Laserglow Product Datasheet

LSS-0532 Single-Longitudinal-Mode DPSS Laser System

Series Specifications:

Nominal Wavelength	532 nm
Output Type	CW
Laser Source Type	DPSS

Overview:

The LSS-532 Series of Single-Frequency, Single Longitudinal Mode Diode-Pumped Solid-State (DPSS) Lasers are ideal for applications requiring extremely long temporal coherence and an extremely narrow spectral linewidth. This series of 532 nm SLM lasers are available from 5 mW to >5 W and maintain a high level of long-term output power stability and long operating lifetime at an aggressively competitive cost.

These lasers are commonly used for various scientific purposes such as Raman Spectroscopy, holography / interferometry, biological experiments, communications research, 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.

Laserglow products are currently being used by some of the World's top universities and other prominent research facilities.

Key Features:

- Air cooled - no need for water cooling or external chiller
- Spectral linewidth
- 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 IIIb / 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 S53-E, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to S53-E have been highlighted below in **red + bold**.

Laser Form Factor	O	OH	F	**E**
Output Power (mW)	<5, >10, >30, >50, >100, >200, >300, >400	<5, >10, >20, >30, >50, >100, >200, >300, >400	>500, >700	**>2000, >3000, >4000, >5000**
Output Power Stability (%RMS/4h)	<1, <2, <3	<1, <2, <3	<1, <3	**<1, <3, <5**
FDA Safety Class	IIIa, IIIb, IV	IIIa, IIIb	IV	**IV**
Central Wavelength (nm)	531.65	532	531.65	**531.65**
Wavelength Tolerance (+/- nm)	1	1	1	**1**
Divergence (mrad, full angle)	<1.2		<1.2	**<1.5**
Beam Dimensions (mm, $1/e^2$)	1.5		2.5	**1.5**
Transverse Mode	TEM00	TEM00	TEM00	**TEM00**
Longitudinal Modes	Single	Single	Single	**Single**
Warm-up Time (minutes)	10	15	10	**10**
Optical Noise Amplitude (%RMS @ 20 Hz - 20 MHz)	<0.5		<1	**<1**
Spectral Linewidth (nm)	<1.0E-5	<1.0E-5	<1.0E-5	**<1.0E-5**
Frequency Shift (Hz/8hrs)		200		
M^2	<1.2	<1.2	<1.5	**<1.2**
Polarization Ratio	>100		>100	**>100**
Coherence Length (m)	>50	>50	>50	**>50**
Beam Pointing Stability (mrad)	<0.05		<0.05	**<0.05**
Operating Temperature Range (°C)	15 to 35		15 to 35	**20 to 30**
Storage Temperature Range (°C)	-10 to	-10 to	-10 to	**-10 to 50**
Total Power Consumption (W)	22, 32			
Max. Power Input Duty Cycle	100%	100%	100%	**100%**
Cooling Method	TEC	TEC/Forced Air	TEC/Forced Air	**Water (Closed Loop)**
Standard Warranty (months)	12	12	12	**12**
MTTF (operational hours)	10000		10000	**10000**

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.

Specifications Page 2:

Laser Form Factor	O	OH	F	**E**
Weight of Product or Laser Head (kg)	2	3.6	1.6	
Beam Height from Base Plate (mm)	27.4	84.7	45	**58**
Dimensions of Product or Laser Head (mm)	197 (l) x 70 (w) x 50 (h)	197 (l) x 117.5 (w) x 107.3 (h)	211.5 (l) x 88 (w) x 74 (h)	**427 (l) x 190 (w) x 83 (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:	**SO**	**SW**	**SF**
FDA-Compliant Standard 	Input Power	85v to 264v	**85v to 264v**	85v to 264v
	Power Supply Weight (kg)	2.3	**5.1**	2.3
	Dimensions (mm)	238 (l) x 146 (w) x 102 (h)	**307 (l) x 168 (w) x 123 (h)**	238 (l) x 146 (w) x 102 (h)

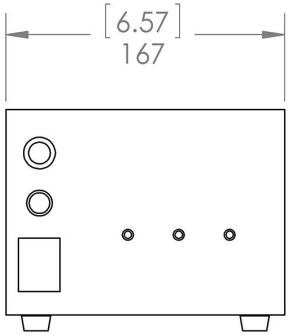
*Power supply may not be exactly as shown, see dimensional drawings on next 2 pages.

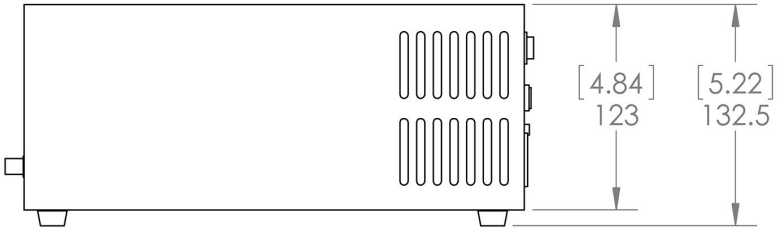
*Dimensions for fiber-integrated (I_) include laser head packaged inside.

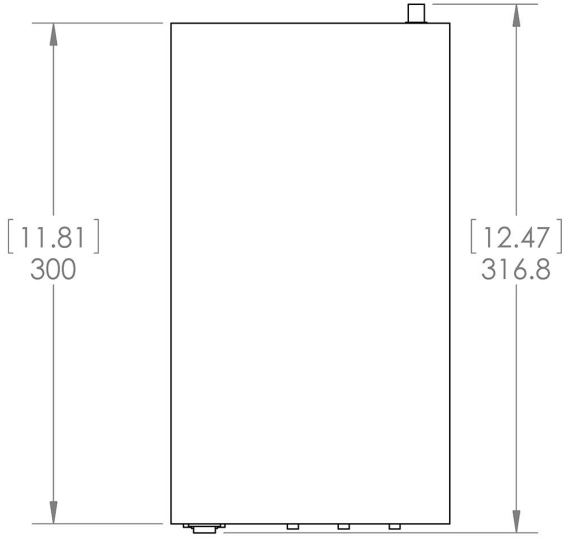
Regulatory Classification:

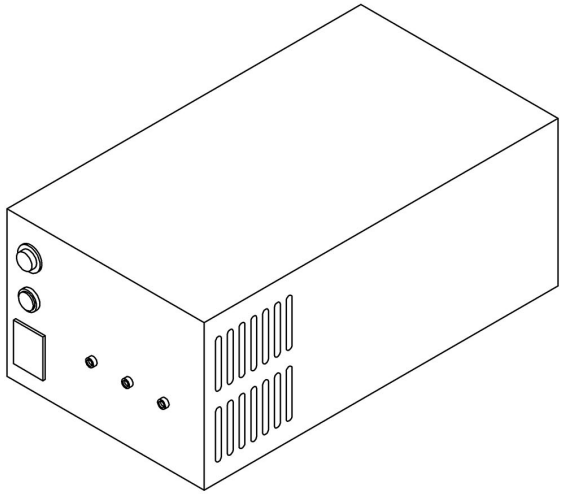
The model you have selected (S53-E) requires the following safety label(s):

Dimensional Drawing - Power Supply Form Factor: SW:









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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN MM[INCH]
TOLERANCES: +/- 0.75 MM

TITLE:

Power Supply SW/SY

REV 1

SCALE: 1:4

SHEET 1 OF 1

Accessories:

The most popular accessories for model S53-E 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	
 TBK	Complete optics kits with breadboard mounting hardware. External modulators, variable attenuators, free-space fiber launch systems Full Details: www.laserglow.com/TBK	
 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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