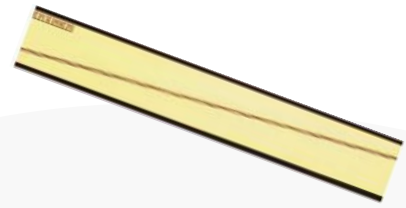


# High Power SOA Chip



## Part Number: CHP-287 / CHP-287C

High Power SOA Chip  
Single-Mode SOA  
Center Wavelength at 1520nm & 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



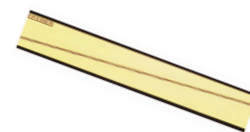
SemiNex delivers the highest available power at infrared wavelengths between 12xx and 19xx nm. When necessary, we will further optimize the design of our InP & GaSb laser chips to meet our customers' specific optical and electrical performance needs. Diodes, bars and packages are tested to meet customer 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-287 / CHP-287C



Optical	Symbol	Typ. CHP-287	Typ. CHP-287C	Units
Center Wavelength	$\lambda_c$	1520	1550	nm
Output Power @1A*	$P_{out}$	0.39	0.39	Watts ( $\pm 10\%$ )
Aperture Width	AW	4	4	$\mu\text{m}$
Gain @ Pin = 10 $\mu\text{W}$	G	33	33	dB
Gain Bandwidth	BW	80	80	nm
Beam Exit Angle	$\theta_{EXT}$	19.5	19.5	Degree
Noise Figure	NF	7	7	dB
Polarization Extinction Ratio	PER	18	18	dB
Fast Axis Div.	$\theta_{\perp}$	30	30	Deg FWHM
Slow Axis Div.	$\theta_{\parallel}$	20	20	Deg FWHM
Front Facet Reflectivity		<0.1%	<0.1%	
Rear Face Reflectivity		<0.1%	<0.1%	
Waveguide		Tilted Straight	Tilted Straight	
Electrical	Symbol			Units
Operating Current	$I_{op}$	1	1	A
Operating Voltage	$V_{op}$	2	2	V
Mechanical		Range	Range	Units
Chip Length		2500	2500	$\mu\text{m}$
Chip Width		500	500	$\mu\text{m}$
Operating Temp.**		-20 to 75	-20 to 75	$^{\circ}\text{C}$
Storage Temp.		-40 to 85	-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.

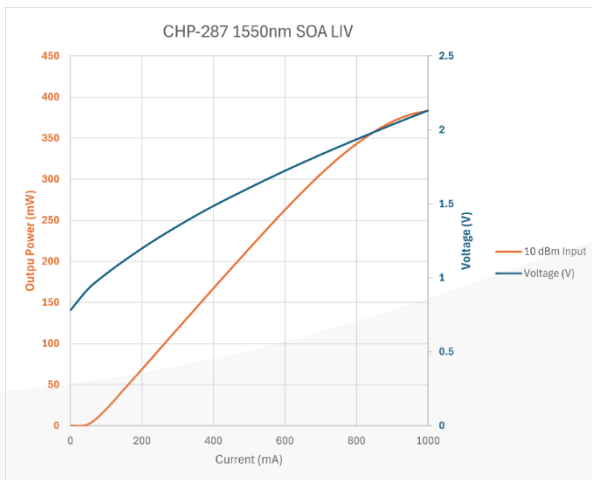
# High Power SOA Chip



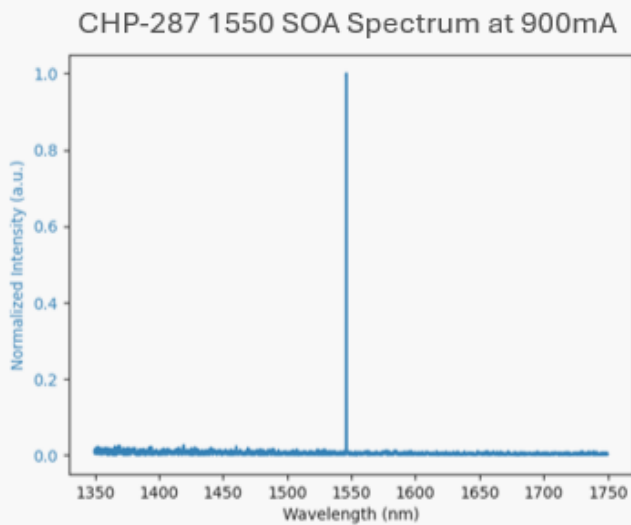
## SemiNex SOA CHP-287 & CHP-287C

### Graphs & Data

#### Typical CHP L-I-V Characteristics



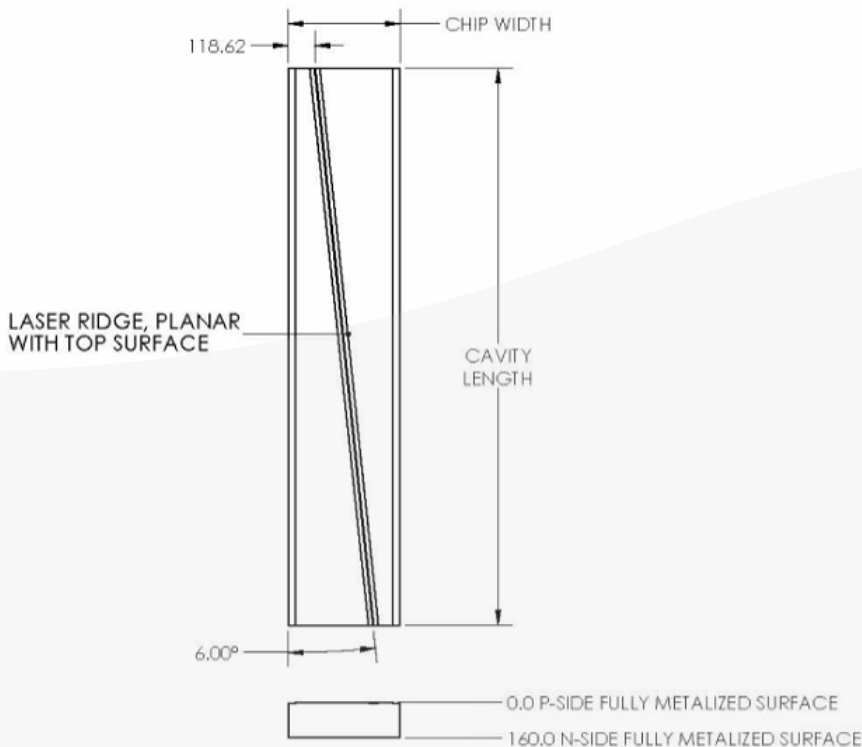
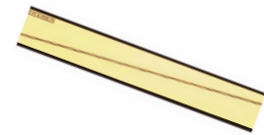
#### Typical CHP Output Spectrum



\*Graphs and Data were collected from mounted parts

SemiNex Corporation • 153 Andover Street, Suite 201, Danvers, MA 01923 • 978-326-7700 • sales@seminex.com

# High Power SOA Chip



CHIP ATTRIBUTES	
WAVELENGTH	1550nm ±20nm
APERTURE WIDTH	4µm ±1µm
CHIP WIDTH	0.500mm ±10µm
THICKNESS	1.60µm ±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

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