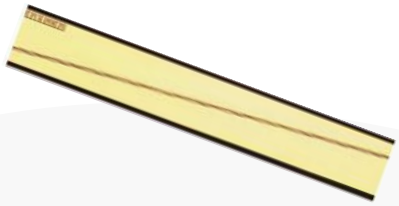
High Power SOA Chip

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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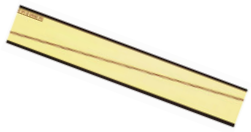
Specification

CHP-313



Optical	Symbol	Typ.	Units
Center Wavelength	λ_c	1625	nm
Output Power @1A*	P_{out}	0.39	Watts (±10%)
Aperture Width	AW	4	µm
Aperture Height	AH	1	µm
Gain @ Pin = 10µW	G	33	dB
Beam Exit Angle	θ_{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	µm
Chip Width		500	µm
Operating Temp.**		-20 to 75	°C
Storage Temp.		-40 to 85	°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°C.
**High temperature operation will reduce performance and MTTF.
Unless otherwise indicated all values are nominal.

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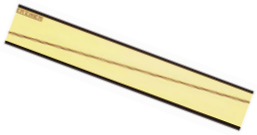

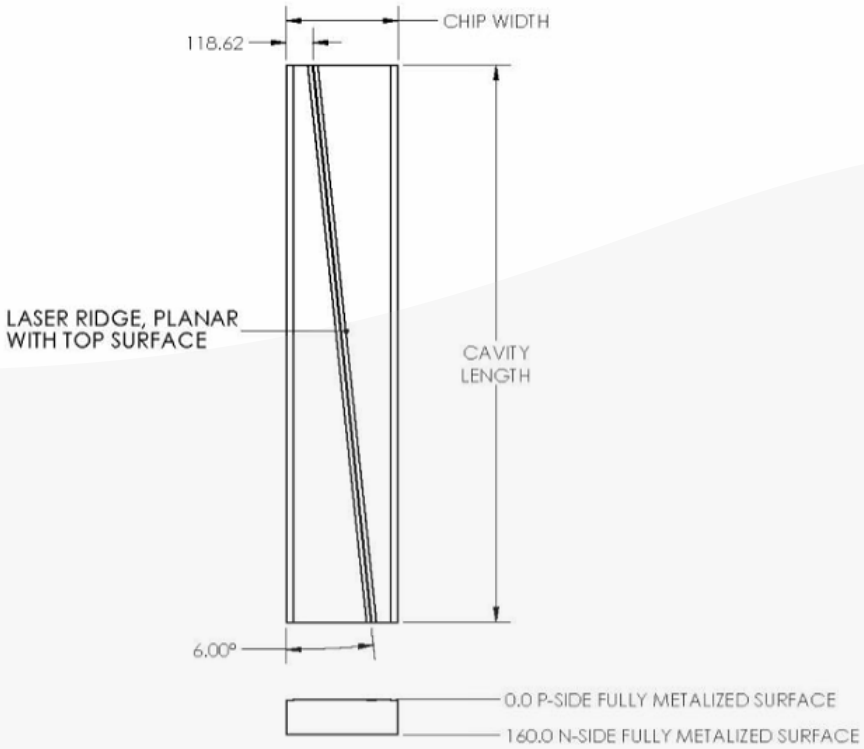

CHIP ATTRIBUTES	
WAVELENGTH	1550nm ±20nm
APERTURE WIDTH	4µm ±1µm
CHIP WIDTH	0.500mm ±10µm
THICKNESS	160µm ±10µm
CAVITY LENGTH	2.5mm ±10µm

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

*Graphs and Data were collected from mounted parts