

# 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 0.000001 nm (Up to 800 mW)
- 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**.


Output Power (mW)	>30, >50, >100, >200, >300, >400	>30, >50, >100, >200, >300, >400	>100	>500, >1000	<b>&gt;2000, &gt;3000, &gt;4000, &gt;5000, &gt;8000, &gt;10000</b>
Output Power Stability (%RMS/4h)	<1, <3	<0.5, <1, <3, <5	<3	<1, <3, <5	<b>&lt;1, &lt;3, &lt;5</b>
Central Wavelength (nm)	532	531.65		531.65	<b>531.65</b>
Wavelength Tolerance (+/- nm)	1	1		1	<b>1</b>
Divergence (mrad, full angle)		<1.2	<1.2	<1.2	<b>&lt;1.5</b>
Beam Dimensions (mm, 1/e <sup>2</sup> )		1.5	1.5	2.5	<b>1.5</b>
Warm-up Time (minutes)	15	10		10	<b>10</b>
Optical Noise Amplitude (%RMS @ 20 Hz - 20 MHz)		<0.5		<1	<b>&lt;1</b>
Spectral Linewidth (nm)	<1.0E-5	<1.0E-5		<1.0E-5	<b>&lt;1.0E-5</b>
Frequency Shift (Hz/8hrs)	200				
M <sup>2</sup>	<1.2	<1.2	<1.2	<1.5	<b>&lt;1.2</b>
Polarization Ratio		>100		>100	<b>&gt;100</b>
Coherence Length (m)	>50	>50		>50	<b>&gt;50</b>
Beam Pointing Stability (mrad)		<0.05		<0.05	<b>&lt;0.05</b>
Operating Temperature Range (°C)		15 to 35		15 to 35	<b>20 to 30</b>
Total Power Consumption (W)		22, 32	32		
Max. Power Input Duty Cycle	100%	100%	100%	100%	<b>100%</b>
Standard Warranty (months)	12	12	12	12	<b>12</b>
MTTF (operational hours)		10000	10000	10000	<b>10000</b>
Weight of Product or Laser Head (kg)	3.6	2	1	1.6	
Beam Height from Base Plate (mm)	84.7	27.4	27.4	45	<b>58</b>
Dimensions of Product or Laser Head (mm)	197 (l) x 117.5 (w) x 107.3 (h)	197 (l) x 70 (w) x 50 (h)	142.5 (l) x 60 (w) x 50 (h)	211.5 (l) x 88 (w) x 74 (h)	<b>427 (l) x 190 (w) x 83 (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.

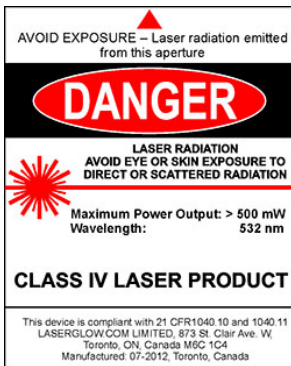
<div>FDA-Compliant Standard</div> <div></div>	Power Supply Type:	SO	SF	SW
	Input Power	85v to 264v	85v to 264v	85v to 264v
	Power Supply Weight (kg)	2.3	2.3	5.1
	Dimensions (mm)	238 (l) x 146 (w) x 102 (h)	238 (l) x 146 (w) x 102 (h)	307 (l) x 168 (w) x 123 (h)

