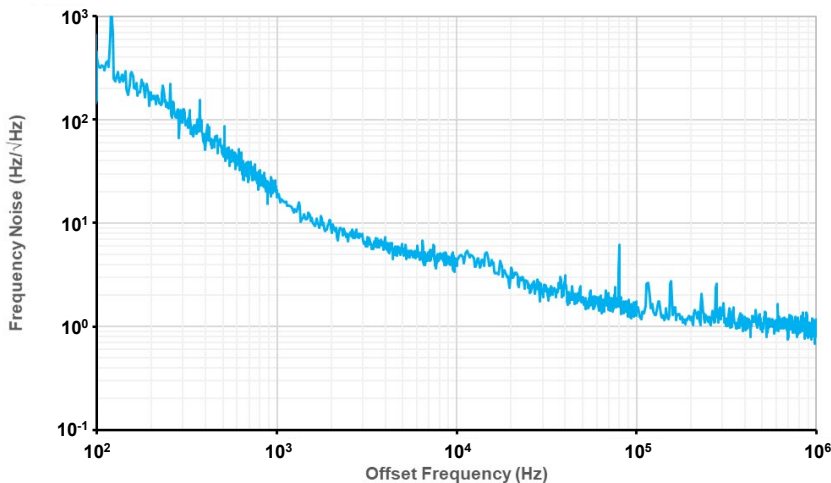


HI-Q® laser offers **Tunable Narrow Lorentzian Linewidth of less than 20 Hz** and low phase/frequency noise in a compact form factor.



This HI-Q® laser houses a proprietary driver/controller and the OEwaves laser source which is based on a high quality factor (Q) Whispering Gallery Mode (WGM) micro-resonator. The laser is available at a variety of C band wavelengths (1530 – 1565 nm).

The unique technology of the OEwaves HI-Q® laser leverages the self-injection locking capability of a suitable commercially available laser diode via resonant optical feedback from a high-Q WGM micro-resonator. Its monolithically integrated approach along with micro-scale mass and volume make the laser virtually insensitive to environmental vibrations.



FEATURES

- Ultra-Narrow Instantaneous Laser Linewidth
- Ultra-Low Phase/Frequency Noise
- 1530 – 1565 nm
- Wide Thermal Tuning Range
- Low Vibration Sensitivity
- Ultra-low Residual Amplitude Modulation
- Wavelength Stability
- Compact Package
- Integrated Driver/Controller
- USB or RS-232 Control Interface

APPLICATIONS

- Interferometric Optical Sensing
- Quantum Communication
- B-OTDR Temperature and Strain
- Gas Sensing
- Optical Metrology and Spectroscopy
- Acoustic Sensing
- Oil and Gas Exploration
- Coherent Communication
- Test and Measurement

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RIDE THE WAVE OF INNOVATION

465 N. Halstead Street, Suite 140 Pasadena, CA 91107

PDS-0002_E

HI-Q® 1.5 MICRON LASER SPECIFICATIONS

TUNABLE
OE4023

Wavelengths Offered	1530 – 1565 nm	Single Frequency, CW; Vacuum
Spectral Linewidth	< 20 Hz	Lorentzian; Instantaneous
Output Power	10 mW	
Frequency Noise	40 Hz/√Hz 15 Hz/√Hz 6 Hz/√Hz	1 kHz Offset 10 kHz Offset 1 MHz Offset
Short Term Stability	10 ⁻⁹ @ 1 s	At Constant Case Temperature
Frequency Stability	100 MHz/day	At Constant Case Temperature
Signal to Noise Ratio	55 – 60 dB	
Thermal Tuning Range	30 GHz	Mode Hop Free / Continuous
Thermal Tuning Rate	200 MHz/s	
Side-Mode Suppression Ratio	50 dB	
Relative Intensity Noise	-140 dBc/Hz	At 10 MHz
Vibration / Acceleration Sensitivity	5 x 10 ⁻¹¹ /g	
Operating Temperature	+20°C to +40°C	Case Temperature
Storage Temperature	-10°C to +50°C	Case Temperature
Monitor / Control Interface	USB	
Package	2.3" x 6" x 1"	Including Driver Electronics
Fiber Pigtail	PM-FC/APC	PANDA fiber; Slow-axis
Polarization Extinction Ratio	20 dB	

OPTIONS

Frequency Modulation	DC-10 kHz DC-100 kHz	5 - 15 MHz/V; > ±100 MHz Range 5 - 15 MHz/V; > ±100 MHz Range
Extended Tuning Range Non-Continuous	T1: 90 GHz T2: 150 GHz T3: 210 GHz	
Extended Output Power	18 mW	
Monitor / Control Interface	RS-232	

Tech Notes: Instantaneous Linewidth* is computed from the noise floor of the power spectral density of frequency noise (PSDFN).

Laser Safety: This product meets the appropriate standard in Title 21 of the Code of Federal Regulations (CFR) 1040 and is classified as a FDA/CDRH Class 3b laser product.

Note: These specifications are subject to change without notice. This product line is covered by one or more of the following U.S. patents: 6,871,025; 6,879,752; 7,248,763, 7,991,025; 7,869,472. Other patents pending.
ECCN: EAR99



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