

# **Rock<sup>™</sup> High Power Laser Source**

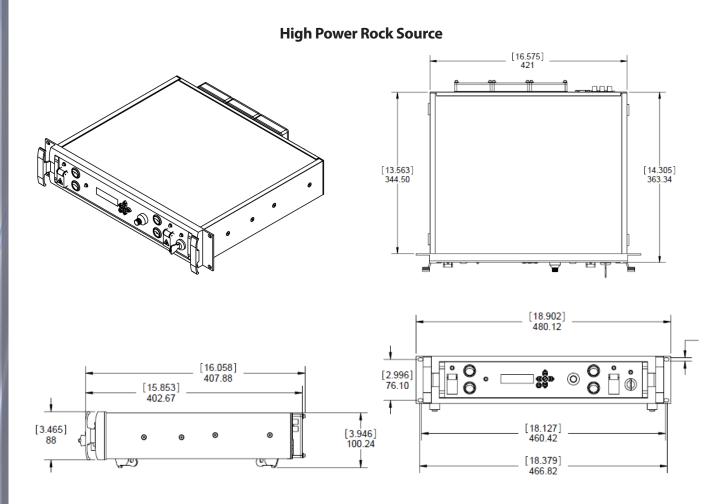
High-Power Single-frequency Fiber Laser



## Features

- Power up to 5W
- Narrow Linewidth <700Hz
- Ultra-Low Phase-Noise
- Excellent Frequency Stability
- Broad Mode-Hop-Free Tunability
- Low Sensitivity to Acoustic Noise

## Mechanical Outline:



DIMENSIONS ARE IN MILLIMETERS, DIMENSIONS IN [XXX] ARE IN INCHES.

## Performance | Reliability | Innovation

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Parameter		ower Rock micron		High Power Rock 1 micron			
Center Wavelength Range (nm) <sup>1</sup>	153	30-1565		1030-1075			
Laser Emission			CW - single frequency				
Output Power (W) <sup>2</sup>	0.5,	1, 2, 3, 5		0.5, 1, 2, 5 <sup>2</sup>			
Line Width (120 µsec <sup>3</sup> ) (kHz)	<3kHz (<7	00Hz-optional)		<5kHz			
Beam Quality			M <sup>2</sup> < 1.05				
Frequency Stability (MHz) <sup>4</sup>			20MHz				
RIN-Peak Frequency (MHz)			~0.5 - 1				
Optical S/N (dB) (50 pm resolution bandwidth) <sup>5</sup>			>65dB				
PM output			Optional				
Thermal tuning			Standard				
Thermal Tuning Range <sup>6</sup>	>60Gł	Hz (480pm)		>66GHz (250pm)			
Fast Piezo Tuning Capability <sup>7</sup>			Optional				
Piezo-electric Tuning Range - Internal Driver			+/-200MHz				
Piezo-electric Modulation Frequency <sup>8</sup> (kHz)			up to 40kHz				
Calibrated Power Monitor			Standard				
Signal to ASE Noise (Integrated)			35dB				
Side Mode Suppression Ratio			>50dB				
Operating Temperature (degrees C)			-10 to 30				
Wavelength Set Resolution			50MHz				
Power Stability (% RMS)			+/-1%				
Absolute Wavelength Accuracy			+/-8pm				
Output Termination			Standard Fiber or Armored Cable				
Polarization Extinction Ratio	>	>23dB		>20dB			
RIN Level at peak (dB/Hz)	<-110dB/Hz	(<-115dB/Hz-optional)		<-100dB/Hz @ PEAK			
Optical Isolation (dB) – typical <sup>9</sup>	>30dB			>25dB			
Power Tunability			20%–100% max. output	>25dB			

#### **FOOTNOTES**

- 1. Wavelength selectable from range. Other wavelengths available.
- 2. Other power levels available. 1 micron 5W system has different packaging.
- 3. Linewidth based on self--heterodyne measurement with  $120\mu S$  delay line.
- 4. Over 1 hour with base temperature constant within 0.2 degrees C after a 30 minute warm--up

#### 5. ~70dB typical

6. Operating with case temperature of 25 degrees C

- 7. Internal PZT driver included (+/--10V)
- 8. External trigger required. Up to 14kHz @ 3dB bandwidth for internal driver

with collimator option

9. 1550nm, 0--5W, 25dB min. 1064nm, 0--2W 25dB min; >2W 20dB min.

### Ordering Example: RFLSA-5-0-1550.92-PMSA1S, High Power Rock, 5W, No Tunability, 1550.92nm, PM, Seed Beam, Armored Cable & Collimator, Standard

5A	-			]							}	{	
Power	Code	Tunability	Code	Wavelength	Code			S	A* -	0	1	Linewidth	Code
500mW	0.5K	None	0	Standard	15xx.x	(X		seed	Armored	No		<700Hz	U
1000mW	1K	Tuning	1	Or ITU Grid	Hxx/C	xx		beam	cable	Collimator		Standard	S
2000mW	2K	Modulation	2	Generic	С			N –	S –	1 -	] '		
3000mW	3K	Tuning &	3	C-Band				no seed	Standard	0.9-1.6mm			
5000mW	5K	Modulation		-				beam	Fiber	collimator			
				-		Polarization	Code						
						Non-PM	Ν			2			
					Г	PM	Р			3-5mm			
					_					collimator			
							*Armore	*Armored cable only available					

NP Photonics Rock Laser Modules are protected by a 12 month warranty. All components and assemblies are unconditionally warranted to be free of defects in workmanship and materials for the warranty period, beginning from the date of shipment. This warranty is in lieu of all other warranties, expressed or implied, and does not cover incidental or consequential loss. This warranty does not apply to devices damaged due to operating conditions outside of the specified parameters. Modified warranties for OEM customers are available.



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