

High Power Multi-Mode SemiNex Lasers  
 12 to 25 Watts of CW Power  
 1470, 1532, or 1550 nm Wavelength  
 Multi-Chip Module with Integrated Cooling System

SemiNex offers our high power multi-chip module with an integrated cooling solution for optical output powers up to 25 watts while extracting up to 200 watts of thermal heat. This compact cooling system can be easily integrated with your existing controls and laser driver to reduce design time required to manage the heat.

**Key Features**

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

**Applications**

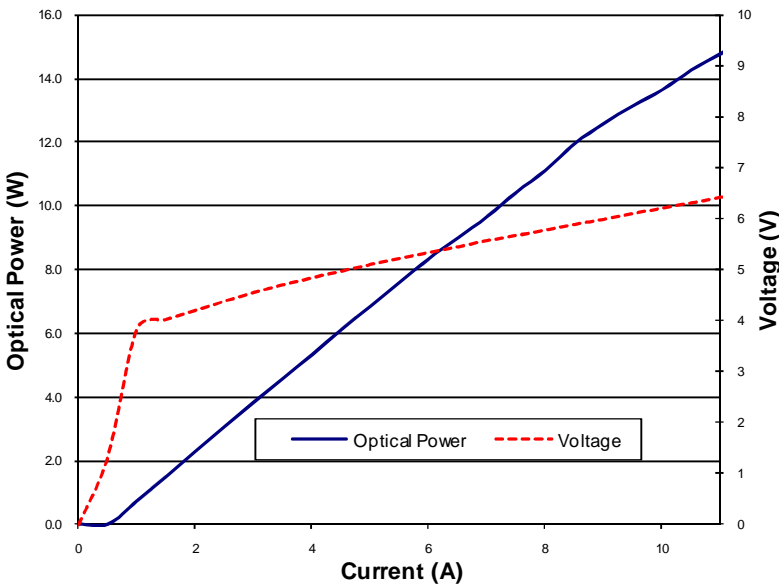
- Medical laser equipment
- DPSS pump lasers
- Military / Aerospace
- Industrial
- Material Processing

	Symbol	Typical	Units
<b>Optical - MCM</b>			
Output Power (CW)	$P_o$	12, 15 or 25	watts
Center Wavelength Range	$\lambda_c$	1470, 1532, 1550	nm
Spectral Width	$\Delta\lambda$	15	nm 3dB
Optical Fiber Core Diameter		375	$\mu\text{m}$
Optical Fiber NA		0.22	
Wavelength Temp. Coeff.	$\lambda_{\text{coef}}$	0.7	nm/C

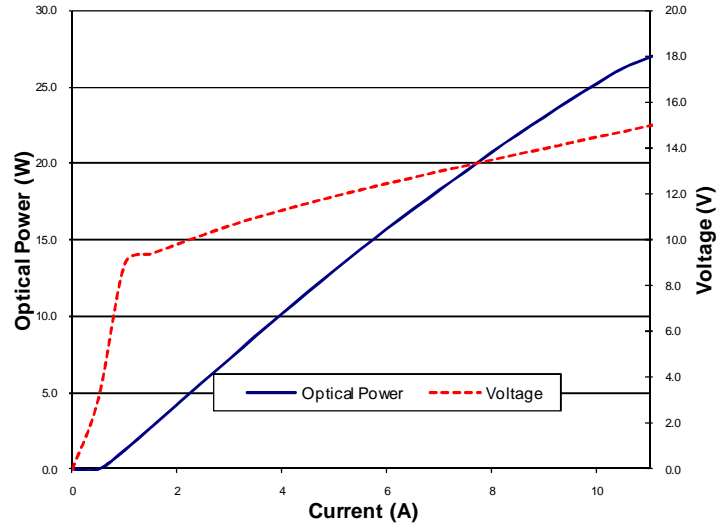
<b>Electrical - MCM</b>			
Threshold Current	$I_{th}$	0.4 - 0.7	A
Operating Current	$I_{op}$	8 - 10	A
Operating Voltage	$V_{op}$	6 or 14	V
Series Resistance	$R_s$	0.25 or 0.5	ohm

<b>Electrical - Fan</b>			
Operating Current	$I_{op}$	2	A
Operating Voltage	$V_{op}$	12	V
Air Flow Discharge Area	$A_{dis}$	$\geq 144$	$\text{cm}^2$

**Typical LIV Optical Power Chart  
 10 W Module**

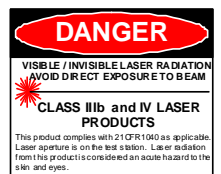


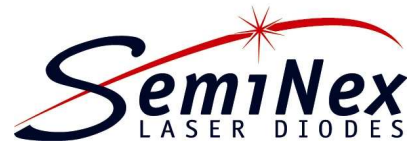
**Typical LIV Optical Power Chart  
 25 W Module**



