Laser Engine

High Power Multi-Mode SemiNex Laser
2 Watts of CW Power
1460, 1480, 1565, 1575 Wavelengths
Custom Wavelengths Available
Low Cost Packaging

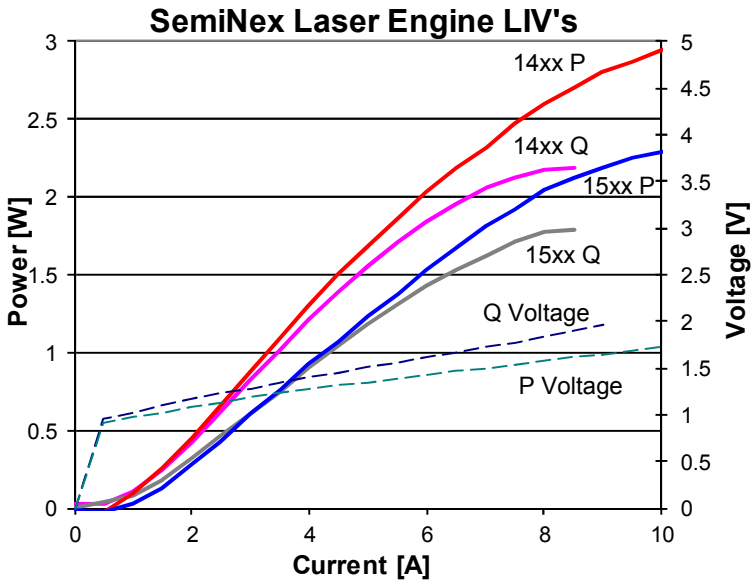
Features

- Lost Cost High Volume Assembly
- “P” and “Q” Packages Available
- High Efficiency
- High Output Power

Applications

- Medical laser equipment
- Home laser applications
- Low cost sensors
- Range finding

SemiNex delivers the highest available power at infrared wavelengths between 13xx and 17xx nm. When necessary we will further optimize the design of our InP laser chips to meet our customers’ specific optical and electrical performance needs. Diodes, bars and packages are tested to meet customer and market performance demands. Typical results and packaging options are shown. Contact SemiNex for additional details or to discuss your specific requirements



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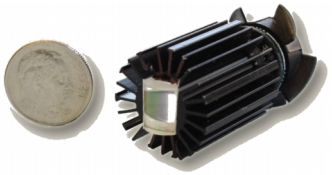


Laser Engine Q

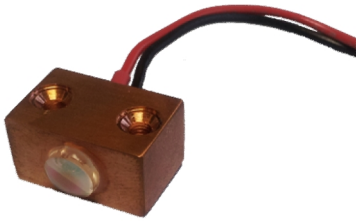
	Symbol	LEQ-111	LEQ-108	LEQ-103	LEQ-106	Units
Optical						
Center Wavelength	λ_c	1460	1480	1565	1575	nm (±20)
Output power (CW)	P_o	1.8	1.8	1.5	1.5	W
Spectral Width	Δλ	10	10	10	10	nm 3dB
X Axis Divergence**	θ_X	9	9	9	9	deg FWHM
Y Axis Divergence**	θ_Y	<6	<6	<6	<6	deg FWHM
Electrical						
Power conversion Eff.	η	0.21	0.21	0.15	0.15	W/W
Threshold Current	I_{th}	0.5	0.5	0.5	0.5	A
Operating Current	I_{op}	6	6	6.5	6.5	A
Operating Voltage	V_{op}	1.4	1.4	1.5	1.5	V
Series Resistance	R_s	0.1	0.1	0.1	0.1	ohm
Fan						
Voltage (DC)	VDC	5	5	5	5	VDC
Power	watts	0.4	0.4	0.4	0.4	W
Air Flow	CFM	3	3	3	3	CFM
Mechanical						
Weight			17.4			g
Operating Temp.			10 to 30			°C
Storage Temp.			-20 to 80			°C
QCW Performace - *5ms PW 7 ms Period*						
Output power (QCW)*	P_o	2	2	1.7	1.7	W
Power conversion Eff.	η	0.24	0.24	0.17	0.17	W/W
Threshold Current	I_{th}	0.5	0.5	0.5	0.5	A
Operating Current	I_{op}	6	6	6.5	6.5	A
Operating Voltage	V_{op}	1.4	1.4	1.5	1.5	V
Series Resistance	R_s	0.1	0.1	0.1		ohm

** Divergence is dependent on lens used it is customized to meet customer requirements.
Specified values are rated at a constant heat sink temperature of 20°C

