

Versatile Picosecond Laser

SESAM[®] Technology

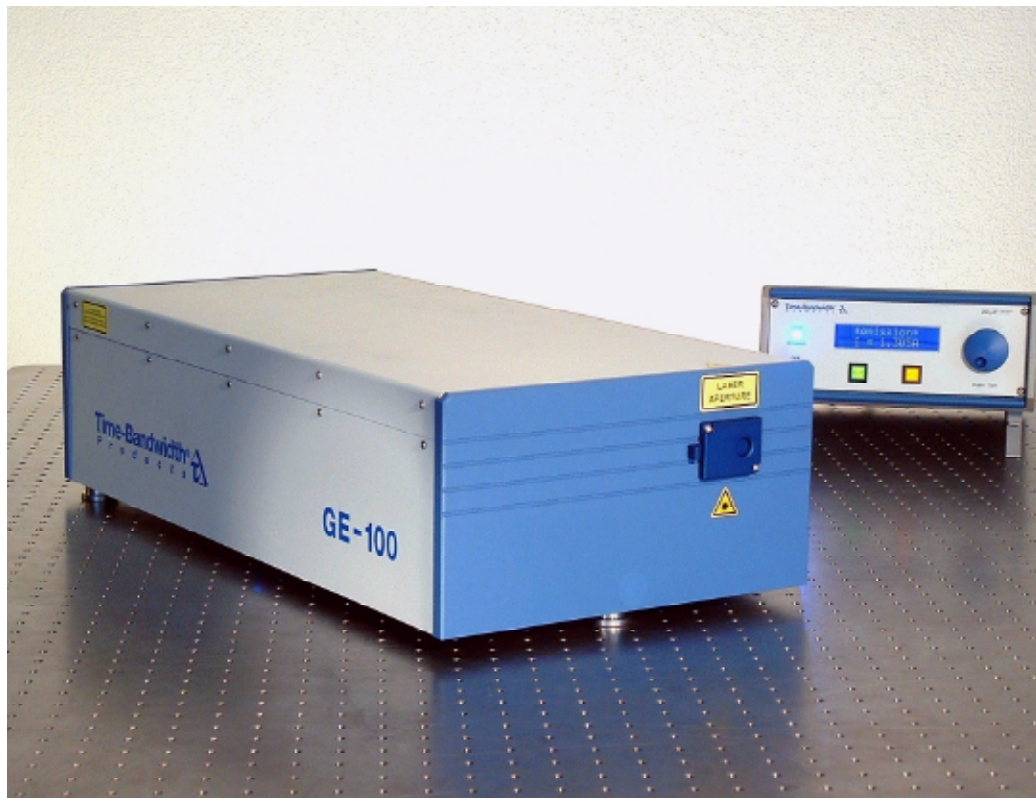
Customizable

Applications

- Seeding amplifiers
- Two-photon microscopy
- Opto-electronic testing
- Pump-probe experiments
- Time-resolved fluorescence spectroscopy

Features

- Passively mode-locked DPSSL
- Customizable design
- Low maintenance
- Air-cooled
- Low cost

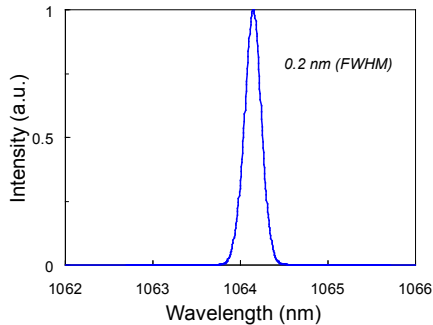


Options

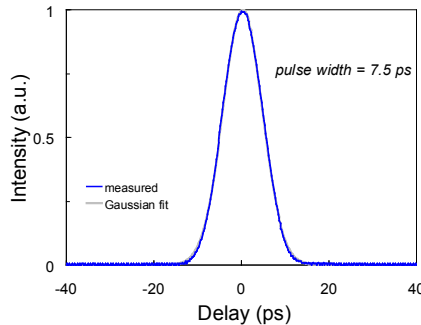
- High power
- Second harmonic generation
- Extended pulse widths
- Clock synchronization
- Pulse picker
- 1342nm output wavelength
- Switchable / tunable repetition rates
- Multiple output beams
- RS-232