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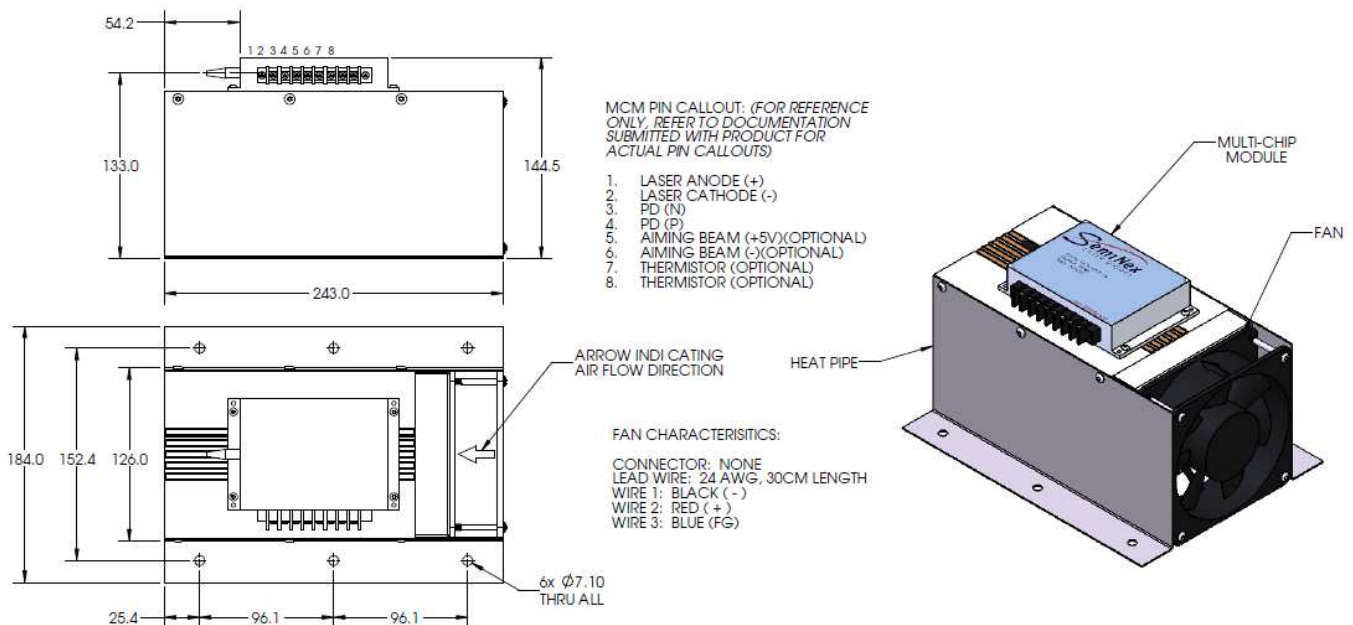
Symbol MCM-1470-10-ICS MCM-1470-15-ICS MCM-1470-20-ICS MCM-1470-25-ICS MCM-1550-10-ICS MCM-1550-20-ICS Units

Optical - MCM		MCM-1470-10-ICS	MCM-1470-15-ICS	MCM-1470-20-ICS	MCM-1470-25-ICS	MCM-1550-10-ICS	MCM-1550-20-ICS	Units
Output power (CW)	$P_o$	12	15	10	25	10	20	watts
Center Wavelength	$\lambda_c$	1470	1470	1470	1470	1550	1550	nm
Spectral Width	$\Delta\lambda$	10	10	10	10	10	10	nm 3dB
Slope Efficiency	$\eta_o$	1.4	2	2.12	3	2	2	W/A
Optical Fiber Core Diameter		375	375	375	375	375	375	$\mu\text{m}$
Optical Fiber NA		0.22	0.22	0.22	0.22	0.22	0.22	
Photodiode Current	$I_m$	1.25	1.25	1.25	1.25	1.25	1.25	mA

Electrical - MCM		MCM-1470-10-ICS	MCM-1470-15-ICS	MCM-1470-20-ICS	MCM-1470-25-ICS	MCM-1550-10-ICS	MCM-1550-20-ICS	Units
Power conversion Efficiency	$\eta$	0.22	0.22	0.19	0.22	0.22	0.22	
Threshold Current	$I_{th}$	0.4	0.5	0.5	0.7	0.4	0.7	A
Operating Current	$I_{op}$	8	9	9.6	10	8	10	A
Operating Voltage	$V_{op}$	6	7.5	11.4	12	6	14	V
Series Resistance	$R_s$	0.25	0.40	1.19	0.58	0.25	0.58	ohm
Lead Soldering Temperature	$^{\circ}\text{C}$	250	250	250	250	250	250	$^{\circ}\text{C}$

Electrical - Fan		MCM-1470-10-ICS	MCM-1470-15-ICS	MCM-1470-20-ICS	MCM-1470-25-ICS	MCM-1550-10-ICS	MCM-1550-20-ICS	Units
Operating Current	$I_{op}$	2	2	2	2	2	2	A
Operating Voltage	$V_{op}$	12	12	12	12	12	12	V
Air Flow Discharge Area	$A_{dis}$	$\geq 144$	$\geq 144$	$\geq 144$	$\geq 144$	$\geq 144$	$\geq 144$	$\text{cm}^2$

Aiming Beam		MCM-1470-10-ICS	MCM-1470-15-ICS	MCM-1470-20-ICS	MCM-1470-25-ICS	MCM-1550-10-ICS	MCM-1550-20-ICS	Units
Output Power	$P_a$	$>2$	$>2$	$>2$	No Aiming Beam	$>2$	No Aiming Beam	mW
Wavelength	$\lambda_a$	650 +/- 10	650 +/- 10	650 +/- 10	Available	650 +/- 10	Available	nm



NOTE: Dimensions are in mm

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