



Passively Q-Switched Laser System

QSLH Series

Data Sheet



Overview

The QSLH series is a family of visible and near IR diode pumped solid state (DPSS) q-switched lasers that deliver up to 1500mW of average power. The QSLH series laser features high peak power, high repetition rate, short pulse duration, and FDA-compliant system with driver. The QSLH series is widely used in industry (marking on diamond or stone), teaching of nonlinear optics, fiber communication, and many other applications.

Features

- Available wavelengths: 523.5nm, 526.5nm, 532nm, 656.5nm, 660nm, 1047nm, 1053nm, 1064nm, 1313nm, 1319nm, and 1573nm
- Q-switched operating mode
- Pulse energy up to 150uJ
- Ultra-compact design
- FDA compliant

Applications

- Industry (marking on diamond or stone)
- Teaching of nonlinear optics
- Fiber communication

523.5-1047 nm Specifications

Parameter		QSLH523	QSLH526	QSLH532	QSLH656	QSLH660	QSLH1047
Wavelength		523.5±1 nm	526.5±1 nm	532±1 nm	656.5±1 nm	660±1 nm	1047±1 nm
Operating mode		Frequency conversion of Q-switched pulsed laser					
Max average power		~10mW, ~30mW, ~50mW, ~100mW, ~150mW	~10mW, ~30mW, ~50mW, ~100mW, ~150mW	~50mW, ~100mW, ~150mW	~3mW, ~5mW, ~10mW		~100mW, ~200mW, ~300mW
Single pulse energy		1-60uJ	1-60uJ	~10uJ, ~20uJ, ~30uJ, ~50uJ	2-5uJ		50-150uJ
Peak power		2.5-15kW		3.8- 24.6kW	1- 10kW	0.13-0.33kW	
Pulse duration		~4ns		~1.3ns	~5ns	~15 ns	~15 ns
Average power stability (rms, over 4 hours)		<5%, <3%		<5%, <3%, <2%, <1%	<5%, <3%		<5%, <3%, <2%
Repetition rate	Internal Fixed	1kHz		1kHz, 2kHz, 3kHz, 4kHz	1kHz, 2kHz		1kHz
	External Trigger	1kHz		1kHz-4kHz	1kHz-2kHz		1Hz-1kHz
	QCW	Between 2kHz-5kHz		Between 5kHz-30kHz	Between 2kHz-5kHz		Between 2kHz-5kHz
Transverse mode		TEM ₀₀					
Beam diameter at aperture		~0.8 mm					
Beam divergence, full angle		<2.0 mrad					
M ² factor		<1.5					
Polarization ratio		>100:1, Vertical		>100:1, Horizontal	>100:1, Vertical		>100:1, Horizontal
Warm-up time		<5 min					
Operating temperature		10-35°C					
Expected lifetime		10000 hours					
Warranty		10 months					

Remarks:

- Average power (mW) = Single pulse energy (µJ) * Rep. rate (kHz)
- Peak Power (W) = Single Pulse Energy (µJ) / Pulse Duration (µs)
- Specifications of the Q-switched pulsed laser is based on the laser pulsed at the specified repetition rate. If the laser is run at a different repetition rate, the output characteristics may change.
- Specifications are subject to change without notice.

