

High Power Multi-Mode Lasers Bars
 25 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 bars 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

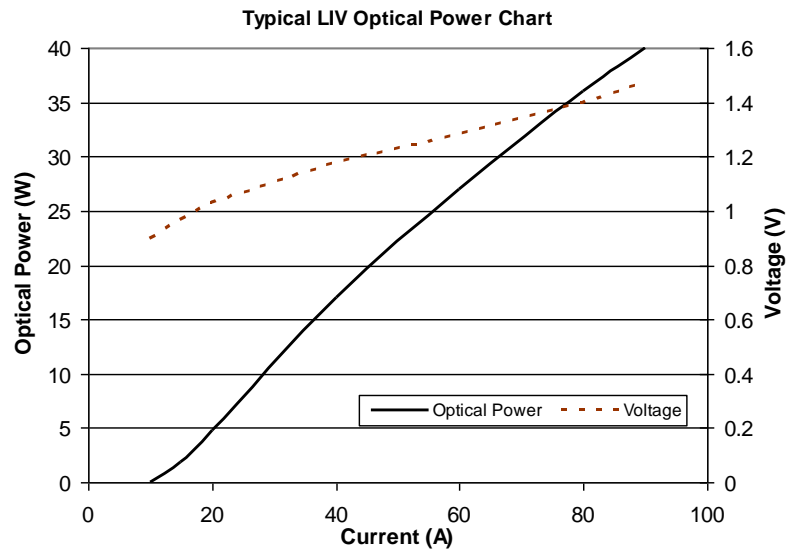
- High output power
- High dynamic power range
- High efficiency

Applications

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

	Symbol	Typical	Units
Optical			
Output power (CW)	P_o	25 - 30+	watts
Center Wavelength Range	λ_c	1470, 1532, or 1550	nm
Emitter Width	W	95	μm
Emitter Height	H	1	μm
Number of Emitters	#	19	each
Spectral Width	$\Delta\lambda$	15	nm 3dB
Slope Efficiency	η_o	0.5 - 0.4	W/A
Fast Axis Divergence	θ_{perp}	25	deg FWHM
Slow Axis Divergence	θ_{parallel}	8	deg FWHM
Wavelength Temp. Coeff.	λ_{coef}	0.7	nm/C

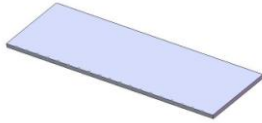
Electrical			
Power conversion Efficiency	η	0.5 - 0.4	W/A
Threshold Current	I_{th}	10 - 12	A
Operating Current	I_{op}	60 - 85	A
Operating Voltage	V_{op}	1.5 - 2.0	V
Series Resistance	R_s	0.05	ohm



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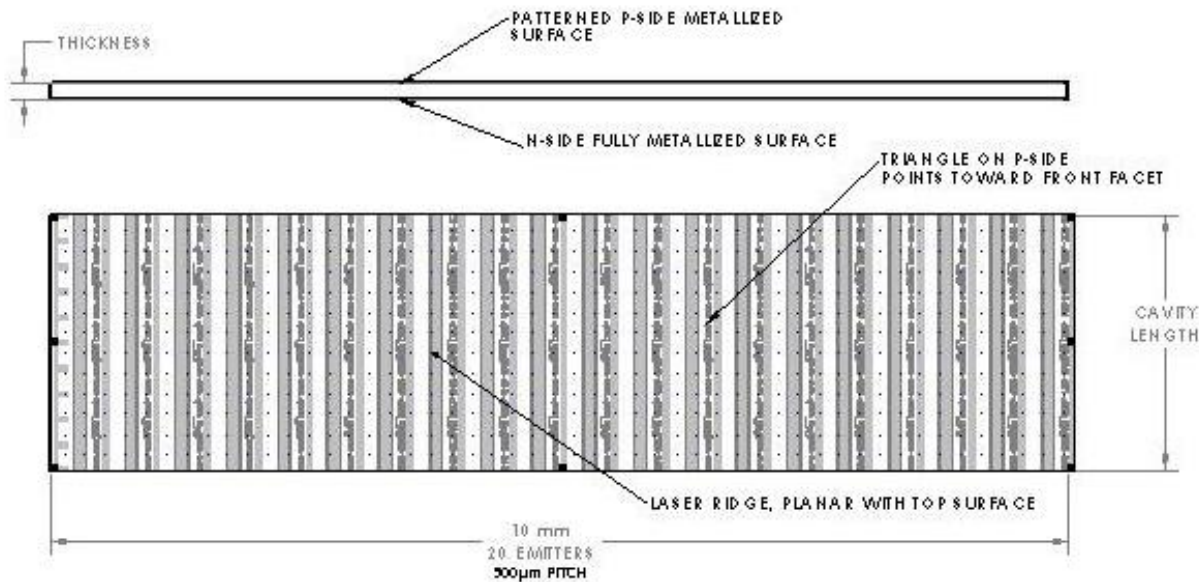
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		BAR-1470-3-95	BAR-1470-6-95	BAR-1532-6-95	BAR-1550-3-95	BAR-1550-6-95	Units
Optical							
Chip Cavity Length (typical)		1500	2500	2500	1500	2500	μm
Expected Optical Power		>25	>40	>30	>20	>30	W
Center Wavelength	λ_c	1470	1470	1532	1550	1550	nm
Emitter Width	W	95	95	95	95	95	μm
Emitter Height	H	1	1	1	1	1	μm
Number of emitters		19	19	19	19	19	
Spectral Width	$\Delta\lambda$	15	15	15	15	15	nm 3dB
Slope Efficiency	η_o	0.5	0.4	0.4	0.5	0.4	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	0.4	0.4	0.5	0.4	W/A
Threshold Current	I_{th}	10	12	12	10	12	A
Operating Current	I_{op}	60	85	85	60	85	A
Operating Voltage	V_{op}	1.3	1.3	1.3	1.3	1.3	V
Series Resistance	R_s	0.05	0.05	0.05	0.05	0.05	ohm



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

CHIP ATTRIBUTES

Aperture Width	95 μm +/- 1 μm
Chip Width	10 mm +/- 10 μm
Thickness	160 μm +/- 10 μm
Cavity Length	1.5 or 2.5 mm +/- 10 μm

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

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