



QSLS Series

Passively Q-Switched DPSS Lasers

Data Sheet

Overview

The QSLS Series is a family of ultraviolet diode-pumped solid-state (DPSS) passively Q-switched lasers delivering average output powers up to 30mW. Available at 266nm and 355nm wavelengths, these compact laser systems provide pulse energies up to 30μJ with ultra-short pulse durations as short as 0.4ns for precision ultraviolet applications. Designed for long operating lifetime, reliable performance, and FDA-compliant operation, the QSLS Series is ideal for scientific research, precision laser micromachining, remote sensing, environmental monitoring, laser ultrasonics, and LIBS applications.

Features

- Available ultraviolet wavelengths: 236nm and 266nm
- Passively Q-switched operation
- Average output power up to 30mW
- Pulse energy up to 30μJ
- Ultra-short pulse duration (~0.4ns)
- High peak power
- Ultra-compact integrated design
- Long operating lifetime
- FDA-compliant laser system with driver

Applications

- Scientific research
- Laser micromachining
- Laser radar ranging (LiDAR)
- Environmental monitoring
- Laser ultrasonic monitoring
- LIBS (Laser-Induced Breakdown Spectroscopy)
- Precision UV material processing

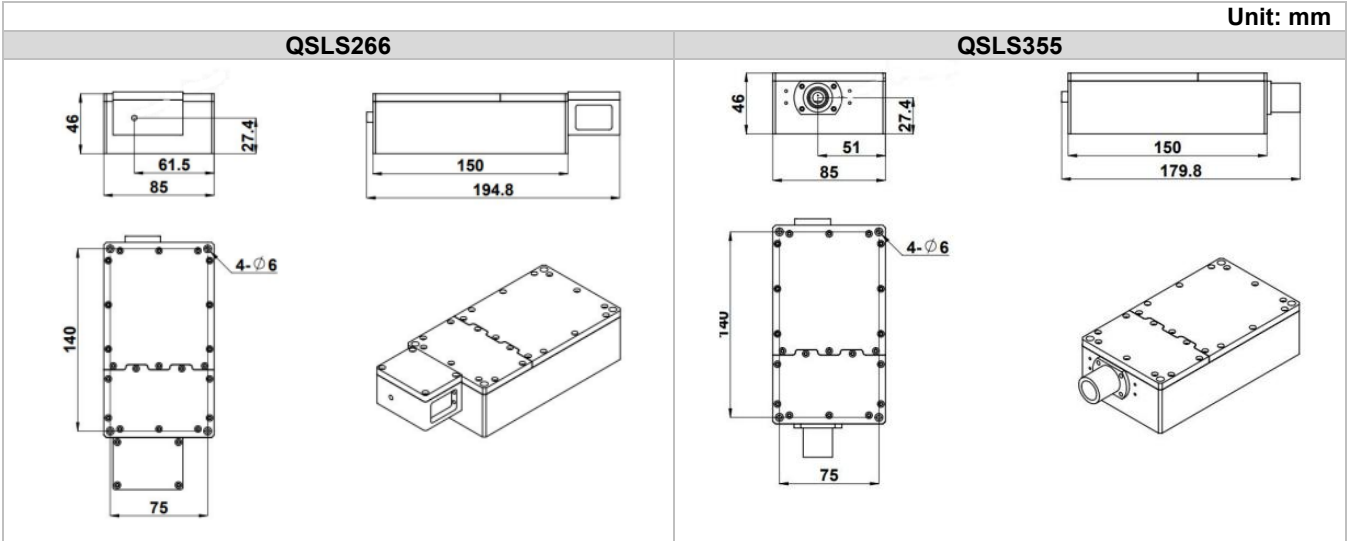
266-355 nm Specifications

Parameter		QSLS266	QSLS355
Wavelength		266±1 nm	355±1 nm
Operating mode		Passively Q-switched	
Average power ⁽¹⁾		~15 mW	~30 mW
Single pulse energy		~15 µJ	~30 mW
Power stability (rms, over 4 hours ±3°C)		<5%, <3%, <2%	
Pulse duration		~0.4 ns	
Peak power ⁽²⁾		37.5 kW	75 kW
Repetition rate	Internal Fixed ⁽³⁾	1 Hz-1 kHz	
	External Trigger	1 Hz-1 kHz	
Transverse mode		Near TEM ₀₀	
Beam diameter at the aperture		~2.0 mm	
Beam divergence, full angle		<8 mrad	<2 mrad
Warm-up time		<5 min	
Operating temperature		10-35°C	
Expected lifetime		>10000 hrs	

Remarks:

