

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**

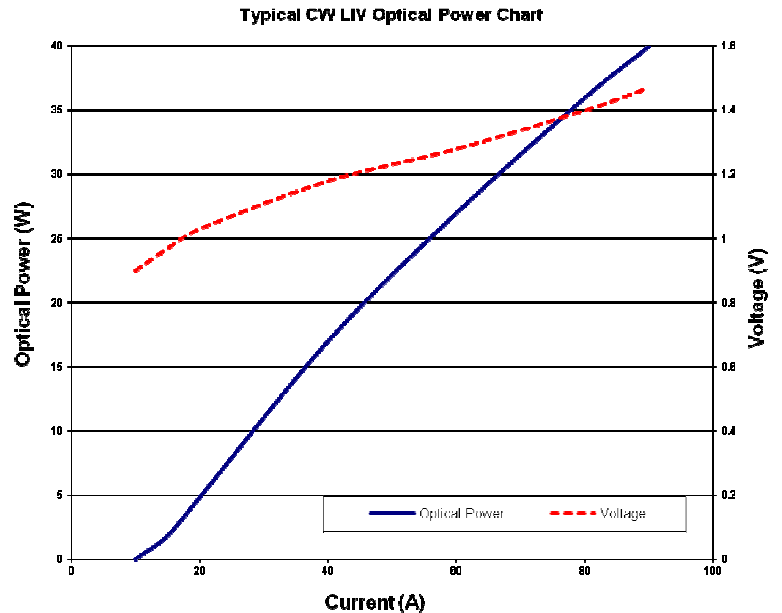
- High output power
- High dynamic power range
- High efficiency

**Applications**

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

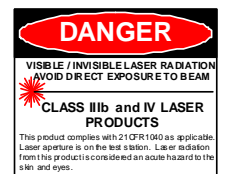
	Symbol	Typical	Units
<b>Optical</b>			
Output power (CW)	$P_o$	20 - 25+	watts
Center Wavelength Range	$\lambda_c$	1470, 1532, 1550	nm
Emitter Width	W	95	$\mu\text{m}$
Emitter Height	H	1	$\mu\text{m}$
Number of Emitters	#	19	each
Spectral Width	$\Delta\lambda$	15	nm 3dB
Slope Efficiency	$\eta_o$	0.3	W/A
Fast Axis Divergence	$\theta_{\text{perp}}$	26	deg FWHM
Slow Axis Divergence	$\theta_{\text{parallel}}$	8	deg FWHM
Wavelength Temp. Coeff.	$\lambda_{\text{coef}}$	0.7	nm/C

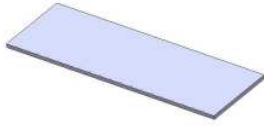
<b>Electrical</b>			
Power conversion Efficiency	$\eta$	0.25 - 0.3+	W/W
Threshold Current	$I_{\text{th}}$	10 - 12	A
Operating Current	$I_{\text{op}}$	60 - 85	A
Operating Voltage	$V_{\text{op}}$	1.1 - 1.3	V
Series Resistance	$R_s$	0.05	ohm



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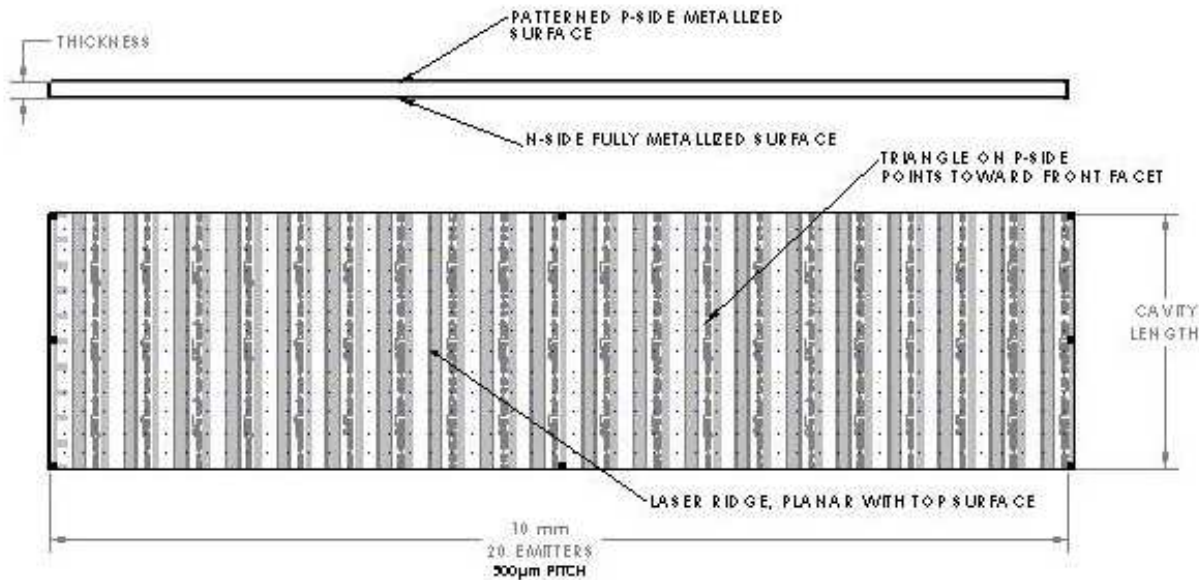




**BAR-1470-3-95    BAR-1470-6-95    BAR-1532-3-95    BAR-1550-3-95    BAR-1550-6-95    Units**

<b>Optical</b>		BAR-1470-3-95	BAR-1470-6-95	BAR-1532-3-95	BAR-1550-3-95	BAR-1550-6-95	Units
Chip Cavity Length (typical)		1500	2500	2500	1500	2500	μm
Expected Optical Power		>25	>30	>20	>20	>25	W
Center Wavelength	$\lambda_c$	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	$\eta_o$	0.4	0.31	0.3	0.3	0.3	W/A
Fast Axis Divergence	$\theta_{\text{perp}}$	25	25	25	25	25	deg FWHM
Slow Axis Divergence	$\theta_{\text{parallel}}$	8	8	8	8	8	deg FWHM

<b>Electrical</b>		BAR-1470-3-95	BAR-1470-6-95	BAR-1532-3-95	BAR-1550-3-95	BAR-1550-6-95	Units
Power conversion Efficiency	$\eta$	0.32	0.25	0.26	0.28	0.26	
Threshold Current	$I_{th}$	10	13	12	10	13	A
Operating Current	$I_{op}$	60	85	68	60	68	A
Operating Voltage	$V_{op}$	1.3	1.1	1.1	1.2	1.1	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

**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

**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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