



Low Linewidth Single Frequency | DFB Laser

For distributed feedback single frequency fibers laser

iXblue's single-frequency fiber lasers are based on UV Bragg grating technology applied to active rare-earth photosensitive fibers. Ultra short cavity length and phase-shifted design permit ultra-narrow linewidth and robust mode-hop-free laser source properties, ideal for various sensor applications.

1.5 and 2 μm available upon request.

Applications

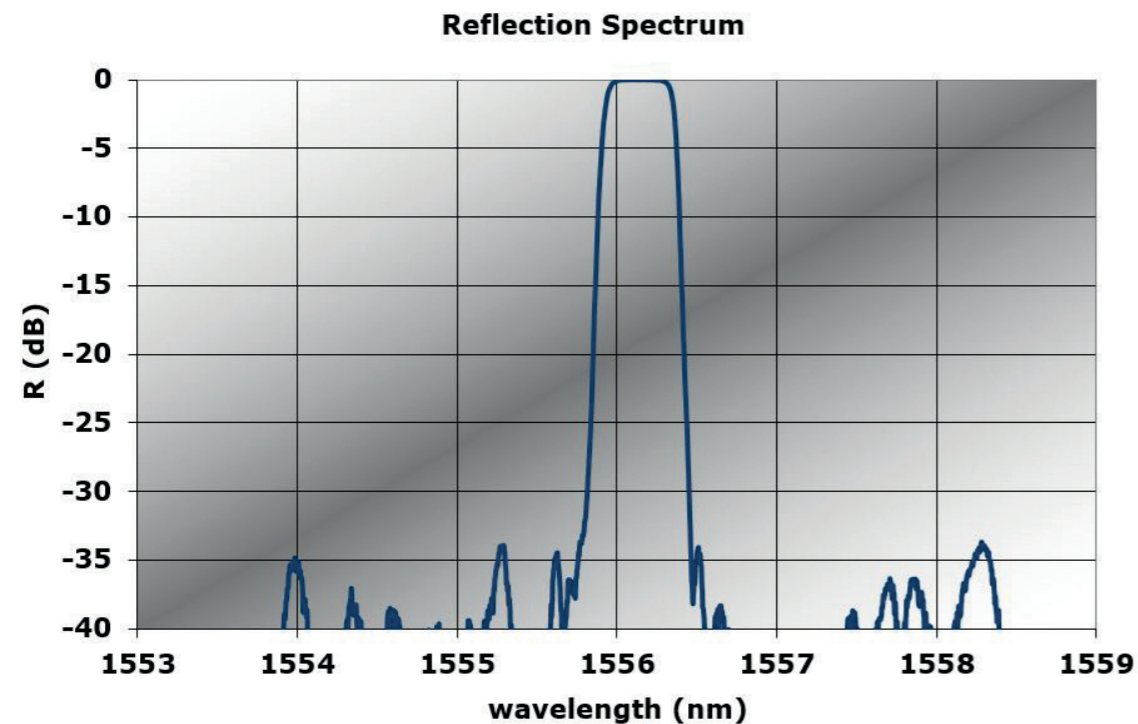
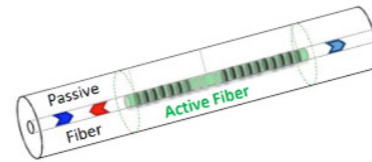
- Acoustic sensing
- Hydrophone
- Cold atom
- Interferometry
- Spectroscopy

Key Features

- Narrow-linewidth
- Single longitudinal mode
- Mode-hop-free
- Linear polarization
- Low intrinsic phase noise
- WDM compatible
- Low optical feedback sensitivity
- 125 or 80 μm clad diameter
- Wavelength range 1530 - 1565 nm and 2 μm
- PM available
- SMSR>50dB
- Output power: >10 mW (>10 μW for low noise version)

Related Products

- Photosensitive Er fiber
- Photosensitive Er/Yb fiber
- PM fiber
- Packaging services



Main Specifications for Single mode DFB Fiber Laser “Low Noise” version

Product Name	IXC-CLFO-LN			
Passive Fiber:	Hi1060 Flex or custom PM fiber			
	Specification	Typical value	Unit	Comments
Signal wavelength	1530 - 1565	-	nm	
Pump wavelength	1480 or 976	-	nm	
Laser threshold	< 10	5	mW	
Laser power	> 10	50	μW	
PER	> 20	30	dB	@100mW
Linewidth ¹	< 10	1	kHz	@100mW feeted result
RIN at peak value MHz	< -80	-100	dB/Hz	@100mW
Relaxation frequency	> 100	200	kHz	@100mW
Intrinsic phase noise ¹	< 30	20	Hz/ $\sqrt{\text{Hz}}$	@1kHz
Signal to Noise Ratio	> 50	60	dB	@100mW ; Res.=50pm

Main Specifications for Single mode DFB Fiber Laser “High Power” version

Product Name	IXC-CLFO-HP			
Passive Fiber:	Hi1060 Flex or custom PM fiber			
	Specification	Typical value	Unit	Comments
Signal wavelength	1535 - 1565	-	nm	
Pump wavelength	976	-	nm	
Laser threshold	< 10	5	mW	
Laser power	> 5	10	mW	@100mW
PER	> 20	30	dB	@100mW
Relaxation frequency	0.5 - 2	1	MHz	@100mW
RIN at peak value MHz	< -90	-110	dB/Hz	@100mW
Linewidth ¹	< 100	30	kHz	@100mW feeted result
Signal to Noise Ratio	> 50	60	dB	@100mW ; Res.=50pm

¹Mechanical and acoustic vibrations with bandwidth pump diodes