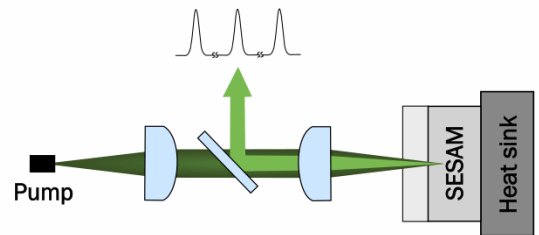


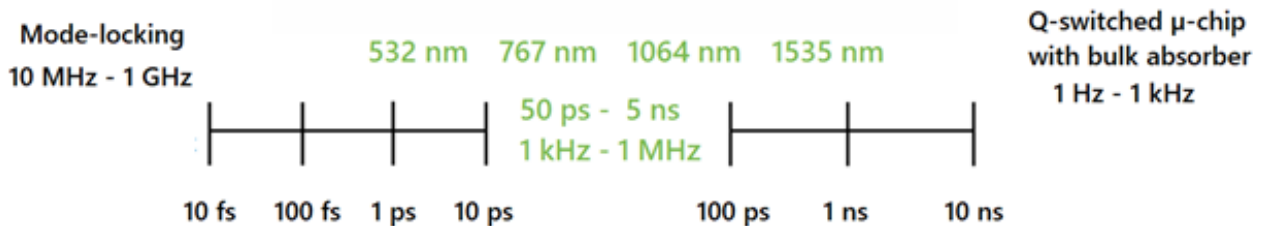
SESAM Q-switched microchip lasers

Picophotonics lasers are based on a microchip architecture with passive Q-switching operation. Platform combines compact and robust industrial design with single-frequency output spectra and high-peak power picosecond pulses.

The use of SESAM-based Q-switching preserves the intrinsic advantages of passively Q-switched lasers (compact footprint, mechanical stability, reliability, and scalability), while enabling a shorter laser cavity and precisely engineered absorption dynamics. This approach supports generation of <100 picosecond pulses in a monolithic, alignment-free configuration suited for demanding industrial and scientific applications.

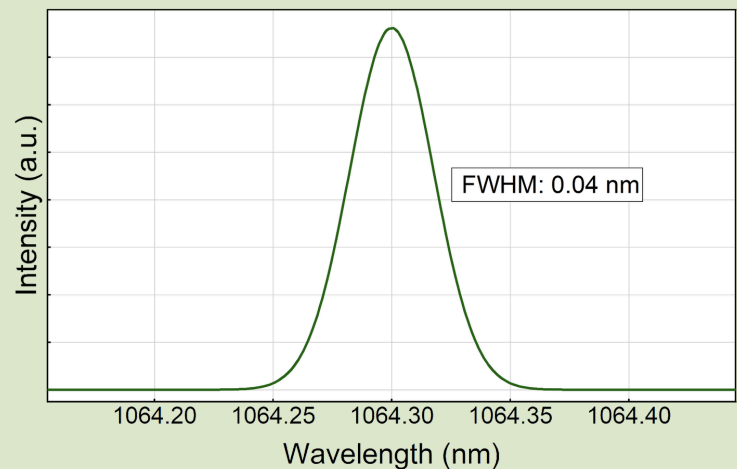


Robust, monolithic laser design for portable, industrial applications.



Key Benefits

- ▶ Picosecond pulse duration (50 ps – 1 ns)
- ▶ Single-frequency spectrum (FWHM <0.06 nm)
- ▶ High repetition rate (single pulse to MHz)
- ▶ High peak powers (kW to tens of kW)
- ▶ Compact footprint down to 20x15x10 mm³



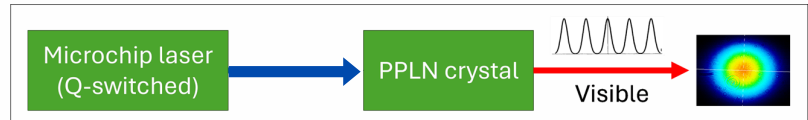
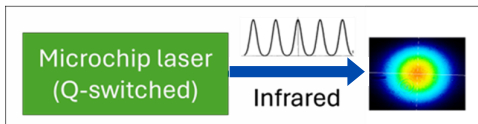
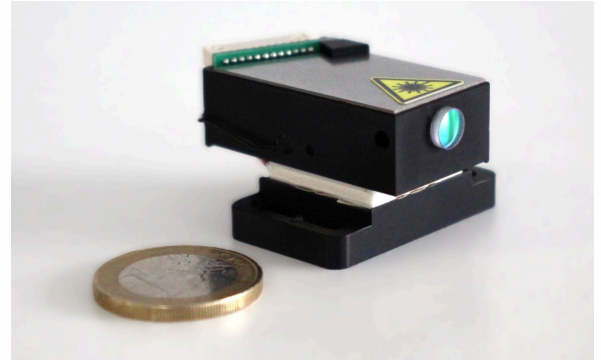
Picosecond pulses combined with a narrow, single-frequency spectrum are critical for advanced spectroscopic techniques such as time-gated Raman spectroscopy, where high temporal resolution and spectral purity directly determine sensitivity and selectivity. Same combination of short pulse duration and narrow linewidth enables exceptional precision in time-of-flight LIDAR and satellite laser ranging.

Product platforms

Picophotonics portfolio includes OEM-targeted microchip lasers delivering core optical performance in an ultra-compact form factor optimized for seamless system integration, as well as MOPA configurations providing increased output power, integrated electronics, and enhanced tunability.

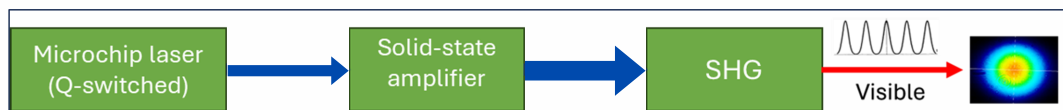
The OEM series is engineered to achieve a leading size-, weight-, performance-, and cost (SWaP-C) balance, while maintaining stringent optical specifications. Key features include:

- ▶ Pulse duration tailored to customer requirements
- ▶ High repetition rates for increased throughput and signal averaging
- ▶ Stable single-frequency spectrum



MOPA configuration with integrated electronics and improved performance:

- ▶ Picosecond pulses
- ▶ Single-frequency spectrum
- ▶ Tunable repetition rate
- ▶ Tunable pulse energy (independent of pulse rate)
- ▶ Precise trigger out signal



Key Applications

- ▶ Time-resolved Raman spectroscopy
- ▶ Stimulated Raman Spectroscopy
- ▶ High precision LIDAR
- ▶ Supercontinuum generation
- ▶ Satellite Laser Ranging (SLR)
- ▶ Photoacoustic Microscopy (PAM)



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