

Lithium Six 1050

Cost effective and compact high power ultra-short pulse laser with central wavelength in the near-IR region



Lithium Six 1050 emits femtosecond pulses with central wavelength at 1050 nm and peak powers up to the megawatt level.

The solid-state technology of Lithium Six 1050 guarantees soliton pulses with unbeatable spatial and temporal quality. Pedestal-free and chirp-less pulses together with perfect Gaussian shape spectrum and circular TEM₀₀ spatial profile provide the non-linear interaction efficiency required to perform the most advanced optical experiments.

Features and benefits

- Ultra-low noise and high operational stability
- Available with average power from 3 to 10 Watt
- Spatially and temporally clean femtosecond pulses for highly efficient non-linear interaction
- Available with repetition rate from 220 to 40 MHz and wavelength in the range from 1030 to 1070 nm for experimental optimization
- Compact single enclosure
- Cost-effective
- Tested in harsh environment for improved reliability

Applications

Biophotonics and life science

- Multiphoton microscopy
- B-CARS microspectroscopy

Non-linear optics

- Supercontinuum generation
- Seeding of amplifiers
- Harmonic generation
- Spatial and temporal focusing

Material processing

- Femtosecond lithography
- Twophoton polymerization

Specifications

Parameters	Lithium Six 1050-3	Lithium Six 1050-5	Lithium Six 1050-7	Lithium Six 1050-10
Center wavelength	1050 ± 5 nm *	1050 ± 5 nm *	1050 ± 5 nm *	1050 ± 5 nm *
Pulse duration	< 120 fs	< 130 fs	< 150 fs	< 180fs
Average power	> 3 W	> 5 W	> 7 W	> 10 W **
Pulse energy	> 37.5 nJ	> 62.5 nJ	> 87.5 nJ	> 125 nJ
Repetition rate	80 MHz ***			
Spectral shape	Gaussian			
Beam quality	M2 < 1.1			
PER	> 23 dB			
Amplitude noise	< 0.1 % rms			
Warm-up time	< 15 min			
Operational temperature	10 - 40 °C			
Head dimensions	430 X 222 X 114 mm			
Weight	7.5 Kg			

* Center wavelength in the range from 1030 to 1070 nm are available upon request

** Average power > 10 W are available upon request

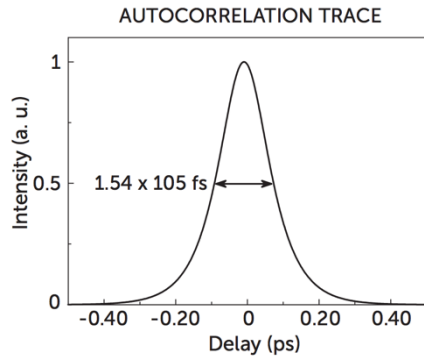
*** Different repetition rates ranging from 220 to 40 MHz can be provided

Options:

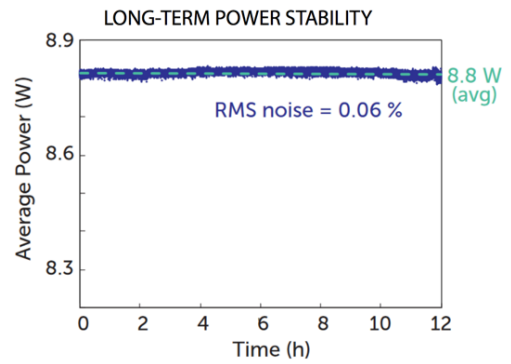
- AOM for fast power control
- Module for broadband output generation for B-CARS microspectroscopy. If you are interested, please see the [Lithium Six Broadband](#) datasheet.

