

High Power Multi-Mode Lasers Dies
 6 Watts of Continuous Operation Power
 1470, 1532, or 1550 nm Wavelengths

SemiNex delivers the highest available CW power at infrared wavelengths. SemiNex will optimize the design of its laser chips to meet customers' optical and electrical performance specifications. Diodes are designed and tested to meet custom applications. Typical results are shown. Actual results will vary depending on packaging and application. Contact SemiNex for additional details or to discuss your application.

Key Features

- High output power
- High dynamic power range
- High efficiency

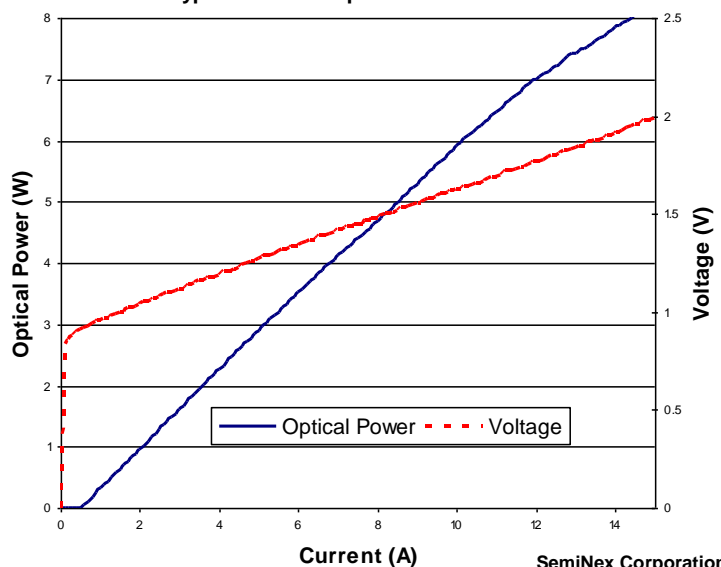
Applications

- Medical laser equipment
- LIDAR
- Free Space Optical Communication
- DPSS pump lasers
- Military / Aerospace

	Symbol	Typical	Units
Optical			
Output power (CW)	P_o	3 or 6	watts
Center Wavelength Range	λ_c	1470, 1532, or 1550	nm
Emitter Width	W	95	μm
Emitter Height	H	1	μm
Spectral Width	$\Delta\lambda$	10	nm 3dB
Slope Efficiency	η_o	0.5	W/A
Fast Axis Divergence	θ_{perp}	26	deg FWHM
Slow Axis Divergence	θ_{parallel}	8	deg FWHM
Wavelength Temp. Coeff.	λ_{coef}	0.7	nm/C

Electrical			
Power conversion Efficiency	η	0.5	W/A
Threshold Current	I_{th}	0.45	A
Operating Current	I_{op}	8 - 12	A
Operating Voltage	V_{op}	1.5 - 2.0	V
Series Resistance	R_s	0.05	ohm