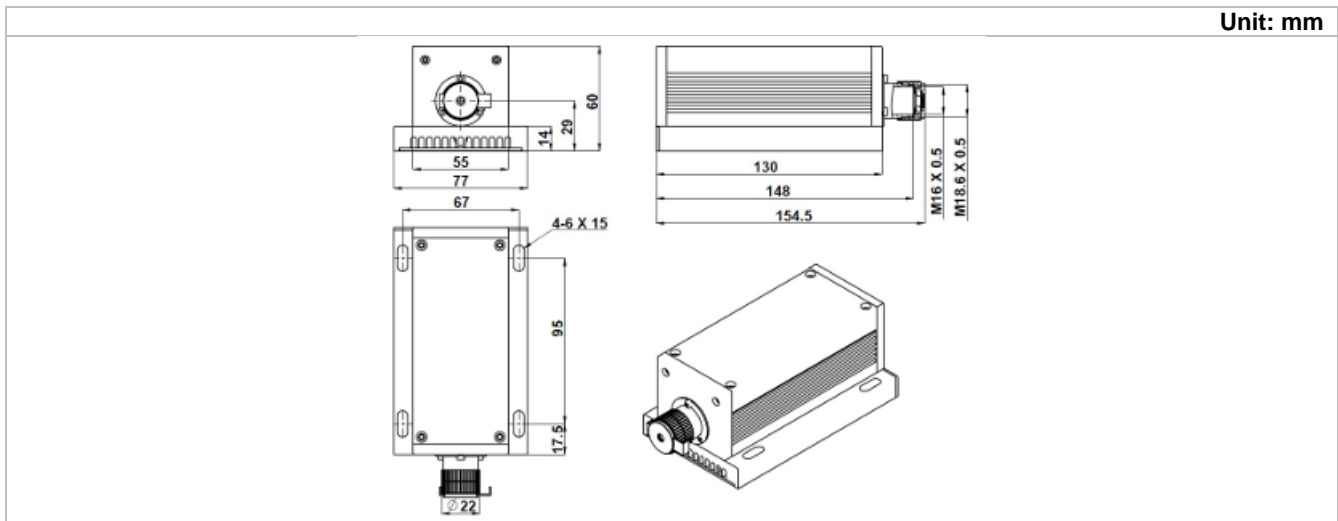
1053-1573 nm Specifications

Parameter		QSLH1053	QSLH1064	QSLH1313	QSLH1319	QSLH1573	
Wavelength		1053±1 nm	1064±1 nm	1313±1 nm	1319±1 nm	1573±1 nm	
Operating mode		Q-switched pulsed laser					
Max average power		~300mW, ~400mW, ~450mW	~400 mW	~500mW, ~1000mW	~30mW, ~50mW, ~100mW	~100mW, ~150mW	1-50mW
Single pulse energy		30-50mW	~40uJ	~50uJ, ~100uJ, ~30uJ, ~40uJ	~10uJ, ~20uJ	~10uJ, ~15uJ	~10uJ, ~20uJ, ~50uJ
Peak power		3-5kW	~27kW	2-10kW	0.55-1.1kW	0.46-1kW	1-15kW
Pulse duration		~10 ns	~1.5 ns	~10 ns	~18 ns	~15 ns	1-2 ns
Average power stability (rms, over 4 hours)		<3%, <2%, <1%					<5%, <3%
Repetition rate	Internal Fixed	1kHz	1kHz, 2kHz, 3kHz, 4kHz	1kHz, 2kHz, 3kHz, 4kHz		1kHz	
	External Trigger	1Hz-1kHz	1Hz-4kHz	1Hz-4kHz		/	
	QCW	Between 2kHz-5kHz	Between 5kHz-30kHz	Between 5kHz-20kHz		/	
Transverse mode		TEM ₀₀					
Beam diameter at aperture		~1.5 mm					
Beam divergence, full angle		<2.0 mrad					
M ² factor		<1.5					
Polarization ratio		>100:1, Horizontal					
Warm-up time		<5 min					
Operating temperature		10-35°C					
Expected lifetime		10000 hours					
Warranty		10 months					

Remarks:

