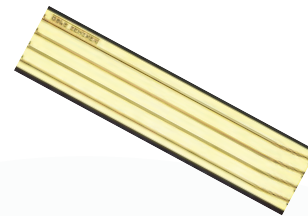


High Power SOA 4-Emitter Chip



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.

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High Power SOA 4-Emitter Chip



Specification

CHPm-177



Optical	Symbol	Typ.	Units
Center Wavelength	λ_c	1550	nm
Output Power per emitter @1A*	P_{out}	0.35	Watt
Number of Emitters		4	
Emitter Width	W	4	μm
Spectral Width FWHM	$\Delta\lambda$	80	nm
Gain @ Pin=10 μ 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.	$\theta_{\perp}$	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	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 $^{\circ}C$ heat sink temperature. High temperature operation will reduce performance and MTTF.
 **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.

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High Power SOA 4-Emitter Chip



Mechanical Drawing

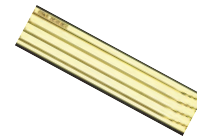
LASER RIDGE, PLANAR
WITH TOP SURFACE



CAVITY
LENGTH

0.0 P-SIDE FULLY METALIZED SURFACE

160.0 N-SIDE FULLY METALIZED SURFACE



CHIP ATTRIBUTES

WAVELENGTH	1550nm $\pm$ 20nm
APERTURE WIDTH	4 μ m $\pm$ 1 μ m
EMITTER QTY	4
EMITTER PITCH	127 μ m $\pm$ 1 μ m
THICKNESS	160 μ m $\pm$ 10 μ m
CAVITY LENGTH	2.5mm $\pm$ 10 μ m

P-METAL

MATERIAL	THICKNESS (nm)	TOLERANCE (nm)
Ti	50	$\pm$ 10
Pt	125	$\pm$ 25
Au	250	$\pm$ 50

N-METAL

MATERIAL	THICKNESS (nm)	TOLERANCE (nm)
Ti	30	$\pm$ 10
Pt	125	$\pm$ 25
Au	400	$\pm$ 40

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