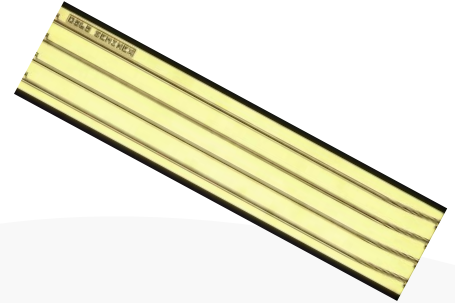


High Power SOA 4-Emitter Chip



Part Number: CHPm-178

High Power 4 Emitters Chip
Single-Mode SOA
CW Wavelength at 1310nm covering O band



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



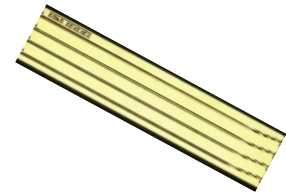
SemiNex delivers the highest available power at infrared wavelengths between 12xx and 19xx nm. When necessary, we will further optimize the design of our InP & GaSb laser chips to meet our customers' specific optical and electrical performance needs. Diodes, bars and packages are tested to meet customer 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-178



Optical	Symbol	Typ.	Units
Center Wavelength	λ_c	1310	nm
ASE Output Power @1A* per channel	P_{out}	0.2	Watts
Number of Emitters		4	
Emitter Width	W	4	μm
Spectral Width FWHM	$\Delta\lambda$	85	nm
Gain @ $P_{in}=10\mu W$	G	32	dB
Beam Exit Angle	θ_{EXT}	19.5	degree
Noise Figure	NF	7	dB
Polarization Extinction Ratio	PER	18	dB
Fast Axis Div.	θ_{\perp}	30	deg FWHM
Slow Axis Div.	θ_{\parallel}	16	deg FWHM
Front Facet Reflectivity		<0.1%	
Rear Facet Reflectivity		<0.1%	
Waveguide		Curved	
Waveguide Pitch		127	μm
Electrical	Symbol		Units
Operating Current per channel	I_{op}	1	A
Operating Voltage	V_{op}	2	V
Mechanical			Units
Chip Length		2500	μm
Chip Width		625	μm
Operating Temp.**		-20 to 77	$^{\circ}C$
Storage Temp.		-40 to 85	$^{\circ}C$

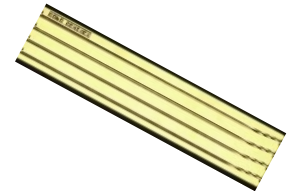
**Specified operating conditions are based on 20°C heat sink temperature. High temperature operation will reduce performance and MTF.

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

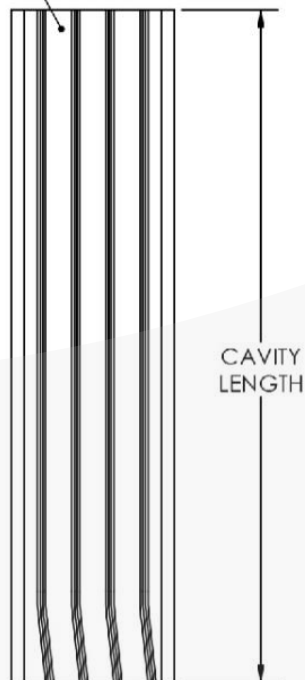
High Power SOA 4-Emitter Chip



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

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