

Picosecond Ti:sapphire Laser

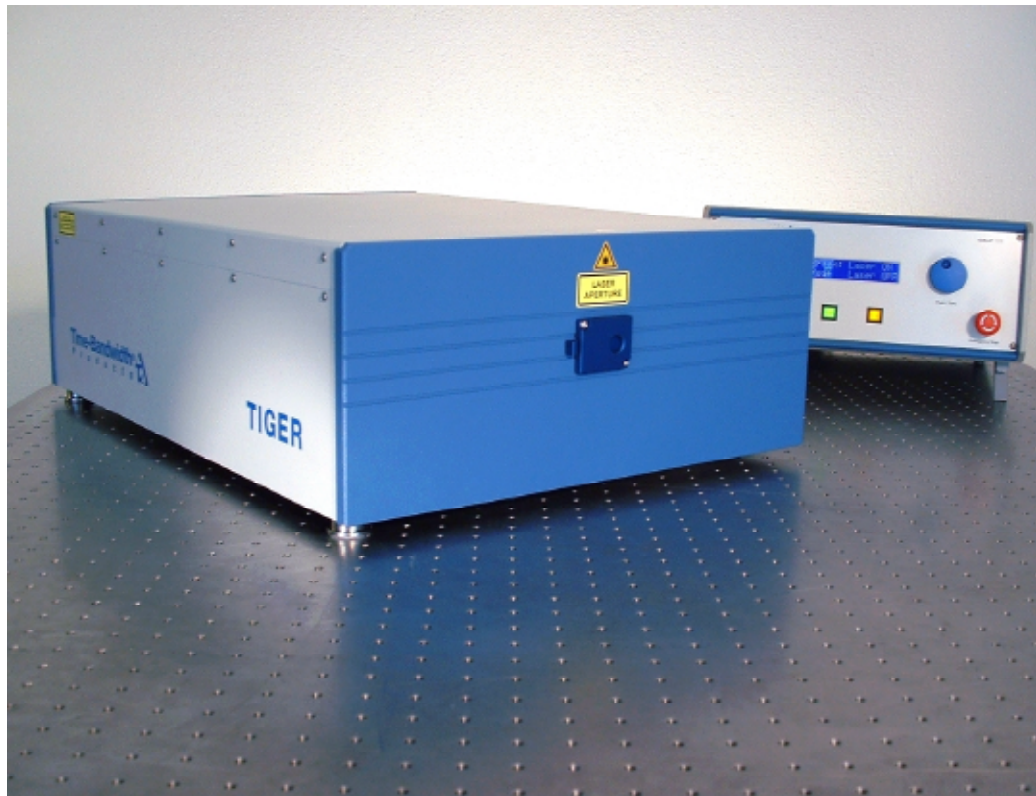
SESAM[®] Technology
Customizable

Applications

- Photocathode illumination
- Seeding amplifiers
- Pump-probe experiments
- Opto-electronic testing
- Electro-optic sampling
- Nonlinear optics

Features

- Passively mode-locked DPSSL
- Integrated pump laser
- Turn-key operation
- Customizable design
- Low maintenance

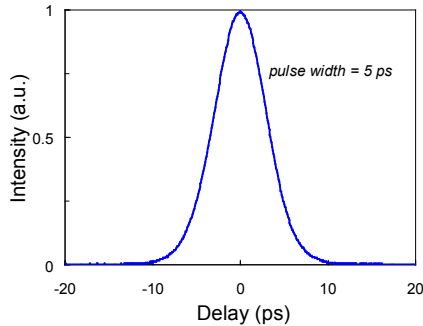


Options

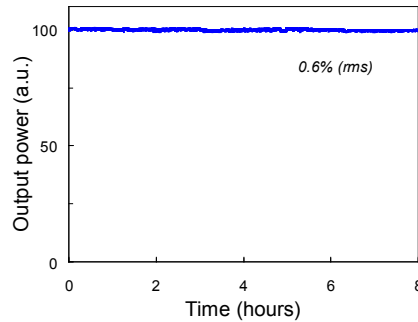
- Cavity dumping
- Clock synchronization
- Extended pulse widths
- Second harmonic generation
- Switchable repetition rates
- Long-term power stabilization
- Remote control
- RS-232

