



High Power Multi-Mode SemiNex Lasers  
 3.8 Watts of Continuous Operation Power  
 1350, 1470, 1532, or 1550 nm Wavelength  
 4-Pin Fiber-Coupled

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 mounted and tested to meet custom applications. Typical results and packaging options are shown below. Contact SemiNex for additional details or to discuss your application.

**Key Features**

- High output power
- High dynamic power range
- High efficiency
- Custom packaging

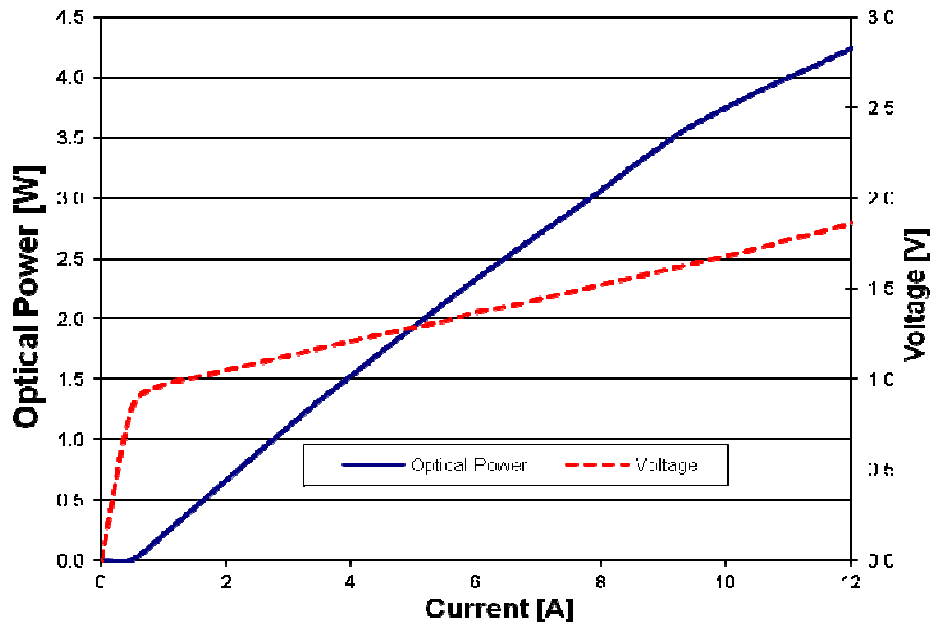
**Applications**

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

	Symbol	Typical	Units
<b>Optical</b>			
Output power (CW)	$P_o$	3.8	watts
Center Wavelength Range	$\lambda_c$	1350, 1470, 1532, 1550	nm
Emitter Width	$W$	95	$\mu\text{m}$
Emitter Height	$H$	1	$\mu\text{m}$
Spectral Width	$\Delta\lambda$	10	nm 3dB
Slope Efficiency	$\eta_o$	0.4	W/A
Optical Fiber Core Diameter		105	$\mu\text{m}$
Optical Fiber NA		0.22	
Wavelength Temp. Coeff.	$\lambda_{\text{coef}}$	0.7	nm/C

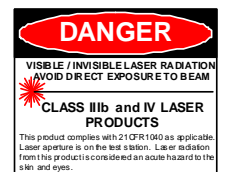
<b>Electrical</b>			
Power conversion Efficiency	$\eta$	0.2	
Threshold Current	$I_{\text{th}}$	0.45	A
Operating Current	$I_{\text{op}}$	10	A
Operating Voltage	$V_{\text{op}}$	1.8	V
Series Resistance	$R_s$	0.05	ohm

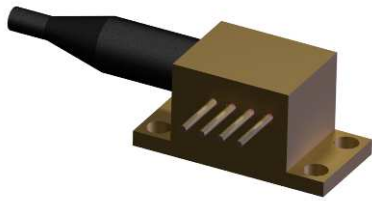
**Typical CW LIV Optical Power Chart**



**SemiNex Corporation**  
 100 Corporate Place  
 Suite 401  
 Peabody, MA 01960  
 Phone: 978-278-3550  
 Email: [info@seminex.com](mailto:info@seminex.com)  
 Web site: [www.seminex.com](http://www.seminex.com)

