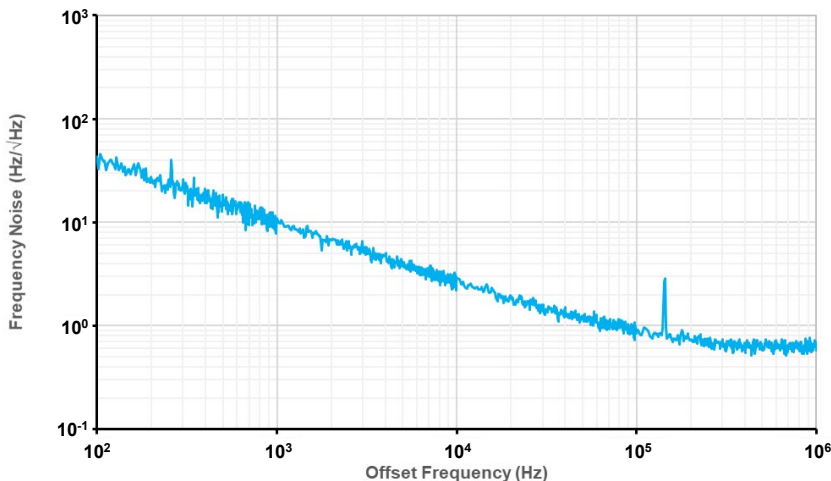


HI-Q[®] Laser offers ultra-narrow Lorentzian linewidth of **less than 80Hz** and low phase/frequency noise in a compact form factor.



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 wavelengths within 1900 – 2100 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
- 1900 – 2100 nm
- Wide Thermal Tuning Range
- Low Vibration Sensitivity
- Low Residual Amplitude Modulation
- Wavelength Stability
- Compact Package
- Integrated Driver/Controller
- USB or RS-232 Control Interface

APPLICATIONS

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

HI-Q[®] 2 MICRON LASER SPECIFICATIONS

ULTRA-NARROW
OE4226

| | | |
|--------------------------------------|------------------------------------|---|
| Wavelength | 1900 – 2100 nm | Single Frequency, CW; Vacuum |
| Spectral Linewidth | < 80 Hz | Lorentzian; Instantaneous |
| Output Power | 1 – 2 mW | |
| Frequency Noise | 50 Hz/√Hz 20 Hz/√Hz 5 Hz/√Hz | 1 kHz Offset 10 kHz Offset 1 MHz Offset |
| Short Term Stability | 2 x 10 ⁻⁹ @ 1 s | At Constant Case Temperature |
| Thermal Tuning Range | 10 GHz | Mode Hop Free |
| Thermal Tuning Rate | 10 MHz/s | Mode Hop Free |
| 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 +35°C | Case Temperature |
| Monitor / Control Interface | USB | |
| Package | 2.3" x 6" x 1" | Including Driver Electronics |
| Fiber Pigtail | PM-FC/APC | PANDA fiber |
| Polarization Extinction Ratio | 20 dB | |

OPTIONS

| | | |
|-----------------------------|------------|--------------------------------|
| Frequency Modulation | DC-100 kHz | 5 - 15 MHz/V; > ±100 MHz Range |
| 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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