

# GIGAJET 30

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](http://www.gigaoptics.com) to explore our products and learn more from our detailed application notes. Contact us at [info@gigaoptics.com](mailto:info@gigaoptics.com) to request further information or discuss your intended application.

We offer expertise in femtosecond technology.

# GIGAJET 30

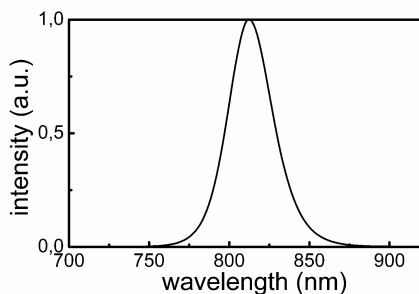
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## description

GIGAJET 30 is a femtosecond oscillator designed for highest repetition rates. We specify 3 GHz, other values between 2 GHz and 3.5 GHz are available as custom versions.

The housing is fully enclosed and can be entirely temperature-stabilized with external cooling water. Passive repetition rate stability of 3 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 30

## 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](http://www.gigaoptics.com))

## technical specifications/system requirements

(subject to change without notice)

repetition rate	3 GHz
pulse length	$\leq 30$ fs <sup>*1</sup>
output power	650 mW <sup>*2</sup>
central wavelength	810 nm ( $\pm 10$ nm)
beam quality	$M^2 \leq 1.2$
dimensions	320x200x107 mm <sup>3</sup>

<sup>\*1</sup> after appropriate extracavity compression (not provided)

<sup>\*2</sup> @ 5.5 W pump power in a TEM<sub>00</sub> 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