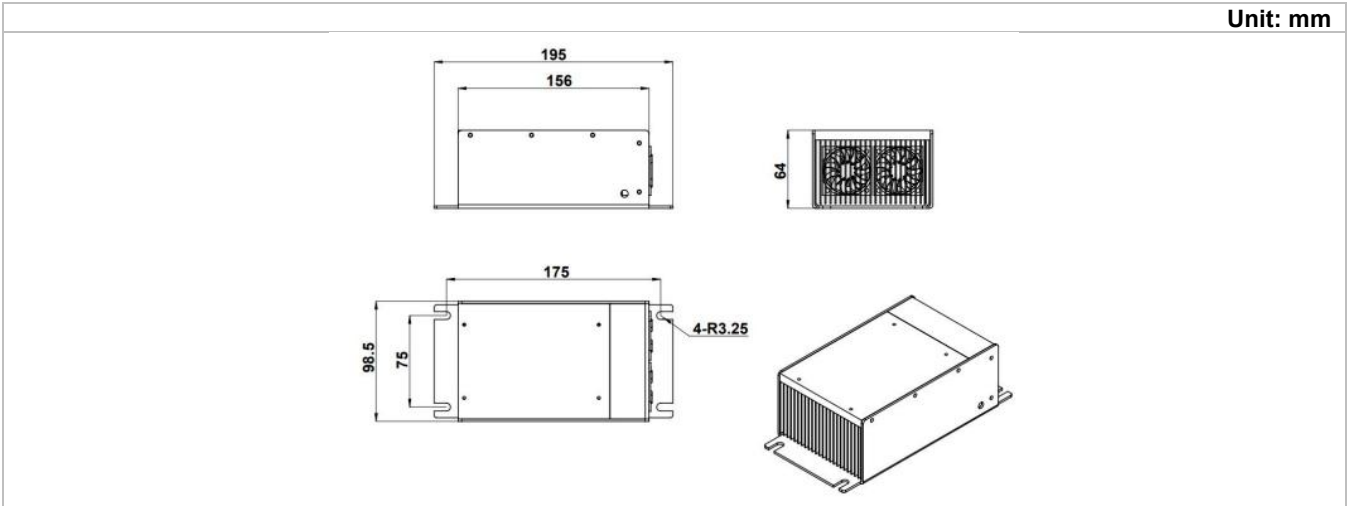
1. Average power (mW) = Single pulse energy (µJ) * Rep. rate (kHz)
2. Peak Power (W) = Single Pulse Energy (µJ) / Pulse Duration (µs)
3. The frequency is selectable from one or five discrete values within the range.
4. Because of the walk-off effect of nonlinear crystals, the beam quality of UV laser is not as good as that of 1064/532nm laser.
5. The laser head needs to be used on a heat sink with good heat dissipation.
6. Specifications of the Q-switched pulsed laser are 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.

QSL Series Laser Head Dimensions



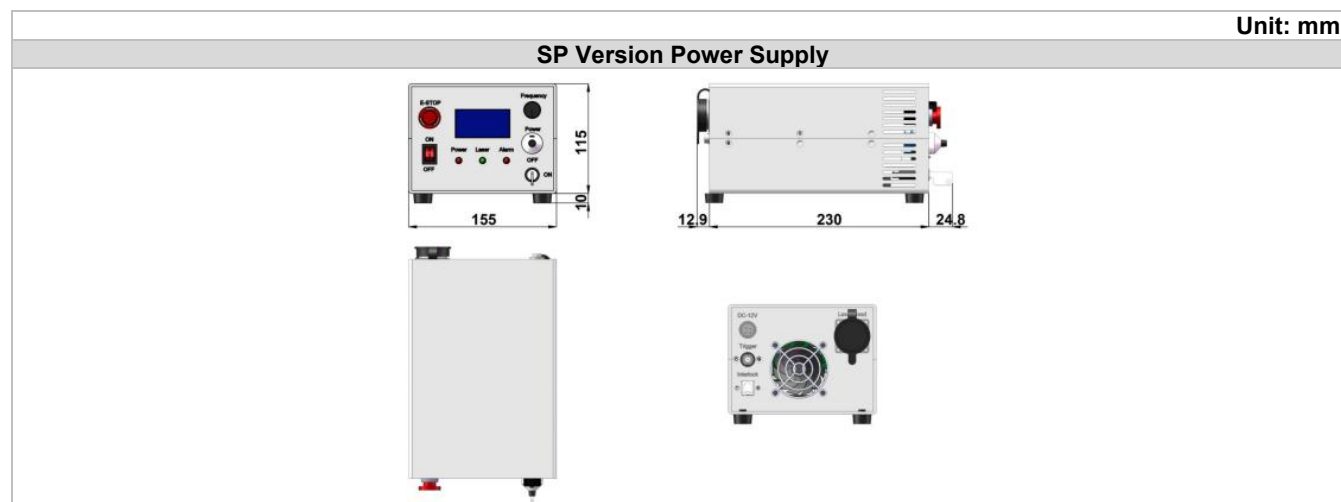
Parameter	QSL266	QSL355
Dimensions	194.8(L)×85(W) ×46(H) mm ³	179.8(L)×85(W) ×46(H) mm ³
Weight	1.3 kg	1.2 kg
Beam height from base plate	27.4 mm	27.4 mm
Beam exit (from side)	61.5 mm	51 mm

QSL Series Heat Sink Dimensions



Parameter	HS2
Dimensions	195(L)×98.5(W) ×64(H) mm ³
Weight	1.5 kg

QSLS Series Power Supply Dimensions



Parameter	SP Version Power Supply
Dimensions	267.7(L) × 155(W) × 125(H) mm ³
Weight	2.0 kg
Input voltage	100-240 VAC

Ordering Information

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

Part Number Configuration QSLS[1]-[2][3][4][5]					
QSLS = Laser Model Series	[1] = Wavelength	[2] = Pulse Energy	[3] = Power Supply	[4] = Power Stability	[5] = Repetition Rate
			SP= SP Version Power Supply	A= <5% E= <3%	S1= INT FIXED 1kHz C= EXT TRIG

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