Typical performance data of Lithium Six 1050

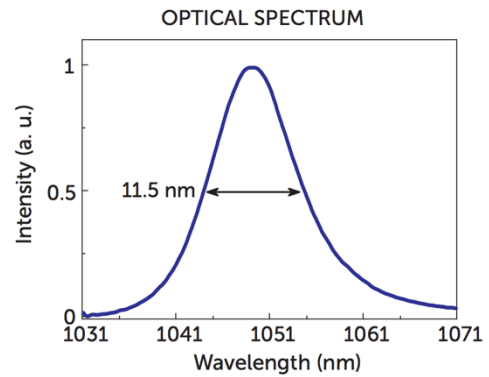
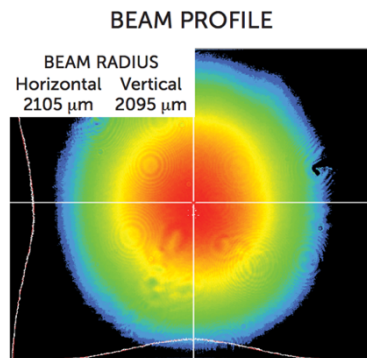
Transform-limited pulses



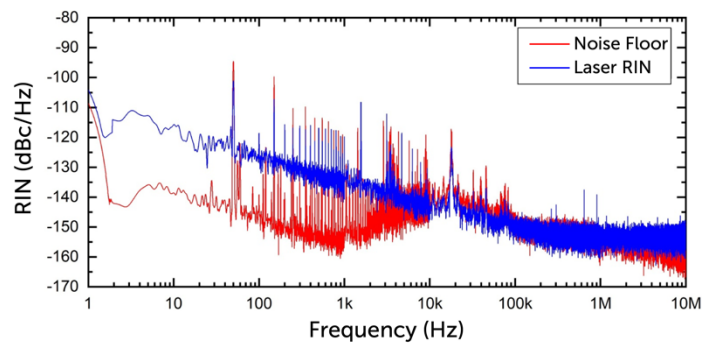
High power stability



Clean gaussian shape (no Kelly sidebands) and TEM00 profile

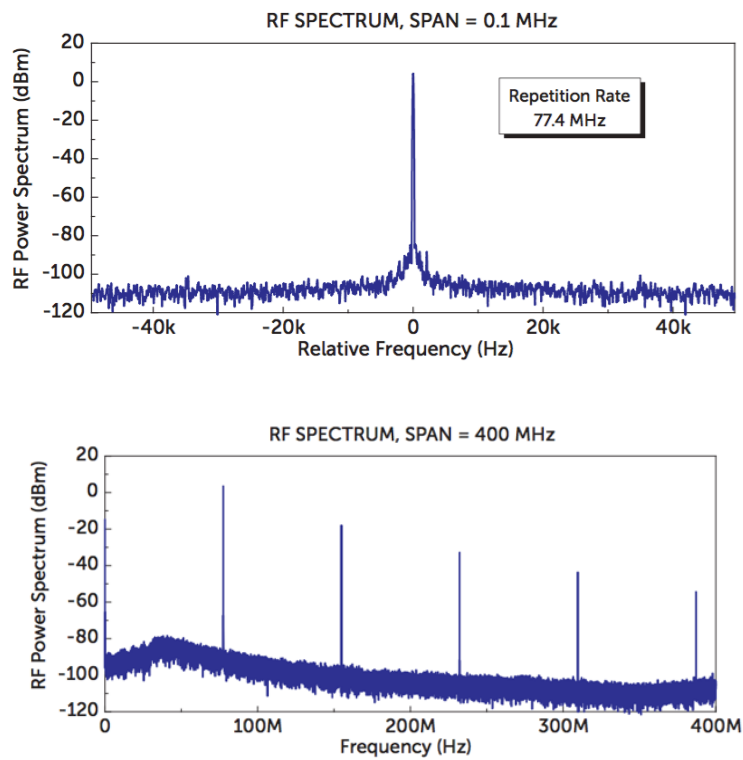


Ultra-low noise





High radio frequency contrast



Lithium Lasers srl

via Borromei 2, 20123, Milan, Italy

Tel: +39 389 490 4012

e-mail: info@lithiumlaser.com

www.lithiumlasers.com

Specifications are subject to change without notice.