

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

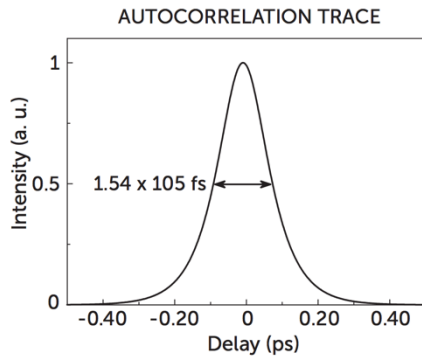
*** Different repetition rates ranging from 220 to 80 MHz can be provided

Options:

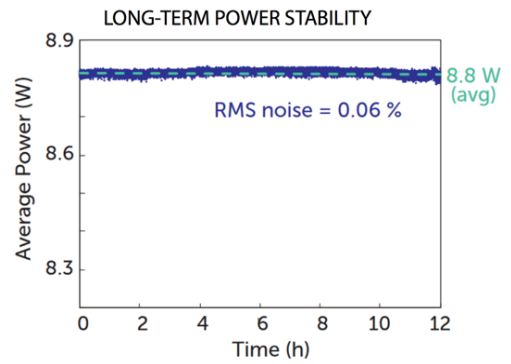
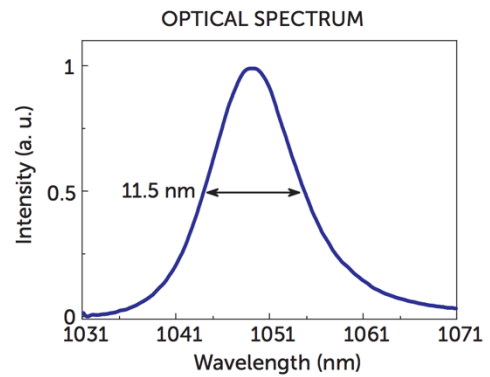
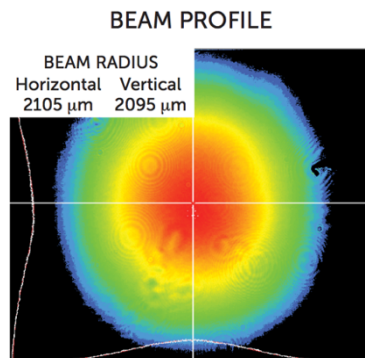
- AOM for fast power control

Typical performance data of Lithium Six 1050

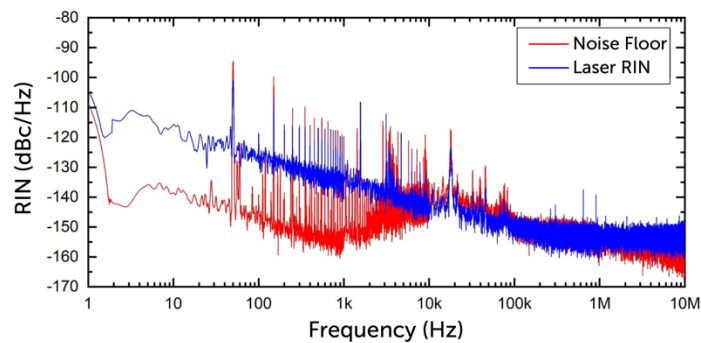
Transform-limited pulses



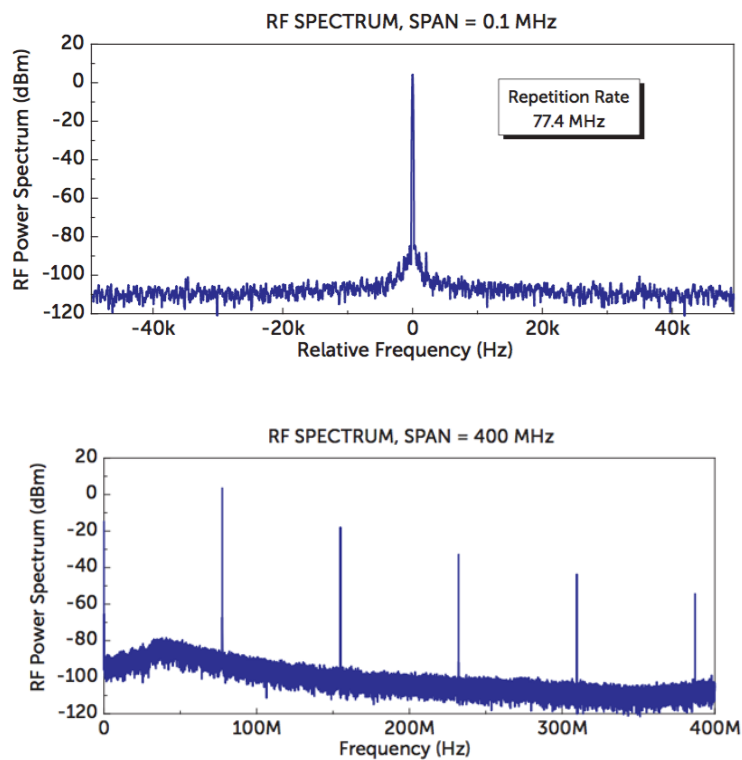
High power stability


 Clean gaussian shape (no Kelly sidebands) and TEM₀₀ profile


Ultra-low noise



High radio frequency contrast



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Specifications are subject to change without notice.