

## 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  $\mu$ m 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  $\text{sech}^2$  pulse shape (convolution factor of 0.65) is used to determine the pulse width for the second harmonic autocorrelation trace.

\*\* 780 nm or 1  $\mu\text{m}$  band is available.

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

