

## 5 ~ 20 GHz Picosecond Fiber Laser - Tunable Pulse Width



## **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 tunable from 1.5 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-TT) is an actively mode-locked fiber laser with continuously tunable repetition rate from 5 to 20 GHz that provides a stable and reliable optical clock with turnkey operation. Along with a portable design, the PSL-10-TT laser 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 1.5 to 10 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 of an additional optical amplification stage. Options for 780 nm or 1  $\mu$ m band are also available.

## **Technical Specifications**

| Model Number                | PSL-10-TT                           |
|-----------------------------|-------------------------------------|
| Pulse Width (ps)*           | 1.5 ~ 10 (tunable)                  |
| Output Wavelength (nm)**    | 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)                |

\* A sech<sup>2</sup> 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.

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









