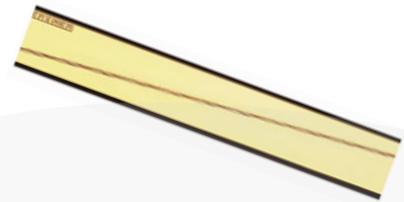


# High Power SOA Chip



## Part Number: CHP-290

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



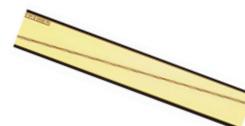
SemiNex delivers the highest available power at infrared wavelengths between 12xx and 19xx nm. When necessary, we will further optimize the design of our InP & GaSb laser chips to meet our customers' specific optical and electrical performance needs. Diodes, bars and packages are tested to meet customer 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-290



Optical	Symbol	Typ.	Units
Center Wavelength	$\lambda_c$	1310	nm
Output Power @1A*	$P_{out}$	0.45	watts ( $\pm 10\%$ )
Aperture Width	AW	4	$\mu\text{m}$
Aperture Height	AH	1	$\mu\text{m}$
Gain @ Pin = 10 $\mu\text{W}$	G	25	dB
Beam Exit Angle	$\theta_{EXT}$	19.5	Degree
Noise Figure	NF	6	dB
Polarization Extinction Ratio	PER	18	dB
Fast Axis Div.	$\theta_{\perp}$	28	Deg FWHM
Slow Axis Div.	$\theta_{\parallel}$	16	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	$\mu\text{m}$
Chip Width		500	$\mu\text{m}$
Operating Temp.**		-20 to 75	$^{\circ}\text{C}$
Storage Temp.		-40 to 85	$^{\circ}\text{C}$

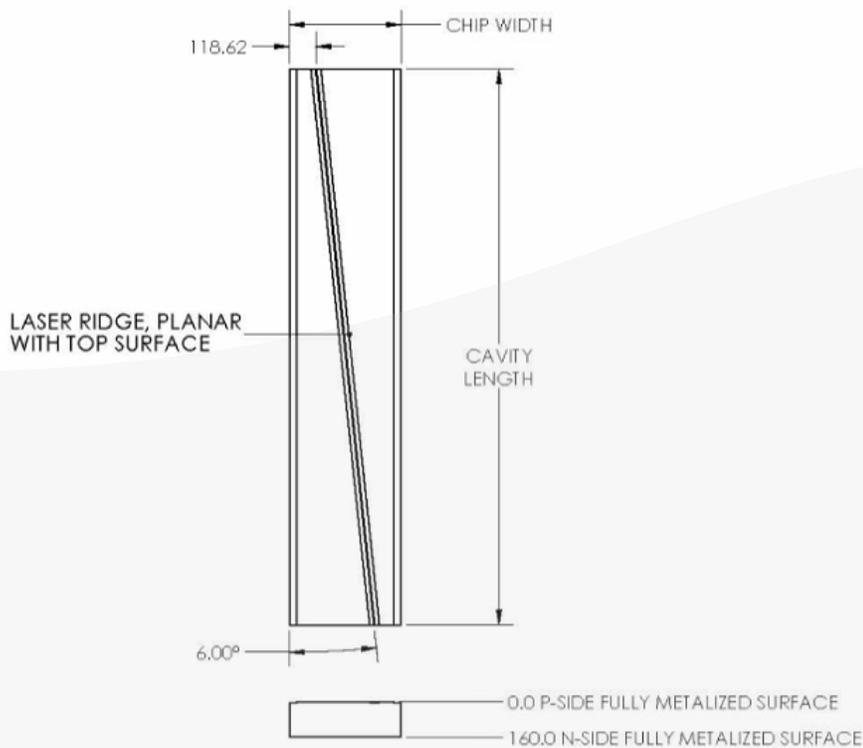
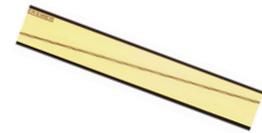
\*Optical Power for 1310nm COC-288 and COC-290 with SOA drive current @ 1A and estimated Pin @ 7mW  
 \*Optical Power for 1550nm COC-285 and COC-287 with SOA drive current @ 1A and estimated Pin @ 21mW  
 \* Optical output power depends on the seed laser power, coupling efficiency, and thermal management.

\*Specified values are rated at a constant heat sink temperature of 20 $^{\circ}\text{C}$ .  
 \*\*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	160µm ±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

All statements, technical information and recommendations related to the product herein are based upon information believed to be reliable or accurate. The accuracy or completeness herein is not guaranteed, and no responsibility is assumed for any inaccuracies. The user assumes all risks and liability whatsoever in connection with the use of a product or its application. SemiNex Corporation reserves the right to change at any time without notice the design, specification, deduction, fit or form of its described herein, including withdrawal at any time of a product offered for sale herein. Users are encouraged to visit [www.seminex.com](http://www.seminex.com) for the latest data. SemiNex Corporation makes no representations that the products herein are free from any intellectual property claims of others. Please contact SemiNex for more information. 2024 SemiNex Corporation

