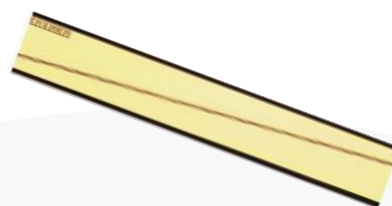


# High Power SOA Chip



## Part Number: CHP-313

High Power SOA Chip  
Single-Mode SOA Fabry-Perot  
Wavelength at 1625nm



## 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.

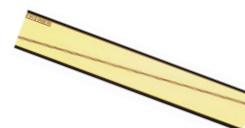
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# High Power SOA Chip



## Specification

CHP-313



Optical	Symbol	Typ.	Units
Center Wavelength	$\lambda_c$	1625	nm
Output Power @ 1A*	$P_{out}$	0.39	Watts ( $\pm 10\%$ )
Aperture Width	AW	4	$\mu m$
Aperture Height	AH	1	$\mu m$
Gain @ Pin = 10 $\mu$ W	G	33	dB
Beam Exit Angle	$\theta_{EXT}$	19.5	Degree
Noise Figure	NF	7	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	$I_{op}$	1	A
Operating Voltage	$V_{op}$	2	V
Mechanical		Range	Units
Chip Length		2500	$\mu m$
Chip Width		500	$\mu m$
Operating Temp.**		-20 to 75	$^{\circ}C$
Storage Temp.		-40 to 85	$^{\circ}C$

\*Optical Power for 1625nm COC-313 with SOA drive current @ 1A and estimated Pin @ 21mW

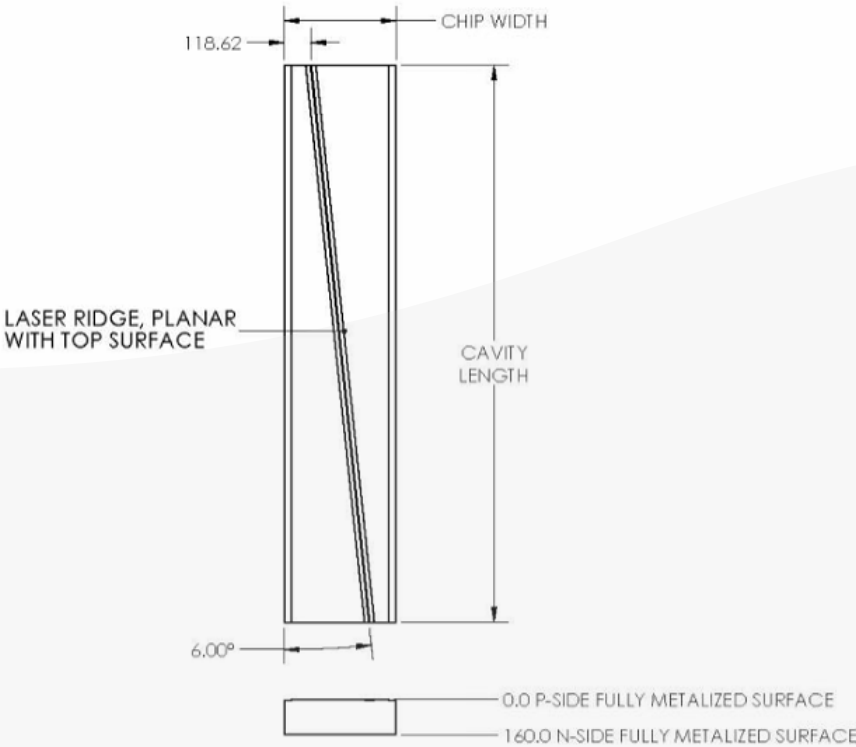
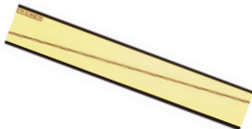
\* Optical output power depends on the seed laser power, coupling efficiency, and thermal management.

\*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.

# High Power SOA Chip



## CHIP ATTRIBUTES

WAVELENGTH	1550nm $\pm 20$ 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	$\pm 10$
Pt	125	$\pm 25$
Au	250	$\pm 50$

## N-METAL

MATERIAL	THICKNESS (nm)	TOLERANCE (nm)
Ti	30	$\pm 10$
Pt	125	$\pm 25$
Au	400	$\pm 40$

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\*Graphs and Data were collected from mounted parts