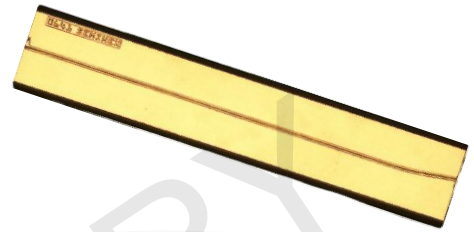


# High Power RSOA Chip



## Part Number: CHP-312

High Power RSOA Chip  
Single-Mode RSOA Curved Waveguide  
Wavelength at O band, 1310nm



## Features

- 1mm RSOA Chip
- High Dynamic Range
- High Efficiency
- Standard RSOA Bare Die
- Cost Effective

## Application

- Gain Element for External Cavity Laser
- Optical Communications
- 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.

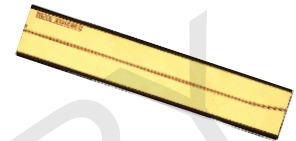
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# High Power RSOA Chip



## Specification

CHP-310



Optical	Symbol	Typ.	Units
Center Wavelength	$\lambda_c$	1310	nm
ASE Output Power @ 0.45A	P <sub>out</sub>	6	mW
Aperture Width	AW	4	$\mu\text{m}$
Aperture Height	AH	1	$\mu\text{m}$
Spectral Width	$\Delta\lambda$	80	nm @ 3dB
Beam Exit Angle	$\theta_{\text{EXT}}$	19.5	Degree
Fast Axis Div.	$\theta_{\perp}$	30	Deg FWHM
Slow Axis Div.	$\theta_{\parallel}$	20	Deg FWHM
Front Facet Reflectivity		<0.1%	
Rear Face Reflectivity		98%	
Waveguide		Curved	
Electrical	Symbol		Units
Operating Current	I <sub>op</sub>	0.45	A
Operating Voltage	V <sub>op</sub>	2	V
Mechanical		Range	Units
Chip Width		500	$\mu\text{m}$
Operating Temp.**		-20 to 75	°C
Storage Temp.		-40 to 85	°C

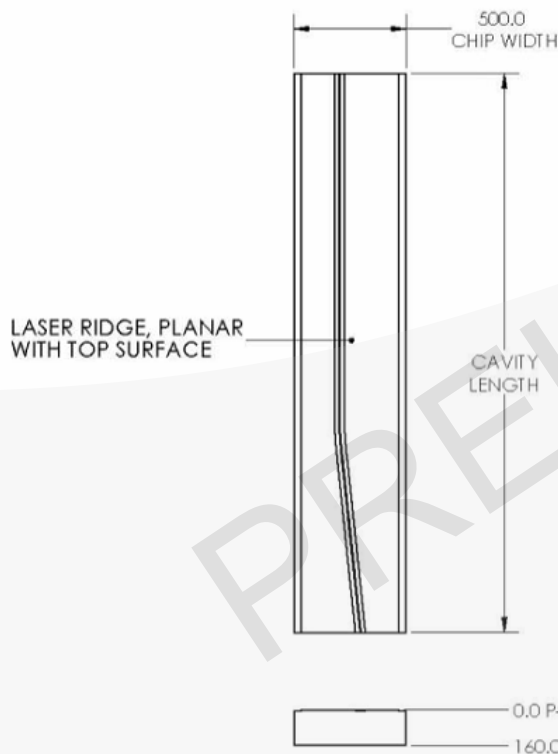
\*Specified values are rated at a constant heat sink temperature of 20°C.

\*\*High temperature operation will reduce performance and MTTF.  
Unless otherwise indicated all values are nominal.

# High Power RSOA Chip



## Mechanical Drawing



CHIP ATTRIBUTES	
WAVELENGTH	1550nm $\pm$ 20nm
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

\*Chip length of CHP-312 is 1mm & Wavelength is 1310nm.  
The diagram shown is for 2.5mm chip length with a wavelength of 1550nm.

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