EUREKA

5 ~ 20 GHz Picosecond Fiber Laser

Applications

- Optical clock for 10, 20, 40, 80, 160 GHz OTDM system
- Spectral comb
- Transmission network characterization
- High speed O/E conversion
- Optical sampling
- Metrology

Features

- Repetition rate continuously tunable from 5 to 20 GHz
- Wavelength tunable from 1530 to 1565 nm
- Pulse width selectable from 1.2 to 10 ps
- Average output power greater than 20 mW
- Transform-limited output
- Linearly polarized output
- Minimal pulse pedestal
- Low timing jitter

The C-band 5 ~ 20 GHz picosecond fiber laser (PSL-10) is an actively mode-locked fiber laser with continuously tunable repetition rates from 5 to 20 GHz. This laser provides a stable and reliable optical clock with turnkey operation. Along with a portable design, the PSL-10 series offers user-friendly front panel control knobs for flexible adjustment of wavelength and output power. The wavelength can be tuned throughout the C-band. The pulse width is factory selectable from 1.2 to 10 ps, with transform-limited spectral width and better than -20 dB pedestal. The timing jitter is as low as 50 fs and the side mode suppression is better than -75 dB. An output power of greater than 20 mW obviates the need for an additional optical amplification stage. Options for 780 nm or 1 μm band are also available.

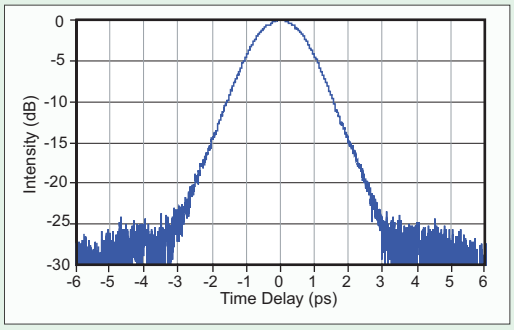
HIGH REPETITION RATE PICOSECOND FIBER LASER

Technical Specifications

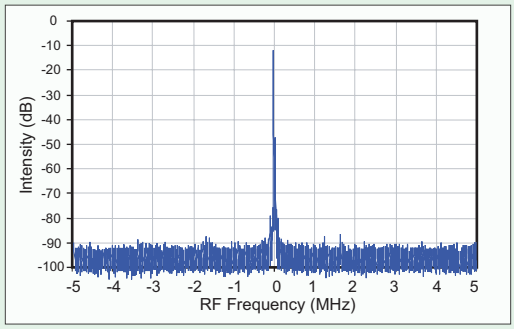
Model Number	PSL-10-1T	PSL-10-2T	PSL-10-6T
Pulse Width (ps)*	1.2 at one λ 1.5 across λ range	<2.0	<6.0
Output Wavelength (nm)**	1530 ~ 1560 (tunable)	1530 ~ 1565*** (tunable)	
Repetition Rate (GHz)	5 ~ 20 (tunable)		
Timing Jitter (fs)	<50 (carrier offset 100 Hz ~ 1 MHz)		
Amplitude Noise (%)	<1		
Output Power at 10 GHz (mW)	>20		
Operating Temp (°C)	15 ~ 30		
Operating Voltage (VAC)	85 ~ 264		
Dimensions (cm)	48(w) x 42(d) x 9(h)		

** Pulse width is selectable within 1.5 to 10 ps. A sech² pulse shape (convolution factor of 0.65) is used to determine the pulse width for the second harmonic autocorrelation trace.*
*** 780 nm or 1 μm band is available.*
**** up to 1570 nm available.*

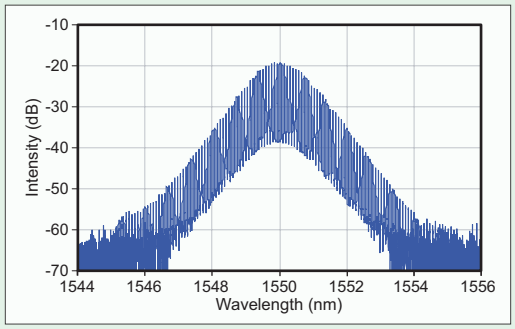
Due to our continuous improvement program, specifications are subject to change without notice.



Autocorrelation Trace Corresponding to a Pulse Width of 1.2 ps



Typical Side Mode Supression of 82 dB



Optical Spectrum of 2.1 nm

CALMAR LASER