

# **Laserglow Product Datasheet**

# LSS-0589 Single-Longitudinal-Mode DPSS Laser System

# Laserglow Part Number: S580301SX

#### Similar Products:

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http://www.laserglow.com/S58

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# **Series Specifications:**

| ·                  |        |
|--------------------|--------|
| Nominal Wavelength | 589 nm |
| Output Type        | CW     |
| Laser Source Type  | DPSS   |



#### Overview:

The LSS-589 Series of Single-Frequency, Single Longitudinal Mode Diode-Pumped Solid-State (DPSS) Lasers are ideal for applications requiring long temporal coherence and an extremely narrow spectral linewidth. This series of 589 nm SLM lasers are available from 50 mW to >150 mW and maintain a high level of output power stability with a long operating lifetime.

These lasers are commonly used for various scientific purposes such as holography / interferometry, biological experiments, communications research, and a broad spectrum of other applications.

#### **Key Features:**

- Spectral linewidth 0.000006 nm
- 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
- 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 S580301SX, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to S580301SX have been highlighted below in **red + bold**.

| Output Power (mW)                                     | <b>&gt;30</b> , >200                       | >50, >100, >150             |  |
|---|--|-----------------------------|--|
| Output Power<br>Stability (%RMS/4h)                   | <b>&lt;1</b> , <b>&lt;3</b> , <b>&lt;5</b> | <1, <3, <5                  |  |
| Central Wavelength (nm)                               | 588.6                                      | 588.6                       |  |
| Wavelength Tolerance (+/- nm)                         | 1  | 1                           |  |
| Divergence (mrad, full angle)                         | <1.2                                       | <2                          |  |
| Beam Dimensions (mm, 1/e²)                            | 2.5  | 3                           |  |
| Warm-up Time (minutes)                                | 10   | 10                          |  |
| Optical Noise<br>Amplitude (%RMS<br>@ 20 Hz - 20 MHz) | <1   | <0.5                        |  |
| Spectral Linewidth (nm)                               | <1.0E-5                                    | <6.0E-6                     |  |
| M²  | <1.2                                       | <2                          |  |
| Polarization Ratio                                    | >100                                       | >100                        |  |
| Coherence Length (m)                                  | >50  | >50                         |  |
| Beam Pointing<br>Stability (mrad)                     | <0.05                                      | <0.05                       |  |
| Operating<br>Temperature Range<br>(°C)                | 15 to 35                                   | 15 to 35                    |  |
| Total Power<br>Consumption (W)                        | 22   | 22                          |  |
| Max. Power Input<br>Duty Cycle                        | 100%                                       | 100%                        |  |
| Standard Warranty (months)                            | 12   | 12                          |  |
| MTTF (operational hours)                              | 10000                                      | 10000                       |  |
| Weight of Product or<br>Laser Head (kg)               | 2  | 1.6                         |  |
| Beam Height from<br>Base Plate (mm)                   | 27.4                                       | 45                          |  |
| Dimensions of<br>Product or Laser<br>Head (mm)        | 197 (l) x 70 (w) x 50 (h)                  | 211.5 (l) x 88 (w) x 74 (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                             | SF                             |
|------------------------|-----------------------------|--------------------------------|--------------------------------|
| FDA-Compliant Standard | Input Power                 | 85v to 264v                    | 85v to 264v                    |
|                        | Power Supply<br>Weight (kg) | 2.3                            | 2.3                            |
|                        | Dimensions (mm)             | 238 (l) x 146 (w) x<br>102 (h) | 238 (l) x 146 (w) x<br>102 (h) |