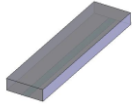
Typical CW LIV Optical Power Chart



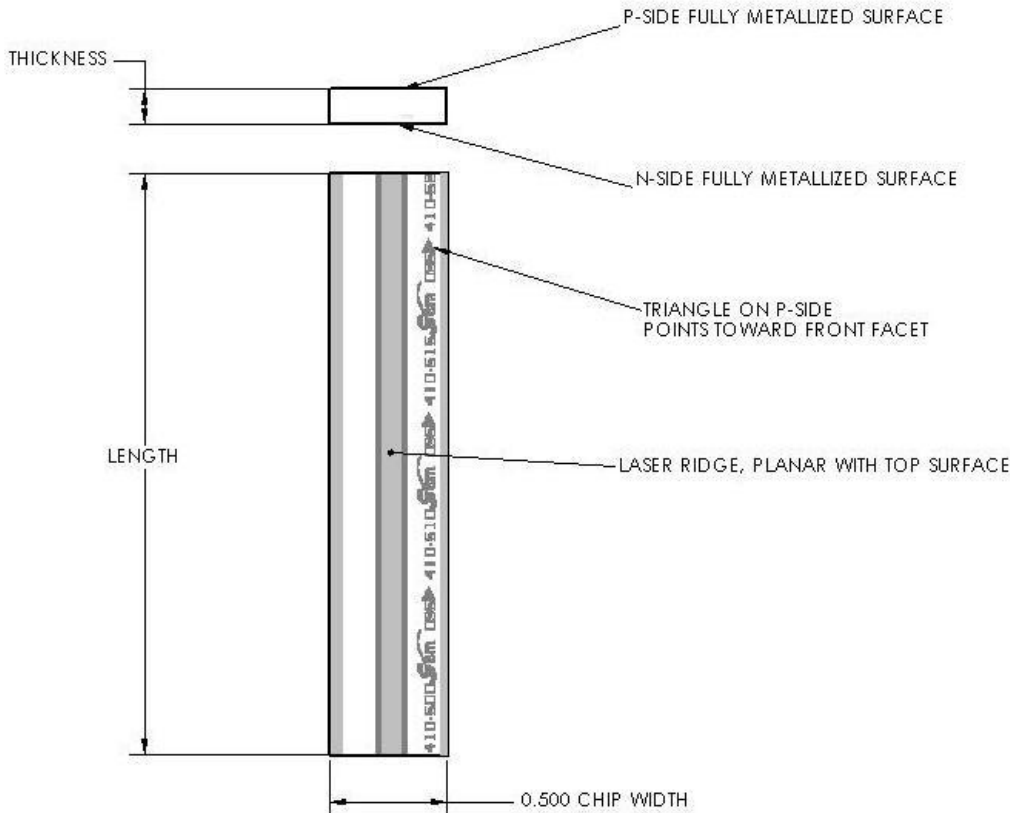
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		CHP-1470-3-95	CHP-1470-6-95	CHP-1532-6-95	CHP-1550-3-95	CHP-1550-6-95	Units
Optical							
Chip Cavity Length (typical)		1500	2500	2500	1500	2500	μm
Output power (CW)	P_o	3	6	5	2.5	5	watts
Center Wavelength	λ_c	1470	1470	1532	1550	1550	nm
Emitter Width	W	95	95	95	95	95	μm
Emitter Height	H	1	1	1	1	1	μm
Spectral Width	$\Delta\lambda$	15	15	15	15	15	nm 3dB
Slope Efficiency	η_o	0.5	0.5	0.5	0.5	0.5	W/A
Fast Axis Divergence	θ_{perp}	25	25	25	25	25	deg FWHM
Slow Axis Divergence	θ_{parallel}	8	8	8	8	8	deg FWHM
Electrical							
Power conversion Efficiency	η	0.5	0.5	0.5	0.5	0.5	W/A
Threshold Current	I_{th}	0.45	0.45	0.45	0.45	0.45	A
Operating Current	I_{op}	7	14	14	7	14	A
Operating Voltage	V_{op}	1.5	1.8	1.8	1.5	1.8	V
Series Resistance	R_s	0.05	0.05	0.05	0.05	0.05	ohm



CHIP ATTRIBUTES

APERTURE WIDTH	95 μm \pm 3 μm
CHIP WIDTH	500 μm \pm 10 μm
THICKNESS	160 μm \pm 10 μm
CAVITY LENGTH	1.50 or 2.50 \pm 10 μm

P METALLIZATION

MATERIAL	THICKNESS (nm)	TOLERANCE
Ti	50	+/- 10
Pt	125	+/- 25
Au	250	+/- 50

N METALLIZATION

MATERIAL	THICKNESS (nm)	TOLERANCE
Ti	30	+/- 10
Pt	125	+/- 25
Au	400	+/- 40

NOTE: Optical power is estimated and will vary greatly from the above specification depending on the mounting configuration and quality.

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