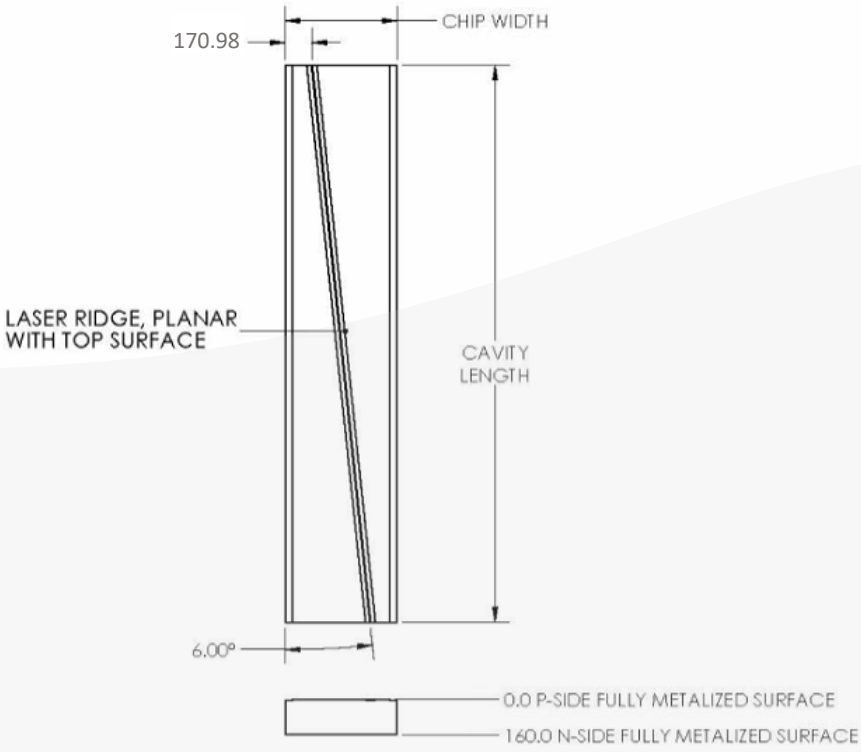

CHIP ATTRIBUTES	
WAVELENGTH	1550nm ±20nm
APERTURE WIDTH	4µm ±1µm
CHIP WIDTH	0.500mm ±10µm
THICKNESS	160µm ±10µm
CAVITY LENGTH	1.5mm ±10µm

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