

Laser Diode Chip

High Power SemiNex Laser Diodes
Multi Mode and Single Mode
12xx to 19xx nm
Custom Wavelengths Available

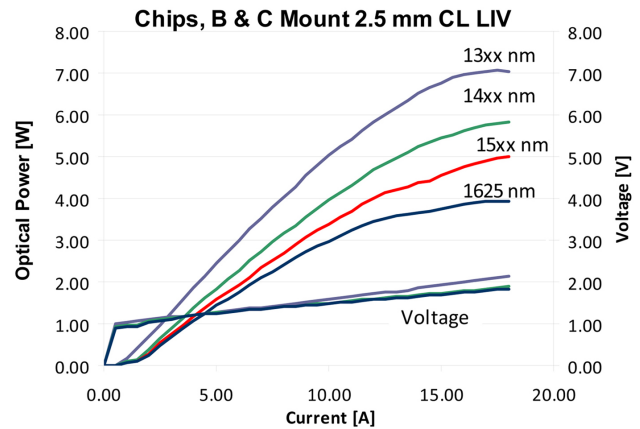
Applications

- OEM Medical
- Consumer Medical
- Research
- DPSS pump source
- LiDAR
- Military / Aerospace

Features

- Cost effective
- High Output Power
- High Dynamic Range
- High Efficiency

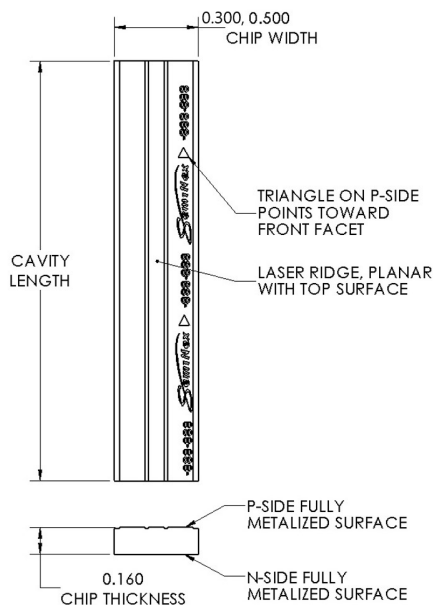
SemiNex delivers the highest available power at infrared wavelengths between 12xx and 19xx nm. When necessary we will further optimize the design of our InP laser chips to meet our customers' specific optical and electrical performance needs. Diodes, bars and packages are tested to meet customer and market performance demands. Typical results and packaging options are shown. Contact SemiNex for additional details or to discuss your specific requirements.





	Symbol	CHP-108	Units
Optical			
Wavelength	λ_c	1470	nm (± 20)
Output Power (CW)*	P_o	5.00	watts ($\pm 10\%$)
Chip Cavity Length	CL	2500	μm
Chip Width	W	500	μm
Emitter Width	W	95	μm
Emitter Height	H	1	μm
Spectral Width	$\Delta\lambda$	15	nm 3dB
Slope Efficiency	η_s	0.38	W/A
Fast Axis Div.	Θ_{perp}	28	deg FWHM
Slow Axis Div.	Θ_{parallel}	9	deg FWHM
Electrical			
Power Conversion Eff.	η	22	%
Threshold Current	I_{th}	0.5	A
Operating Current	I_{op}	13	A
Operating Voltage	V_{op}	1.7	V
Mechanical			
Weight		0.05	g
Operating Temp.**		-40 to 60	$^{\circ}\text{C}$
Storage Temp.		-40 to 80	$^{\circ}\text{C}$

Specified values are rated at a constant heat sink temperature of 20°C.
 **Specified operating conditions are based on 20C heat sink temperature. High temperature operation will reduce performance and MTTF.
 Unless otherwise indicated all values are nominal.



CHIP ATTRIBUTES


APERTURE WIDTH (μm)	Single Mode (4, 5) ± 1 Multi Mode (50, 95, 180, 350) ± 3
CHIP WIDTH (μm)	300, 500 ± 10
THICKNESS (μm)	160 ± 10
CAVITY LENGTH (μm)	Varies ± 10

P METALIZATION

MATERIAL	THICKNESS (nm)	TOLERANCE (nm)
Ti	50	± 10
Pt	125	± 25
Au	250	± 50

N METALIZATION

MATERIAL	THICKNESS (nm)	TOLERANCE (nm)
Ti	30	± 10
Pt	125	± 25
Au	400	± 40

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