

Lithium Six 1050

Compact high-power IR laser emitting high-quality femtosecond pulses



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**. The emitted pulses are transform-limited and short femtosecond pulses are delivered to the sample **without the need of a pre-chirper**.

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 7 Watt
- Spatially and temporally clean femtosecond pulses for highly efficient non-linear interaction
- 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
- Two-photon polymerization

Specifications

Parameters	Lithium Six 1050-3	Lithium Six 1050-5	Lithium Six 1050-7
Center wavelength	1050 ± 5 nm *	1050 ± 5 nm *	1050 ± 5 nm *
Pulse duration	< 120 fs	< 150 fs	< 170 fs
Average power	> 3 W	> 5 W	> 7 W **
Pulse energy	> 37.5 nJ	> 62.5 nJ	> 87.5 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 at 1030 nm is available upon request

** Average power up to 10 W is available upon request

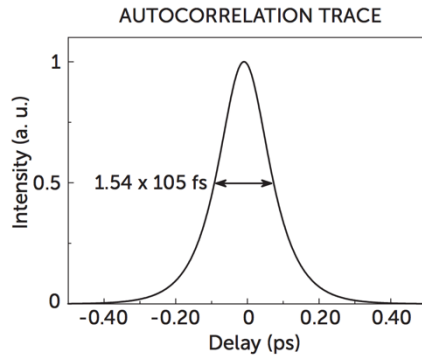
*** Different repetition rates ranging from 220 to 80 MHz can be provided

Options:

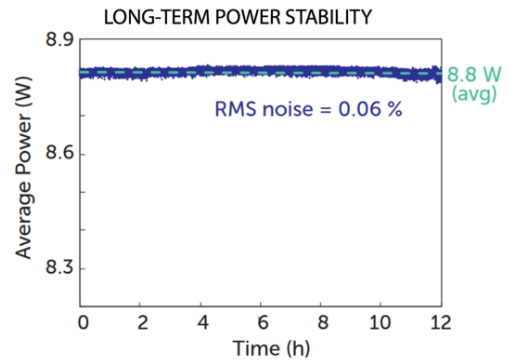
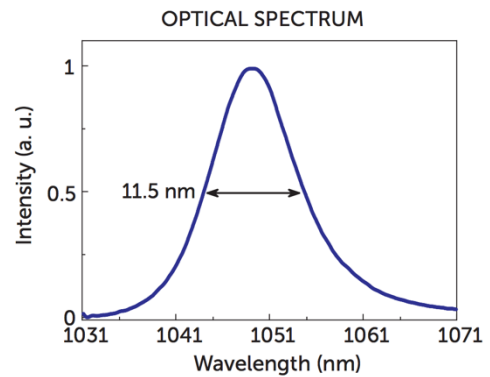
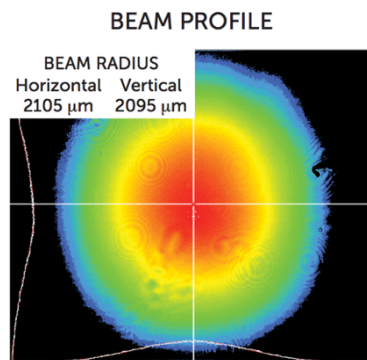
- AOM for fast power control

Typical performance data of Lithium Six 1050

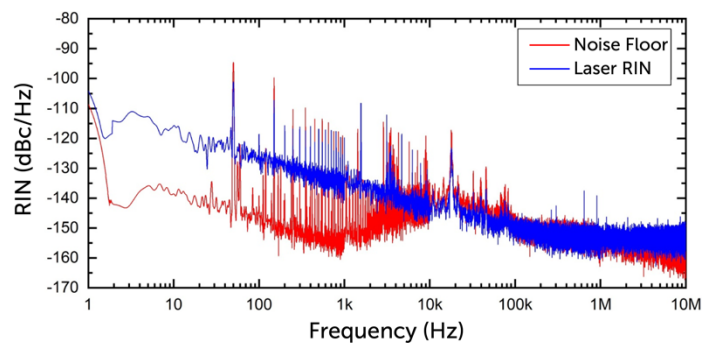
Transform-limited pulses



High power stability

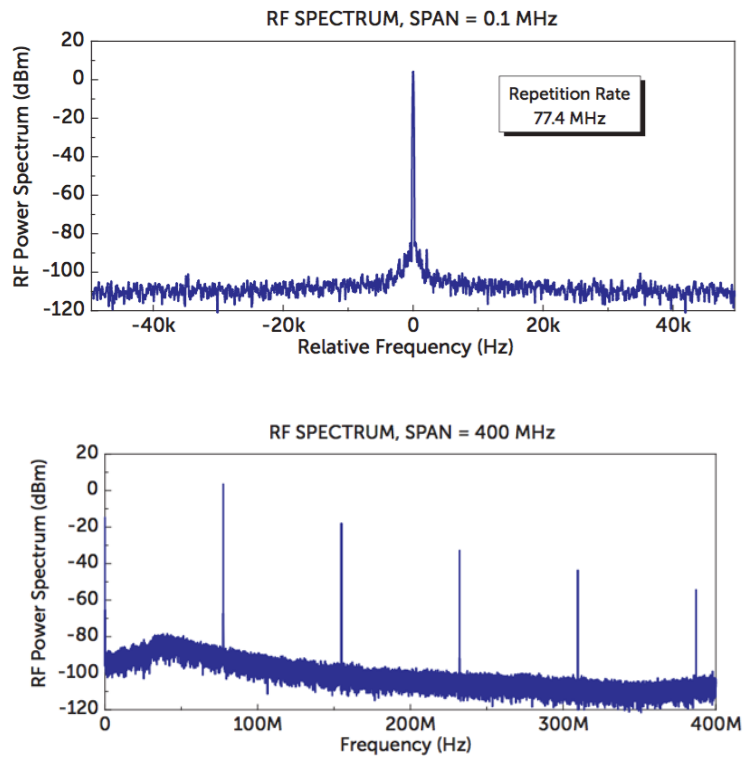

 Clean gaussian shape (no Kelly sidebands) and TEM₀₀ profile


Ultra-low noise





High radio frequency contrast



Lithium Lasers srl

Operational headquarters: via Zeni 8, 38068, Rovereto (TN), Italy

Registered office: 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.