	7 ps	pulse width
1064 nm, 1053 nm, 1047 nm		wavelength
20 MHz – 2.5 GHz		repetition rate
600 mW, 1W @ 1064 nm		output power
1%/°C		power stability
TEM ₀₀		spatial mode
1.1		M ²

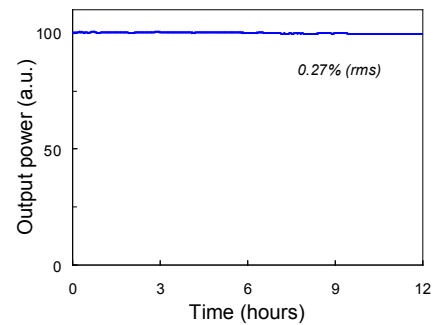
The GE-100 uses Time-Bandwidth Products' patented SESAM[®] technology and an all-solid-state design for exceptional reliability and stability. Passive mode-locking enabled by a SESAM[®] device together with the "gain-at-the end" (GE) design provides picosecond pulses that are typically two times shorter than those from actively mode-locked lasers. Due to the use of diode pumping, the system has an unprecedented reliability and long-term stability.



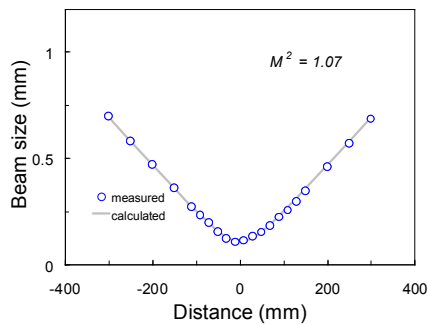
Optical spectrum of the GE-100 (Nd:YAG) laser pulses (resolution: 0.1 nm)



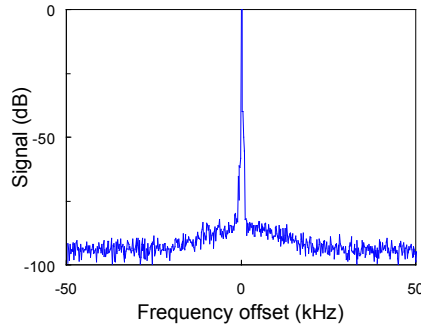
Typical autocorrelation trace of the GE-100 (Nd:YVO₄) laser pulses



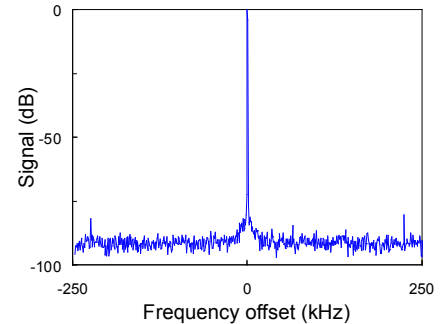
Average laser output power (long term)



Measured beam size versus propagation distance through a beam focus. The calculated curve shows the dependence for a Gaussian beam with the indicated M^2 value.



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)

The GE-100 is a laboratory-style picosecond laser system that is highly customizable. With a wide range of customer-defined repetition rates and a variety of gain materials, the laser system can be made to fit your application. Additional options like high output power, second harmonic generation, pulse selection, increased pulsewidth, fiber coupling, and clock synchronization with a phase-locked-loop feedback system make the system even more flexible. The laser system requires only standard wall-plug voltage and no cooling water, enabling easy installation and inexpensive operation.

Additional specifications	GE-100 (all models)
turn-on time	1 min
pointing stability	25 μ rad / °C
power stability (>1kHz)	0.1% rms
voltage	100 VAC – 240 VAC
frequency	50 Hz – 60 Hz
input power (single phase)	200 VA
laser head (size, weight)	310 mm x 176 mm x 632 mm, 30 kg
power supply (size, weight)	255 mm x 110 mm x 320 mm, 5 kg



Does the GE-100 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, US6,393,035, EP1149442