

## Laserglow Product Datasheet

### LQS-1047 Passively Q-Switched Laser System

**Laserglow Part Number:**  
**QA40205SX**



#### Similar Products:

For information about the other lasers in this product family visit:

<http://www.laserglow.com/QA4>

#### Ordering:

Order Online Now or Request Quote:

<http://www.laserglow.com/QA40205SX>

#### Series Specifications:

Nominal Wavelength	1047 nm
Output Type	Q-Switched
Laser Source Type	DPSS



#### Overview:

The LQS-1047 Series of Diode-Pumped Solid-State (DPSS) Q-Switched Lasers are ideal for applications requiring a very high peak power or short pulse duration at 1047 nm.

These lasers are commonly used for Raman spectroscopy, material processing, and a broad range of other applications. The driver is available as a plug-and-play benchtop system or an O.E.M. component designed for system integration.

#### Key Features:

- Pulse energy of 20  $\mu$ J - 70  $\mu$ J
- Pulse repetition rate of 1 Hz - 4 kHz
- Pulse duration in the range of 6-10 ns
- Air cooled
- Runs on standard AC power (85 - 264 V, 47 - 63 Hz)
- 10,000 hour maintenance-free operating life (Expected)
- FDA/CDRH compliant Class IV enclosure

#### Package Includes:

- Laser Head
- Driver/Power Supply
- Power Cable
- BNC Connector (LabSpec models only)
- Keys, Safety Interlock
- Hard-shell Carrying Case

## Specifications:

This spec sheet has been generated specifically for part number QA40205SX, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to QA40205SX have been highlighted below in **red + bold**.


Output Power (mW)	>70	<b>&gt;80, &gt;200</b>
Single Pulse Energy (μJ)	70	<b>20, 50</b>
Optimal Pulse Frequency (Hz)	1000	<b>4000</b>
Output Power Stability (%RMS/4h)	<1, <3, <5, <10	<1, <3, <b>&lt;5</b> , <10
Wavelength Tolerance (+/- nm)	1	<b>1</b>
Divergence (mrad, full angle)	<2	<b>&lt;1.5</b>
Beam Dimensions (mm, 1/e <sup>2</sup> )	3	<b>1.5</b>
Warm-up Time (minutes)	10	<b>10</b>
Avg. Pulse Duration (ns)	6	<b>10</b>
Approximate Peak Power (W)	25000	<b>4500</b>
Optical Noise Amplitude (%RMS @ 20 Hz - 20 MHz)	<20	<b>&lt;20</b>
M <sup>2</sup>	<1.5	<b>&lt;1.2</b>
Beam Pointing Stability (mrad)	<0.05	<b>&lt;0.05</b>
Operating Temperature Range (°C)	10 to 35	<b>10 to 35</b>
Max. TTL Modulation Freq. (Hz)	20000	<b>20000</b>
Minimum Pulsing Frequency (Hz)	0.1	<b>1</b>
Modulation Input Signal	0-5 VDC	<b>0-5 VDC</b>
Max. Power Input Duty Cycle	100%	<b>100%</b>
Standard Warranty (months)	12	<b>12</b>
MTTF (operational hours)	10000	<b>10000</b>
Weight of Product or Laser Head (kg)	0.9	<b>0.6</b>
Beam Height from Base Plate (mm)	29	<b>24.8</b>
Dimensions of Product or Laser Head (mm)	155 (l) x 77 (w) x 60 (h)	<b>140.8 (l) x 73 (w) x 46.2 (h)</b>

CW: All specifications are based on performance at full output power and after the specified warmup period. Output characteristics may change if the laser is run at a different power level.

Q-Switched: Specifications are based on the laser pulsing at the specified design frequency. Output characteristics may change if the laser is run at a different frequency.

## Power Supply Options:

These lasers are available with several different power supply options. The model that you have selected is highlighted below, and any other options are shown for easy reference.

<div>FDA-Compliant Standard</div> <div></div>	Power Supply Type:	<b>SM</b>	<b>SH</b>
	Input Power	<b>85v to 264v</b>	85v to 264v
	Power Supply Weight (kg)	<b>1.2</b>	2.3
	Dimensions (mm)	<b>133 (l) x 130 (w) x 65 (h)</b>	238 (l) x 146 (w) x 102 (h)

\*Power supply may not be exactly as shown, see dimensional drawings on next 2 pages.

\*Dimensions for fiber-integrated (I\_) include laser head packaged inside.

## Regulatory Classification:

The model you have selected (QA40205SX) requires the following safety label(s):











Dimensional Drawing - Power Supply Form Factor: SM:



Laserglow Technologies	
TITLE:	
UNLESS OTHERWISE SPECIFIED:	
DIMENSIONS ARE IN MM(INCH)	
TOLERANCES: +/- 0.75 MM	
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Power Supply	REV 1
SM/SR	
SCALE: 1:2	SHEET 1 OF 1

## Accessories:

The most popular accessories for model QA40205SX are shown below. For additional details regarding these or other accessories please see our website or contact us directly.

Part Number	Description	
 AGFA647XX	LSG-1064-NF-7 Fit-Over Safety Goggles 1064nm Output: OD 7+ at 950-1070 nm CE Certified Full Details: <a href="http://www.laserglow.com/AGF">www.laserglow.com/AGF</a>	
 ACFMIRHXA	FC/PC Fiber Coupler/Collimator for IR wavelengths (1000 to 1300 nm) (installed and aligned) 11mm diameter input lens Full Details: <a href="http://www.laserglow.com/ACF">www.laserglow.com/ACF</a>	
 ACSMIRHXA	SMA-905 Fiber Coupler/Collimator for IR wavelengths (1000 to 1300 nm) (installed and aligned) 11mm diameter input lens Full Details: <a href="http://www.laserglow.com/ACS">www.laserglow.com/ACS</a>	
 ACALBMXXX	Carrying Case-102 Holds Lab/OEM M, R and S size, standard or LabSpec laser Full Details: <a href="http://www.laserglow.com/ACA">www.laserglow.com/ACA</a>	Included With Laser
 AFS2002XX	Armored Fiber With SMA 905 Connectors 200um Core Multimode 2 m length Full Details: <a href="http://www.laserglow.com/AFS">www.laserglow.com/AFS</a>	
 AFF2002XX	Armored Fiber With FC/PC Connectors 200um Core Multimode 2m length Full Details: <a href="http://www.laserglow.com/AFF">www.laserglow.com/AFF</a>	

## FOR MORE INFORMATION PLEASE CONTACT:

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E&OE: Data included in this sheet may be subject to change without notice.

Please confirm critical specifications with our staff prior to ordering.