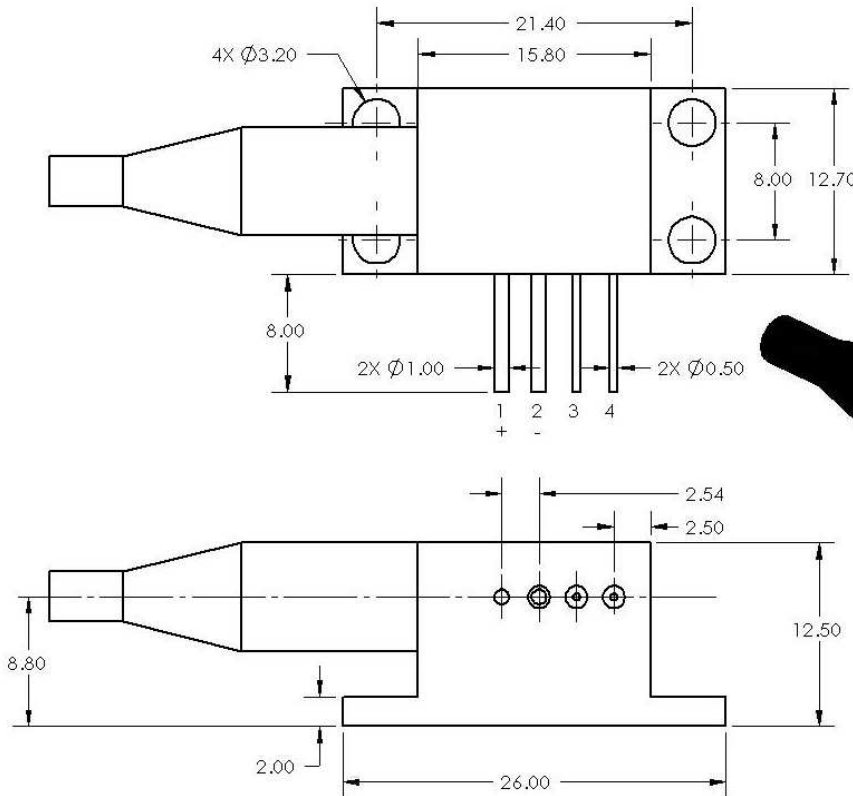
All statements, technical information and recommendation related to the product herein are based upon information believed to be reliable or accurate. However, the accuracy or completeness hereof is not guaranteed, and no responsibility is assumed for any inaccuracies. The user assumes all risks and liability whatsoever in connection with the use of a product or its application. SemiNex Incorporated reserves the right to change at any time without notice, the design, specification, deduction, fit or form of its described herein, including withdrawal at any time of a product offered for sale herein. SemiNex Incorporated makes no representations that the products herein are free from any intellectual property claims of others. Please contact SemiNex Incorporated for more information. © 2009 Copyright SemiNex Incorporated. All rights reserved.





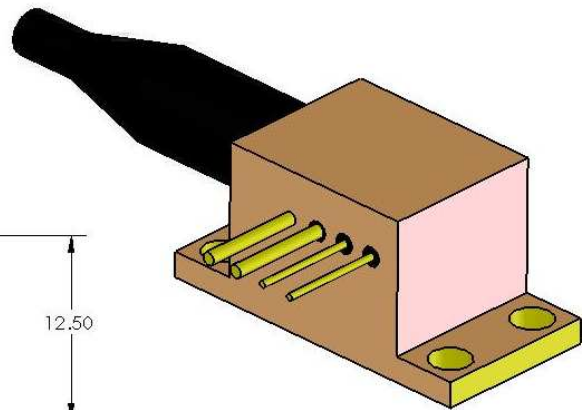
	Symbol	4PN-104	4PN-106	4PN-108	4PN-109	Units
<b>Optical</b>						
Output power (CW)	$P_o$	3.8	4.0	3.3	3.3	watts
Center Wavelength	$\lambda_c$	1470	1470	1532	1550	nm
Emitter Width	W	95	95	95	95	$\mu\text{m}$
Emitter Height	H	1	1	1	1	$\mu\text{m}$
Spectral Width	$\Delta\lambda$	10	10	10	10	nm 3dB
Slope Efficiency	$\eta_o$	0.4	0.4	0.4	0.4	W/A
Optical Fiber Core Diameter		105	105	105	105	$\mu\text{m}$
Optical Fiber NA		0.22	0.15	0.22	0.22	

<b>Electrical</b>						
Power conversion Efficiency	$\eta$	0.2	0.2	0.2	0.2	
Threshold Current	$I_{th}$	0.45	0.45	0.45	0.45	A
Operating Current	$I_{op}$	10	12	10	10	A
Operating Voltage	$V_{op}$	1.75	1.75	1.75	1.75	V
Series Resistance	$R_s$	0.05	0.07	0.05	0.05	ohm
Lead Soldering Temperature	$^{\circ}\text{C}$	250	250	250	250	$^{\circ}\text{C}$



PIN CALLOUT: [FOR REFERENCE ONLY, REFER TO DOCUMENTATION SUBMITTED WITH PRODUCT FOR ACTUAL PIN CALLOUTS]

1. LASER ANODE (+), CASE
2. LASER CATHODE (-)
3. PD(N)
4. PD(P)



NOTE: Dimensions are in mm

**SemiNex Corporation**  
 100 Corporate Place  
 Suite 401  
 Peabody, MA 01960  
 Phone: 978-278-3550  
 Email: [info@seminex.com](mailto:info@seminex.com)  
 Web site: [www.seminex.com](http://www.seminex.com)

All statements, technical information and recommendation related to the product herein are based upon information believed to be reliable or accurate. However, the accuracy or completeness hereof is not guaranteed, and no responsibility is assumed for any inaccuracies. The user assumes all risks and liability whatsoever in connection with the use of a product or its application. SemiNex Incorporated reserves the right to change at any time without notice, the design, specification, deduction, fit or form of its described herein, including withdrawal at any time of a product offered for sale herein. SemiNex Incorporated makes no representations that the products herein are free from any intellectual property claims of others. Please contact SemiNex Incorporated for more information. © 2009 Copyright SemiNex Incorporated. All rights reserved.

