

GIGAJET 30s

femtosecond oscillator



highspeed femtosecond oscillators

GIGAOPTICS highspeed femtosecond oscillators operate at uniquely high repetition rates up to 3 GHz and offer a remarkable versatility and compactness. Their robust design allows them to serve as reliable tool in scientific and industrial applications.

Unprecedented signal-to-noise ratios and high data acquisition rates were achieved in time-resolved, THz- and nonlinear spectroscopy as well as in nonlinear microscopy. Our products have supported a true revolution in the field of high precision optical frequency metrology and serve as key component, i.e. as clockwork in novel optical atomic clocks.

Visit our website www.gigaoptics.com to explore our products and learn more from our detailed application notes. Contact us at info@gigaoptics.com to request further information or discuss your intended application.

We offer expertise in femtosecond technology.

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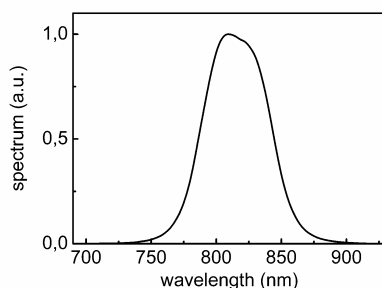
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description

GIGAJET 30s is a femtosecond oscillator designed for moderate repetition rates with very short pulses. Durations below 15 fs allow for high time resolution and broad bandwidth. Octave-spanning frequency combs are easily achieved with standard nonlinear fibers.

The housing is fully enclosed and can be entirely temperature-stabilized with external cooling water. Passive repetition rate stability of 1 kHz has been demonstrated for cooling water stable to 0.1°C.

Initial installation and training in customer's application lab are provided. Protected by U.S. patent 6,618,423 and European patents.



typical output spectrum from GIGAJET 30s

applications

- precision optical spectroscopy/frequency metrology
- time-resolved spectroscopy
- THz generation and spectroscopy
- two-photon and SHG microscopy
- see our application notes for details (www.gigaoptics.com)

technical specifications/system requirements

(subject to change without notice)

repetition rate	1 GHz (± 10 MHz)
pulse length	≤ 15 fs ^{*1}
output power	650 mW ^{*2}
central wavelength	810 nm (± 10 nm)
beam quality	$M^2 \leq 1.2$
dimensions	320×200×107 mm ³
^{*1} after appropriate extracavity compression (not provided)	
^{*2} @ 5.5 W pump power in a TEM ₀₀ mode pump beam of 532 nm wavelength (equivalent to a Coherent Verdi™)	
operating temp.	21°C \pm 5°C
power requirements	no electrical power required
cooling water req.	flow 0.5 – 1.5 l/min. temp. \sim 20°C, stable to \pm 0.1°C