

LPS-0532 Actively Q-Switched DPSS Laser System



Series Specifications:

Nominal Wavelength	532 nm
Output Type	Q-Switched
Laser Source Type	DPSS

Overview:

The LPS-0532 Series of Diode-Pumped Solid-State (DPSS) Active Q-Switched Lasers are ideal for applications requiring the highest available peak power and/or single pulse energy at 532 nm. The active system gives the user direct control over the output pulses, enabling a specified frequency or even a single pulse to be emitted.

These lasers are commonly used for materials processing, marking, Raman Spectroscopy, biological experimentation and a broad spectrum of other applications. The driver is available as a complete FDA-compliant system or as an O.E.M. component with significantly reduced dimensions.

Key Features:

- Active q-switch allows for control of pulses
- Air cooled - no need for water cooling or external chiller
- Lightweight, compact design
- Efficient DPSS technology runs on standard AC power (85 - 264 V, 47 - 63 Hz)
- >10,000 hours continuous maintenance-free operating life
- FDA CDRH Compliant Class IV enclosure
- 48-hour replacement coverage available for an additional fee on specific models

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 P53-U, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to P53-U have been highlighted below in **red + bold**.

Laser Form Factor	N	W	UM	U
Output Power (mW)	>100, >300, >500, >1000	>1000, >2000	>1000	>5000, >8000
Single Pulse Energy (μJ)	1, 10, 30, 50	100, 200	500	150, 200, 250
Optimal Pulse Frequency (Hz)	10000	10000	2000	25000, 30000
Output Power Stability (%RMS/4h)	<1, <3, <5, <10	<1, <3, <5, <10	<1	<1, <3, <5, <10
FDA Safety Class	IV	IV	IV	IV
Central Wavelength (nm)	531.65	531.65	531.65	531.65
Wavelength Tolerance (+/- nm)	1	1	1	1
Divergence (mrad, full angle)	<1.5	<2	<4.5	<2
Beam Dimensions (mm, 1/e ²)	3	4	1	4
Transverse Mode	Near TEM00	Near TEM00	Near TEM00	
Longitudinal Modes	Multiple	Multiple	Multiple	Multiple
Warm-up Time (minutes)	10	10	10	10
Avg. Pulse Duration (ns)	10	10	10	30
Approx. Timing Jitter (+/- ns)	10	10	10	10
Approx. Trigger-Pulse Latency (μs)	200	200	200	200
Approximate Peak Power (W)	6000	20000	50000	10000
Operating Temperature Range (°C)	15 to 35	15 to 35	15 to 35	15 to 35
Storage Temperature Range (°C)	-10 to	-10 to	-10 to	-10 to 50
Max. TTL Modulation Freq. (Hz)	200,000	200,000	200,000	200,000
Minimum Pulsing Frequency (Hz)			1000	
Modulation Rise Time (us)	0.005	0.005		0.005
Modulation Input Signal	0-5 VDC	0-5 VDC	0-5 VDC	0-5 VDC
Max. Power Input Duty Cycle	100%	100%	100%	100%
Cooling Method	TEC/Forced Air	TEC/Forced Air	TEC/Forced Air	TEC/Forced Air

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.

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Laser Form Factor	N	W	UM	U
Standard Warranty (months)	12	12	12	12
MTTF (operational hours)	10000	10000	10000	10000
Weight of Product or Laser Head (kg)	2.6	6.1	5.4	10.2
Beam Height from Base Plate (mm)	68.2	93.5	101	113
Dimensions of Product or Laser Head (mm)	240 (l) x 99 (w) x 94 (h)	346 (l) x 140 (w) x 125 (h)	261 (l) x 194 (w) x 127 (h)	420 (l) x 142 (w) x 144 (h)

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.

	Power Supply Type:	AW	AZ	AL
FDA-Compliant AOM Driver 	Input Power	85v to 264v	85v to 264v	85v to 264v
	Power Supply Weight (kg)	6.88	12.4	8.3
	Dimensions (mm)	334 (l) x 300 (w) x 123 (h)	376 (l) x 485 (w) x 133 (h)	483.5 (l) x 454 (w) x 147.5 (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 (P53-U) requires the following safety label(s):



Accessories:

The most popular accessories for model P53-U are shown below. For additional details regarding these or other accessories please see our website or contact us directly.

Part Number	Description	
 AFF2002XX	Armored Fiber With FC/PC Connectors 200um Core Multimode 2m length Full Details: www.laserglow.com/AFF	
 AFS2002XX	Armored Fiber With SMA 905 Connectors 200um Core Multimode 2 m length Full Details: www.laserglow.com/AFS	
 AGF5327XX	LSG-532-NF-7 Fit-Over Safety Goggles 532nm Output: OD 7+ at 190-532 nm CE Certified Full Details: www.laserglow.com/AGF	
 ACFVISHXA	FC/PC Fiber Coupler/Collimator for visible spectrum wavelengths (400 to 700 nm) (installed and aligned) 11mm diameter input lens Full Details: www.laserglow.com/ACF	
 ACSVISHXA	SMA-905 Fiber Coupler/Collimator for visible spectrum wavelengths (400 to 700 nm) (installed and aligned) 11mm diameter input lens Full Details: www.laserglow.com/ACS	
 ACALBNWXX	Carrying Case-104 Holds Lab/OEM N or W size Standard/Labspec laser Full Details: www.laserglow.com/ACA	Included With Laser

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.