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

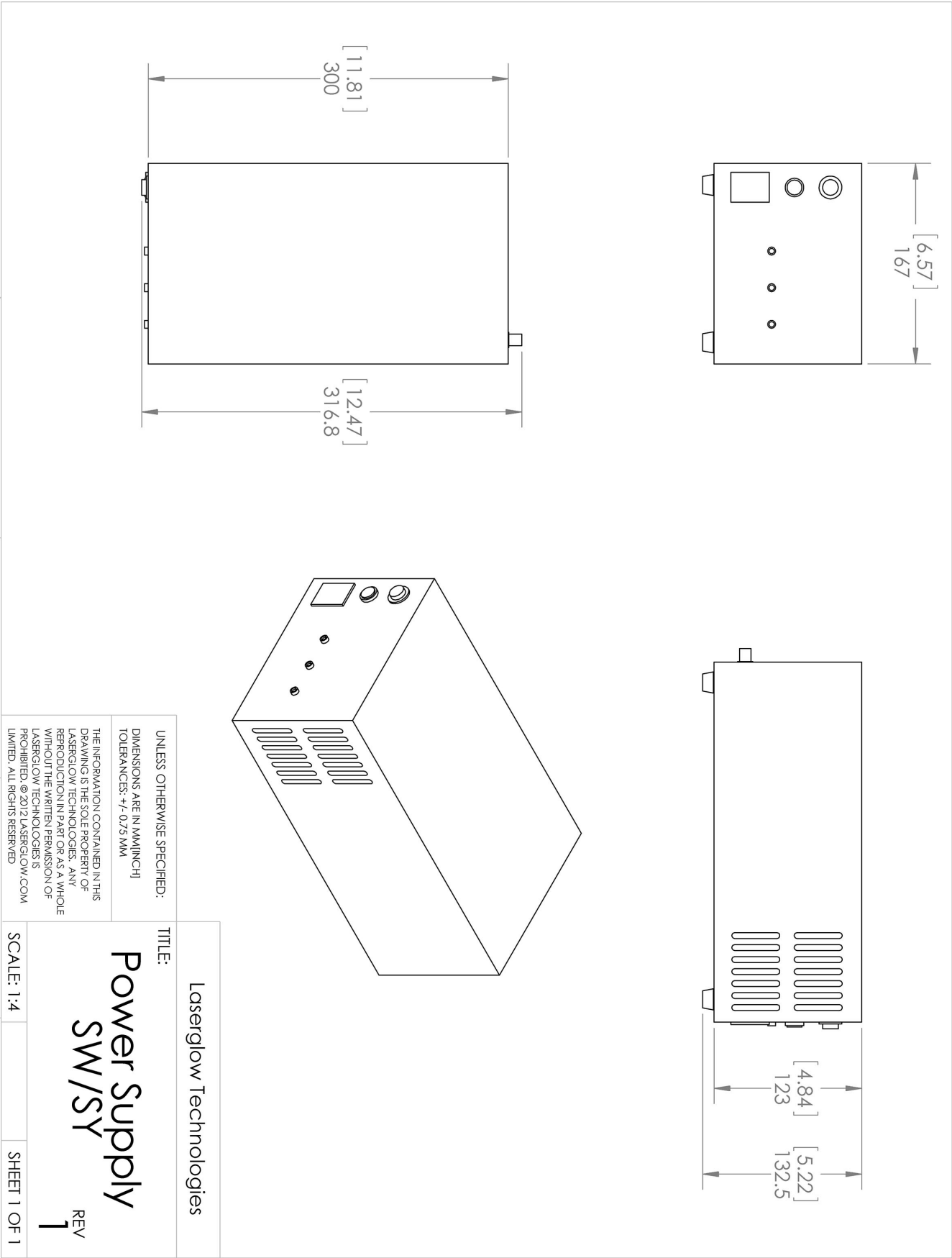
\*Dimensions for fiber-integrated (I\_) include laser head packaged inside.

## Regulatory Classification:

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










Dimensional Drawing - Power Supply Form Factor: SW:



## 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: <a href="http://www.laserglow.com/AFF">www.laserglow.com/AFF</a>	
 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>	
 AGF5327XX	LSG-532-NF-7 Fit-Over Safety Goggles 532nm Output: OD 7+ at 190-532 nm CE Certified Full Details: <a href="http://www.laserglow.com/AGF">www.laserglow.com/AGF</a>	
 ACFVISHXA	FC/PC Fiber Coupler/Collimator for visible spectrum wavelengths (400 to 700 nm) (installed and aligned) 11mm diameter input lens Full Details: <a href="http://www.laserglow.com/ACF">www.laserglow.com/ACF</a>	
 ACSVISHXA	SMA-905 Fiber Coupler/Collimator for visible spectrum wavelengths (400 to 700 nm) (installed and aligned) 11mm diameter input lens Full Details: <a href="http://www.laserglow.com/ACS">www.laserglow.com/ACS</a>	
 TBK	Complete optics kits with breadboard mounting hardware. External modulators, variable attenuators, free-space fiber launch systems Full Details: <a href="http://www.laserglow.com/TBK">www.laserglow.com/TBK</a>	
 ACALBNWXX	Carrying Case-104 Holds Lab/OEM N or W size Standard/Labspec laser Full Details: <a href="http://www.laserglow.com/ACA">www.laserglow.com/ACA</a>	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.