40 GHz Picosecond Fiber Laser - Tunable Pulse Width



Applications

- Optical clock for 40, 80, 160, 320 GHz OTDM system
- Spectral comb
- Transmission network characterization
- High speed O/E conversion
- Optical sampling
- Metrology

Features

- Repetition rate continuously tunable from 38 to 42 GHz
- Wavelength tunable from 1530 to 1565 nm
- Pulse width tunable from 0.8 to 5 ps
- Average output power greater than 20 mW
- Transform-limited output
- Linearly polarized output
- Minimal pulse pedestal
- Low timing jitter

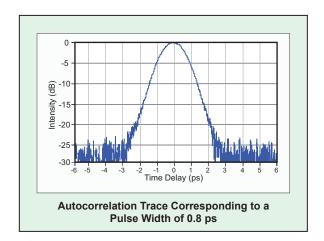
The C-band 40 GHz picosecond fiber laser (PSL-40-TT) is an actively mode-locked fiber laser with a repetition rate from 38 to 42 GHz that provides a stable and reliable optical clock with turnkey operation. Along with a portable design, the PSL-40-TT series offers user-friendly front panel control knobs for flexible adjustment of wavelength, pulse width and output power. The wavelength can be tuned throughout the C-band. The pulse width can be tuned from 0.8 to 5 ps, with transform-limited spectral width and a 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.

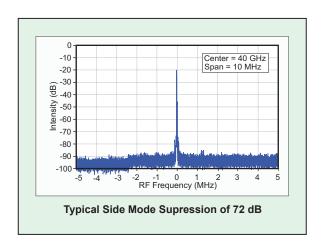
Technical Specifications

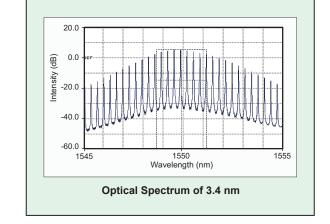
Model Number	PSL-40-TT
Pulse Width (ps)*	0.8 ~ 5 (tunable)
Output Wavelength (nm)**	1530 ~ 1565 (tunable)
Repetition Rate (GHz)	38 ~ 42 (tunable)
Timing Jitter (fs)	<50 (carrier offset 100 Hz ~ 1 MHz)
Amplitude Noise (%)	<1
Output Power (mW)	>20
Operating Temp (°C)	15 ~ 30
Operating Voltage (VAC)	85 ~ 264
Dimensions (cm)	48(w) x 42(d) x 9(h)

^{*} A sech² pulse shape (convolution factor of 0.65) is used to determine the pulse width for the second harmonic autocorrelation trace.

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









^{** 780} nm or 1 µm band is available.