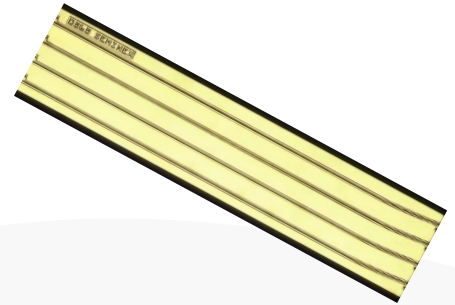


# High Power SOA 4-Emitter Chip



## Part Number: CHPm-177

High Power 4 Emitters Chip  
Single-Mode SOA  
CW Wavelength at 1550nm



## Features

- High Output Power
- High Dynamic Range
- High Efficiency
- 4 Emitters Mini Array
- Cost Effective

## Application

- FMCW LiDAR
- Datacom
- Data Centers
- Telecom OTDR
- Telecom Optical Comm



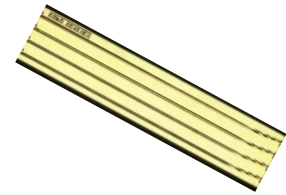
SemiNex delivers the highest available power at infrared wavelengths between 12xx and 19xx nm. When necessary, we will further optimize the design of our InP & GaSb laser chips to meet our customers' specific optical and electrical performance needs. Diodes, bars and packages are tested to meet customer 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 4-Emitter Chip



## Specification

CHPm-177



Optical	Symbol	Typ.	Units
Center Wavelength	$\lambda_c$	1550	nm
Output Power per emitter @1A*	$P_{out}$	0.35	Watt
Number of Emitters		4	
Emitter Width	$W$	4	$\mu m$
Spectral Width FWHM	$\Delta\lambda$	80	nm
Gain @ Pin=10 $\mu$ W	$G$	32	dB
Beam Exit Angle	$\theta_{EXT}$	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 Facet Reflectivity		<0.1%	
Waveguide		Curved	
Waveguide Pitch		127	$\mu m$
Electrical	Symbol		Units
Operating Current per channel	$I_{op}$	1	A
Operating Voltage	$V_{op}$	2	V
Mechanical			Units
Chip Length		2500	$\mu m$
Chip Width		625	$\mu m$
Operating Temp.**		-20 to 77	$^{\circ}C$
Storage Temp.		-40 to 85	$^{\circ}C$

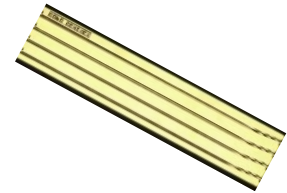
\*\*Specified operating conditions are based on 20 $^{\circ}C$  heat sink temperature. High temperature operation will reduce performance and MTF.

\*\*Specified values are based on the P-side down configuration and rated at a constant heat sink temperature of 20 $^{\circ}C$ . Unless otherwise indicated all values are nominal.

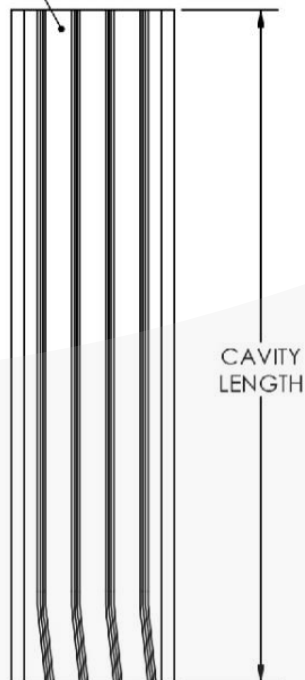
# High Power SOA 4-Emitter Chip



## Mechanical Drawing



LASER RIDGE, PLANAR WITH TOP SURFACE



CAVITY LENGTH

0.0 P-SIDE FULLY METALIZED SURFACE  
160.0 N-SIDE FULLY METALIZED SURFACE

CHIP ATTRIBUTES	
WAVELENGTH	1550nm ±20nm
APERTURE WIDTH	4µm ±1µm
EMITTER QTY	4
EMITTER PITCH	127µm ±1µm
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