Optional

PN LE Tube-101

Laser Engine Air Flow Tube



Laser Engine P

	Symbol	LEP-112	LEP-103	LEP-102	LEP-101	Units
Optical						
Center Wavelength	λ_c	1465	1475	1570	1580	nm (±20)
Output power (CW)	P_o	2.6	2.6	2	2	W
Spectral Width	$\Delta\lambda$	10	10	10	10	nm 3dB
X Axis Divergence*	θ_X	9	9	9	9	deg FWHM
Y Axis Divergence*	θ_Y	<6	<6	<6	<6	deg FWHM
Electrical						
Power conversion Eff.	η	0.19	0.19	0.15	0.15	W/W
Threshold Current	I_{th}	0.5	0.5	0.5	0.5	A
Operating Current	I_{op}	8	8	7.5	7.5	A
Operating Voltage	V_{op}	1.5	1.5	1.5	1.5	V
Series Resistance	R_s	0.05	0.05	0.05	0.05	ohm
Mechanical						
Weight			25.5			g
Operating Temp.			10 to 30			°C
Storage Temp.			-20 to 80			°C
QCW Performace - *5ms PW 7 ms Period*						
Output power (QCW)*	P_o	2.8	2.8	2.2	2.2	W
Power conversion Eff.	η	0.3	0.3	0.2	0.2	W/W
Threshold Current	I_{th}	0.5	0.5	0.5	0.5	A
Operating Current	I_{op}	6	6	6.5	6.5	A
Operating Voltage	V_{op}	1.4	1.4	1.5	1.5	V
Series Resistance	R_s	0.1	0.1	0.1		ohm

* Divergence is dependent on lens used it is customized to meet customer requirements.
Specified values are rated at a constant heat sink temperature of 20°C

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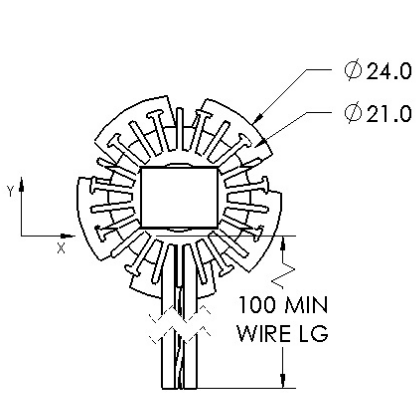
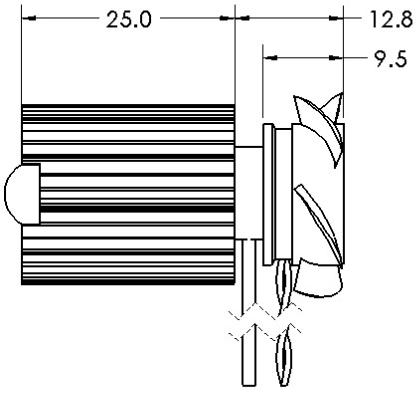
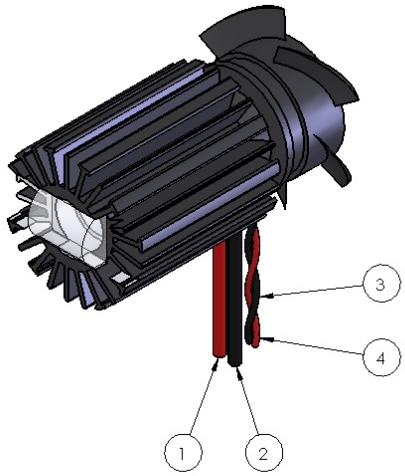
Laser Engine Q & P

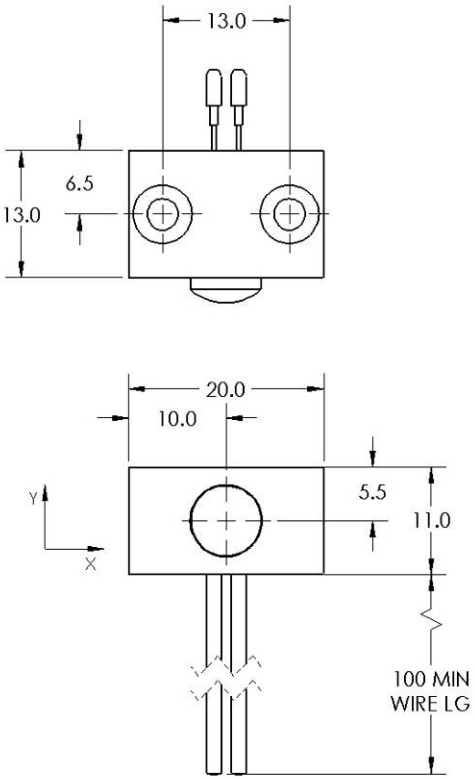


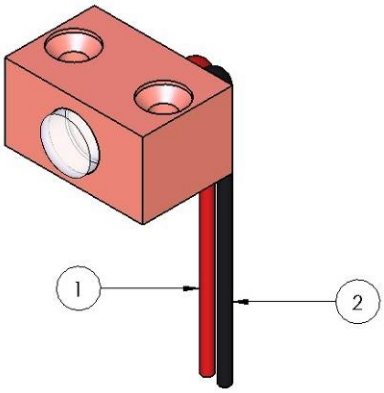




PIN OUT:

1. LD ANODE (+), #20AWG
2. LD CATHODE (-), #20AWG
3. FAN (+5V), #28AWG
4. FAN (-), #28AWG





PIN OUT:

1. LD ANODE (+), #20AWG
2. LD CATHODE (-), #20AWG