

Narrow Linewidth Single-frequency Laser



ETSC's narrow linewidth single-frequency laser using a unique semiconductor external cavity structure. The typical output bandwidth is less than 3KHz linewidth and the wavelength has low sensitivity to vibration. This device has high side-mode suppression ratio, low relative intensity noise and excellent wavelength stability for a variety of applications for harsh environment.

ETSC's narrow linewidth single-frequency laser has its own patents, high structural stability, mature technology and it is suitable for mass production. This device complies with Telcordia GR-468 standard and has passed the long-term reliability test.

Feature

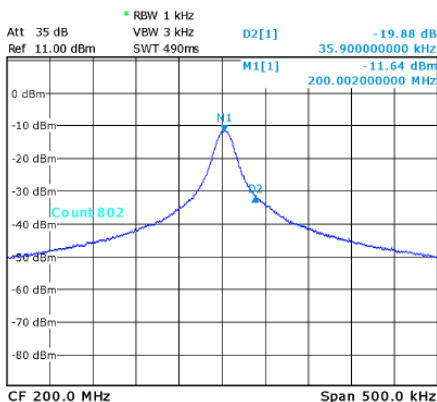
- Single-mode output, line width is less than 3KHz
- Low phase noise and relative intensity noise
- Stable structure, low sensitivity to vibration
- ITU-T Wavelength from 1530 to 1565nm, can be customized upon request
- Working temperature from 0 to 70 degrees
- Comply with Telcordia GR-468 standard

Applications

- Lidar
- Fiber optical hydrophones
- Resonant fiber optic gyro
- Distributed fiber sensing
- Coherent communication
- Scientific research

Parameter	Unit	Min.	Typical	Max.	Condition
Output power	dBm		10		CW
Power stability	%		10		0~70°C
				0.3	±1°C
Center wavelength (ITU-T DWDM)	nm	1530		1565	Std Dev. ± 40 pm
Wavelength tunable range	pm		30		Change TEC Temperature
Linewidth	kHz	A: <3, B: <5, C: <10, D: ≥10			
Low relative intensity noise	μrad/rt-Hz 1m OPD	A: 4, B: 8, D: 22			@200Hz
Optical frequency stability	MHz		3		8 hrs in incubator (beat frequency from two narrow linewidth single-frequency lasers)
Side-mode suppression ratio	dB	50			
Optical signal noise ratio	dB	60			
Polarization extinction ratio	dB	20			Slow axis alignment
Light Isolation	dB	40			
Voltage	V	4.75	5	5.25	
Power consumption	W			6	0~70°C
Working temperature	°C	0		70	
Dimensions	mm	100×57×12			

Linewidth characteristics



Ordering Info



- X1: Wavelength, 1530~1565nm ITU-T DWDM, can be customized upon request
- X2: Power, 10dBm
- X3: Modulation mode, DM/ CW
- X4: Fiber type, SM (Single-mode fiber)/ PM (Polarization-maintaining fiber)
- X5: Product grade, A/B/C/D