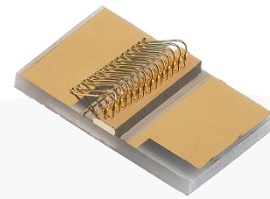


# High Power SOA Chip on Carrier



## Part Number: COC-290 / COC-2900

High Power SOA Chip on Carrier  
Single-Mode SOA Tilted Straight Waveguide  
Wavelength at 1280nm & 1310nm O-band



## Features

- High Output Power
- Broad Gain Bandwidth
- High Dynamic Range
- High Efficiency
- Standard SOA Chip on Carrier
- Cost Effective

## Application

- 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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## Specification

COC-290 / COC-2900



Optical	Symbol	Typ. COC-290	Typ. COC-2900	Units
Center Wavelength	$\lambda_c$	1280	1310	nm
Output Power @1A*	$P_{out}$	0.45	0.45	Watts ( $\pm 10\%$ )
Aperture Width	AW	4	4	$\mu\text{m}$
Gain @ Pin = 10 $\mu\text{W}$	G	35	35	dB
Gain Bandwidth	BW	80	80	nm
Beam Exit Angle	$\theta_{EXT}$	19.5	19.5	Degree
Noise Figure	NF	6	6	dB
Polarization Extinction Ratio	PER	18	18	dB
Fast Axis Div.	$\theta_{\perp}$	30	30	Deg FWHM
Slow Axis Div.	$\theta_{\parallel}$	16	16	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 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.

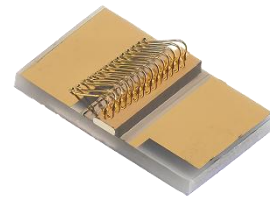
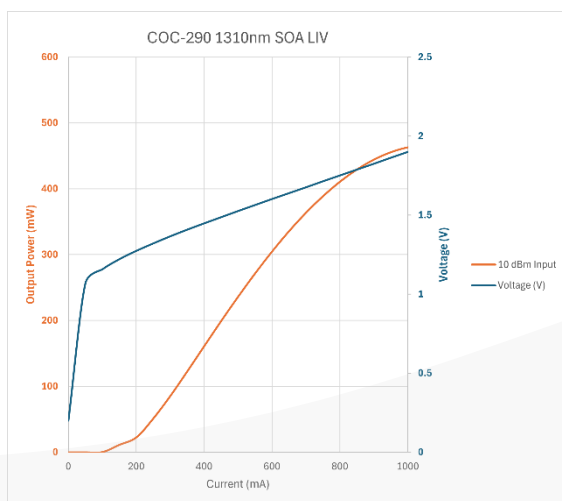
# High Power SOA Chip on Carriers



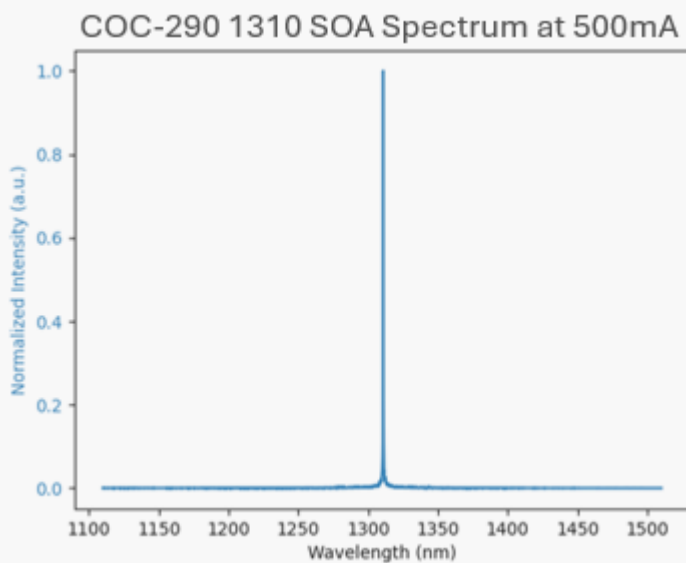
## SemiNex SOA COC-290 & COC-2900

### Graphs & Data

#### Typical COC L-I-V Characteristics



#### Typical COC Output Spectrum

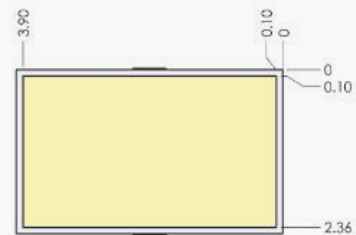
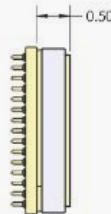
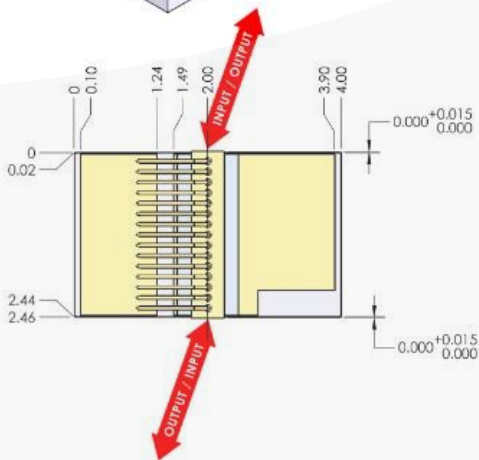
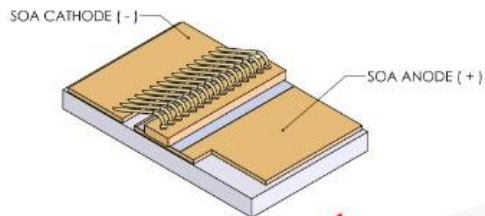
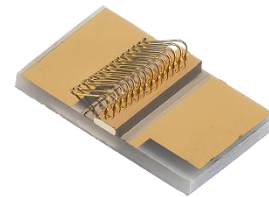


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# High Power SOA Chip on Carriers



## Mechanical Drawing



\*Graphs and Data were collected from mounted parts

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