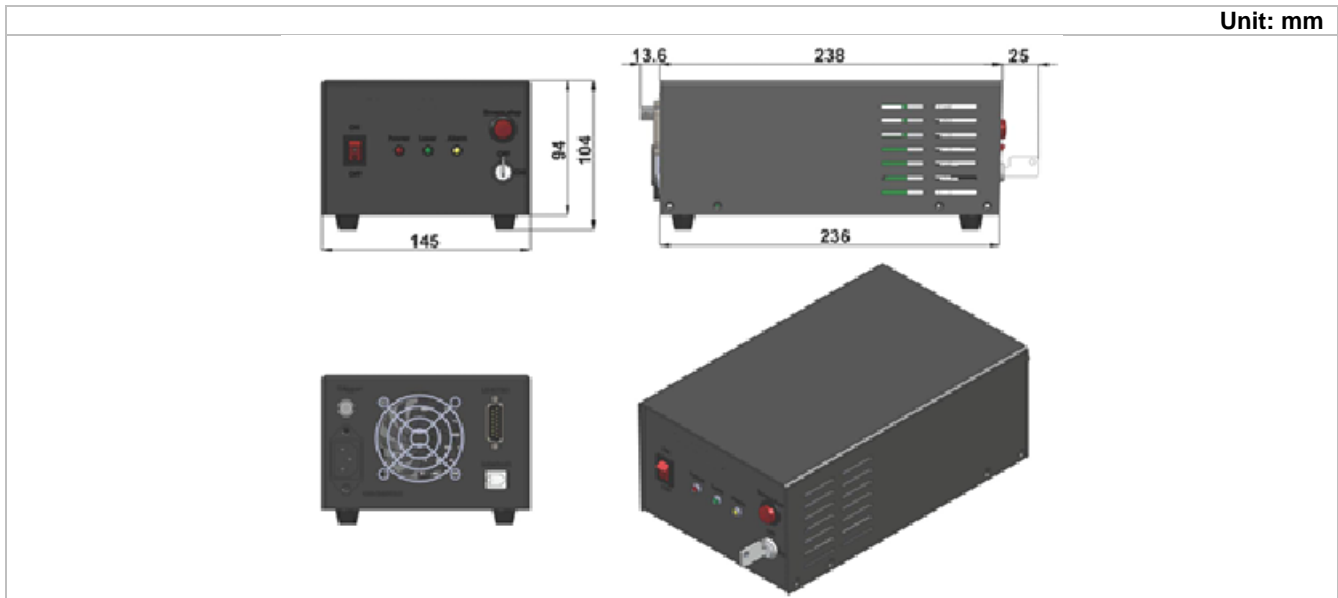
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QSLH Series Laser Head Dimensions



Parameter	QSLH Series
Dimensions	154.5(L)x77(W) x60(H) mm ³
Weight	0.9 kg
Beam height from base plate	29 mm

QSLH Series Power Supply Dimensions



Parameter	High Power Elite Power Supply
Dimensions	276.6(L) x145(W) x103.6(H) mm ³
Weight	2.3 kg
Input voltage	90-264VAC

Ordering Information

For more information, please contact Lasermate directly at sales@lasermate.com.

Part Number Configuration QSLH[1][2][3][4][5]					
QSLH = Laser Model Series	[1] = Wavelength	[2] = Average Power or Pulse Energy	[3] = Power Supply	[4] = Power Stability	[5] = Repetition Rate
	523= 523.5nm 526= 526.5nm 532= 532nm 656= 656.5nm 660= 660nm 1047= 1047nm 1053= 1053nm 1064= 1064nm 1313= 1313nm 1319= 1319nm 1573= 1573nm	3= 3mW 5= 5mW 10= 10mW 30= 30mW 50= 50mW 100= 100mW 150= 150mW 200= 200mW 300= 300mW 400= 400mW 450= 450mW 500= 500mW 1W= 1000mW 10J= 10uJ 15J= 15uJ 20J= 20uJ 30J= 30uJ 40J= 40uJ 50J= 50uJ	H=High Power Elite Power Supply	A= <5% E= <3% 2= <2% D= <1%	S1= INT FIXED 1kHz S2 = INT FIXED 2kHz S3= INT FIXED 3kHz S4= INT FIXED 4kHz C= EXT TRIG U= QCW

Note: The above specifications are subject to change without notice.