



Application ready, picosecond OEM microchip laser

- Tunable pulse duration from single pulse to 200 kHz
- Pulse duration from 50 ps to 250 ps
- Designed for lower power requirements with up to 0.2 μ J at 532 nm and 0.3 μ J at 1064 nm
- Free-space or fiber coupled output
- TTL Trigger-in signal for pulse initiation
- Compact packaging and integrated electronics

Specifications	SP05 – 532 nm	SP10 – 1064 nm
Wavelength	532.2 nm +/- 0.3 nm	1064.4 nm +/- 0.5 nm
Spectral width	< 0.06 nm	< 0.08 nm
Pulse duration, factory fixed (+/- 20 ps tolerance)	50–200 ps	60–250 ps
Pulse repetition rate, tunable ¹	single pulse to 200 kHz	single pulse to 200 kHz
Maximum pulse energy ²	up to 0.2 μ J	up to 0.3 μ J
Average power stability ³ , 1 h (Std. Dev)	< 1 %	< 1 %
Average power stability ³ , 12 h (Std. Dev)	< 2 %	< 2 %
Timing jitter ³	\leq 500 ns	\leq 500 ns
Pulse intensity variation ³	+/- 2 %	+/- 2 %
M ² value (ISO 11146)	\leq 1.3	\leq 1.3
Polarization	Linear (1:100)	Linear (1:100)
Optical output	Free-space/ Fiber coupled	Free-space
Trigger-Out signal	Electrical, SMA Rise time of ~300 ps	Electrical, SMA Rise time of ~300 ps
Trigger-in signal ⁴ , TTL	up to 100 kHz	up to 100 kHz
Trigger-in delay to output pulse ⁴	< 8 μ s	< 8 μ s
Warm-up time	< 5 min	< 5 min
Cooling	Air-cooling	Air-cooling
Dimensions	135 x 60 x 64 mm	135 x 60 x 64 mm
Warranty	1 year	1 year
Country of Origin	Finland	Finland

¹ Tuning range depends on other laser parameters and may be limited to e.g. 50-150 kHz or single pulse to 10 kHz

² Maximum pulse energy depends on the pulse repetition rate

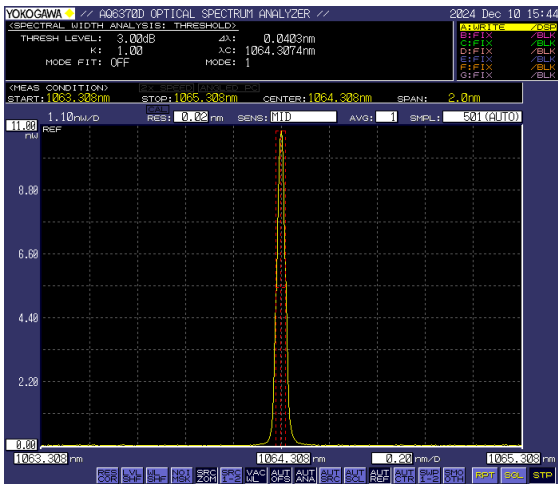
³ Typical stability values and may depend on other laser specifications.

Pulse-to-pulse timing jitter depends on pulse repetition rate. For exact timing, please use optical trigger out

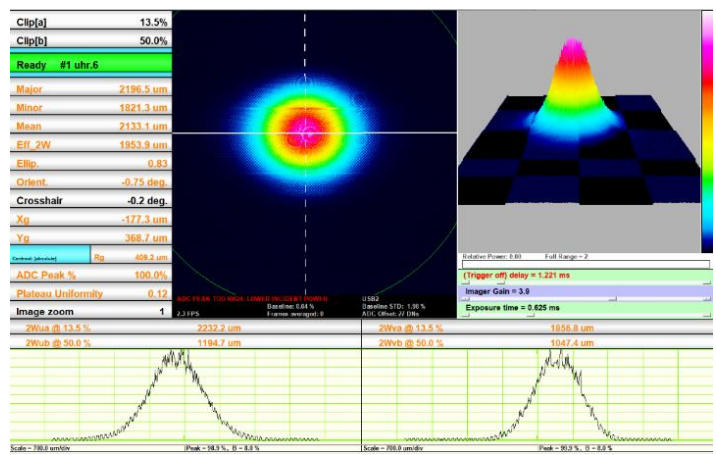
⁴ Trigger-In signal requirements: \geq 10 μ s period, 3-5 V TTL. Delay depends on pulse repetition rate. Contact us for more specifications.

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Typical Spectral Output (fundamental)



Typical Beam Profile



Electrical Connections



Number	Connector	Explanation
1	M8, 4-Pin Female	Power
2	SMA (silver)	Trigger out
3	SMA (gold)	Trigger in
4	Harting, 2-pin female (14010213102000)	Interlock
5	USB-C	Control and communication

Power Supply

DS12 – 12 VDC, 4A Regulated Power Supply

<https://www.thorlabs.com/thorproduct.cfm?partnumber=DS12>

Safety

Always use protective goggles for 532 nm, 1064 nm and 808 nm.

For more information, please contact us:
info@picophotonics.com



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