3ps – 100ps	pulse width
730nm – 880nm	wavelength
25MHz – 500MHz	repetition rate
1W	output power
1%/°C	power stability
TEM ₀₀	spatial mode
1.1	M ²

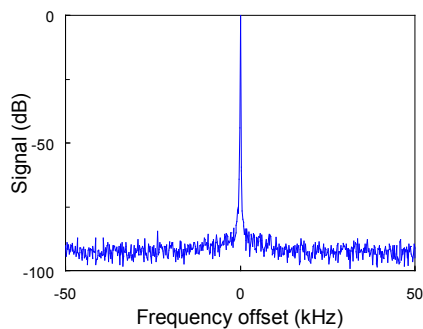
The TIGER-PS laser operates in the picosecond pulse width regime by removing the dispersion compensation from the laser cavity, resulting in simple saturable absorber modelocking using Time-Bandwidth Products' patented SESAM® device. These lasers exhibit very good pulse stability and reliable self-starting, with a compact all-solid-state green pump laser integrated into the laser head. The laser has no moving parts and requires no RF drive electronics for modelocking.



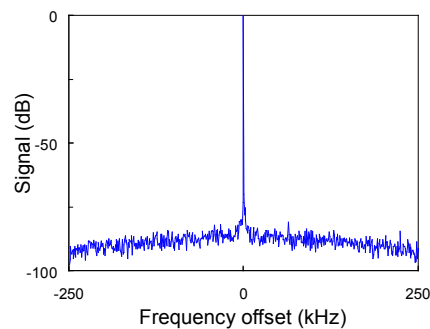
Typical non-interferometric autocorrelation trace of the TIGER-PS laser pulses



Average laser output power (long term)



Typical microwave spectrum of the pulse train, centered at the laser repetition rate (span: 100 kHz, resolution: 30 Hz, vertical scale in dB)



Typical microwave spectrum of the pulse train, centered at the laser repetition rate (span: 500 kHz, resolution: 100 Hz, vertical scale in dB)

SESAM® passive mode-locking means higher stability, reliable self-starting with no pulse drop-outs, no complicated or noisy high frequency electronics, and a robust solid-state pump laser. The design freedom provided by the SESAM® device allows for a laser system customizable in repetition rate, wavelength, and pulse widths from femtoseconds to picoseconds. Additionally, these lasers are less sensitive to the pump laser parameters than other approaches. A cavity-dumped version for higher pulse energies and user-selectable repetition rates from single-shot up to 4.1 MHz is also available (see separate data sheet for TIGER-CD).

Additional specifications	TIGER-PS
tunability	ca 30 nm (manual)
turn-on time	10 min
power stability (>1kHz)	0.5% rms
voltage	100 VAC – 240 VAC
frequency	50 Hz – 60 Hz
input power (single phase)	1350 VA
laser head (size, weight)	460 mm x 190 mm x 632 mm, 50 kg
power supply (size, weight)	360 mm x 160 mm x 380 mm, 13.5 kg
chiller (size, weight)	220 mm x 390 mm x 280 mm, 9.5 kg



Does the TIGER-PS laser system match your requirements? Please let us know the specifications of the laser you are looking for. A superior technology and a strong team enable us to tailor our products to your special needs.

All specifications are subject to change without notice. All numbers given in this datasheet are typical values and may depend on the specific laser configuration. SESAM is a registered trademark in the following countries: USA, Switzerland, United Kingdom, Germany, Austria, Netherlands, Belgium, Luxembourg, France, Italy, Russia, China, Liechtenstein, Estonia, and Lithuania. This product is protected by one or several of the following patents: US6,538,298, US6,466,604, US5,987,049, EP1084527