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

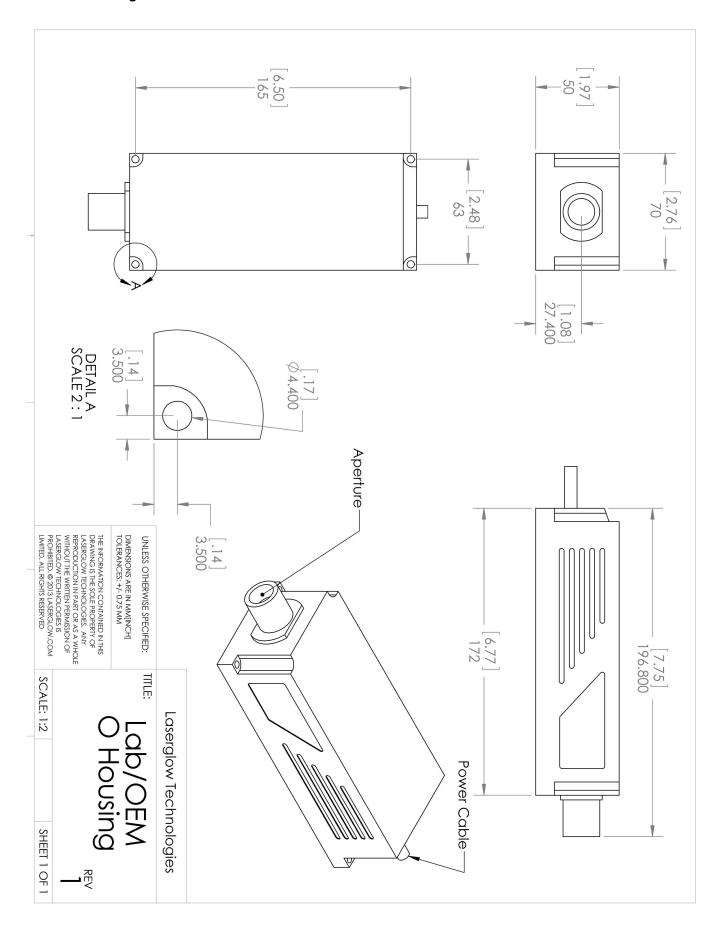
### **Regulatory Classification:**

The model you have selected (S580301SX) requires the following safety label(s):

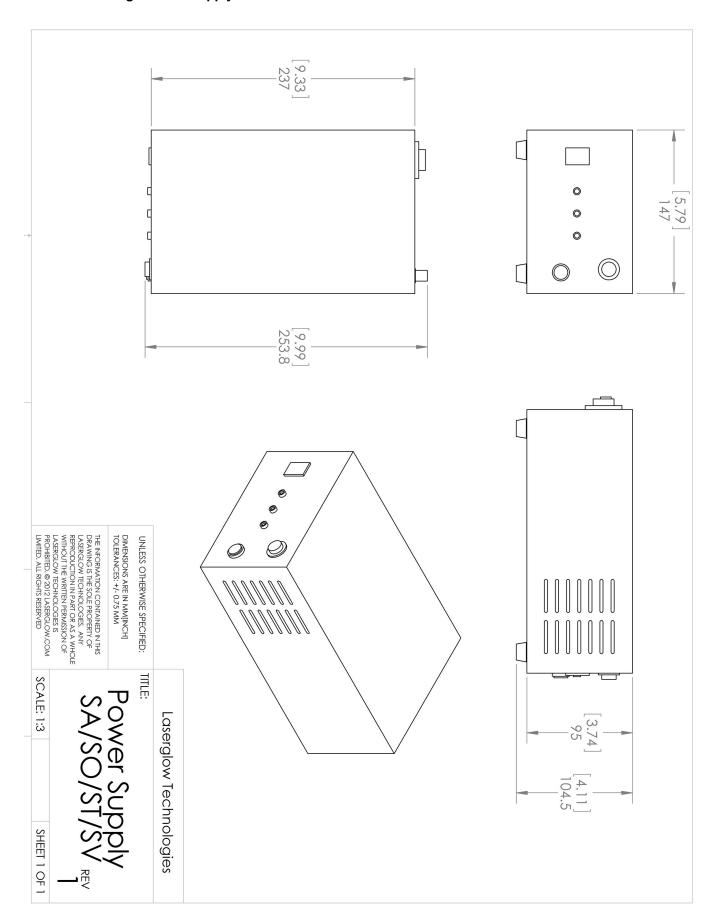


<sup>\*</sup>Dimensions for fiber-integrated (I\_) include laser head packaged inside.

# **Dimensional Drawing - Laser Form Factor: 0:**



# **Dimensional Drawing - Power Supply Form Factor: SO:**



#### **Accessories:**

The most popular accessories for model S580301SX are shown below. For additional details regarding these or other accessories please see our website or contact us directly.

| Part Number | Description  |                     |
|-------------|--|---------------------|
| ACALBHFXX   | Carrying Case-103 Holds Lab/OEM H, F and O size Standard/LabSpec laser Full Details: <a href="https://www.laserglow.com/ACA">www.laserglow.com/ACA</a>   | Included With Laser |
| TBK         | Complete optics kits with breadboard mounting hardware.  External modulators, variable attenuators, free-space fiber launch systems  Full Details: <a href="https://www.laserglow.com/TBK">www.laserglow.com/TBK</a> |                     |
| AGF59459X   | Optical Density 6 Fit over prescription glasses Protect your vision when working with Class IIIb and Class IV green lasers. Full Details: <a href="https://www.laserglow.com/AGF">www.laserglow.com/AGF</a>          |                     |
| AFS2002XX   | Armored Fiber With SMA 905 Connectors 200um Core Multimode 2 m length Full Details: <a href="https://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="https://www.laserglow.com/AFF">www.laserglow.com/AFF</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="https://www.laserglow.com/ACS">www.laserglow.com/ACS</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="https://www.laserglow.com/ACF">www.laserglow.com/ACF</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.