MENDOCINO

1 µm Sub-watt Femtosecond Fiber Laser Module

Applications

- OEM integration
- Biomedical instrumentation
- Terahertz radiation
- Materials characterization
- Micro machining and materials processing

Features

- Small footprint and ruggedized design
- Wavelength selectable from 1030 to 1065 nm
- Pulse width selectable from 6 to 200 ps
- Pulse width tunability
- Linearly polarized output
- Minimal pulse pedestal
- Long term reliability
- RF synchronization output

The 1 µm sub-watt femtosecond fiber laser module (FPL-M3U) is the most compact of commercially available, passively mode-locked fiber laser with output power of a few hundreds of mW. This FPL-03U series features a robust architecture that is insensitive to shock and vibration and provides exceptional stability and reliability for demanding OEM applications. Advanced engineering design and consistent manufacturing process ensure the highest quality standards for OEM volume production. The wavelength can be selected or tuned from 1030 to 1065 nm. The pulse width is factory selectable from 6 to 200 ps. The timing jitter is as low as 60 fs. The repetition rate can be specified from 10 to 50 MHz. With up to 400 mW output power, the FPL-03U series is the most economical solution for medium power applications, such as seeding high power amplifiers. An RF synchronization output is provided as a trigger signal. The FPL-M3U series can be used either as a stand-alone laser source with a 5 VDC power supply or separate driver, or for integration as an OEM module.

FEMTOSECOND FIBER LASER

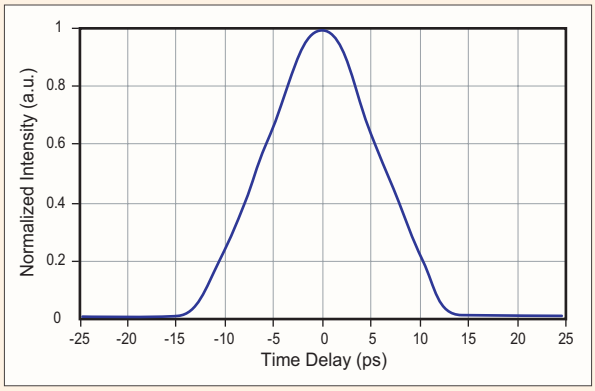
Technical Specifications

Model Number	FPL-03UFF0
Pulse Width (ps)	>6*
Wavelength (nm)	1030 ~ 1065 (selectable)
Repetition Rate (MHz)**	40
Average Output Power (mW)	400 (typical)
Timing Jitter (fs)	60 (carrier offset 100 Hz ~ 1 MHz)
Spectral Width (nm)	30 ~ 40
Termination	Collimated beam in free space or fiber
Polarization Extinction Ratio (dB)	>20
Operating Temp (°C)	10 ~ 35
Operating Voltage (VDC)	4.5 ~ 5.5
Dimension (cm)	20(w) x 13(d) x 4(h)

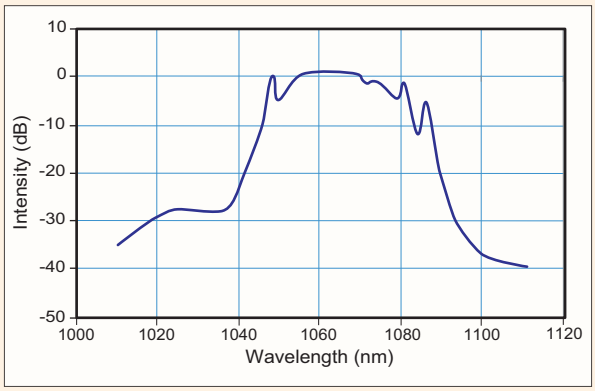
** Compressible to 0.15 ps. Pulse widths within 6 to 200 ps are available. A Gaussian pulse shape (convolution factor of 0.7) is used to determine the pulse width for the second harmonic autocorrelation trace.*

*** Other repetition rates within 10 to 50 MHz are available.*

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



Autocorrelation Trace Corresponding to a Chirped Pulse Width of 10 ps



Optical Spectrum Corresponding to a Chirped Pulse Width of 10 ps

CALMAR LASER