

## Laserglow Product Datasheet

### LLS-0457 Low-Noise DPSS Laser System



#### Series Specifications:

Nominal Wavelength	457 nm
Output Type	CW
Laser Source Type	DPSS

#### Overview:

The LLS-0457 Series of Low-Noise Diode-Pumped Solid-State (DPSS) Lasers are ideal for applications requiring less than 3% noise and output power levels from 5 mW to 10 W. These 457 nm lasers 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 fluorescence excitation, PIV, Raman Spectroscopy, 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:

- 1% optical noise (20 Hz-20 MHz)
- 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 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
- Keys, Safety Interlock
- Hard-shell Carrying Case

## Specifications:

This spec sheet has been generated specifically for part number L45-N, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to L45-N have been highlighted below in **red + bold**.


Output Power (mW)	<5, >10, >50, >100, >300, >500	>100	>300	<b>&gt;1000, &gt;2000</b>	>3000, >4000, >5000, >8000, >10000
Output Power Stability (%RMS/4h)	<3, <5	<3	<3	<b>&lt;1, &lt;3, &lt;5</b>	<3, <5
Central Wavelength (nm)	456.63			<b>456.63</b>	456.63
Wavelength Tolerance (+/- nm)	1			<b>1</b>	1
Divergence (mrad, full angle)	<1.5	<1.5	<1.5	<b>&lt;1.5</b>	<2
Beam Dimensions (mm, 1/e <sup>2</sup> )	3	1	0.7	<b>3</b>	4
Warm-up Time (minutes)	10			<b>10</b>	10
Optical Noise Amplitude (%RMS @ 20 Hz - 20 MHz)	<3			<b>&lt;3</b>	<3
Spectral Linewidth (nm)	<0.2			<b>&lt;0.2</b>	<0.2
M <sup>2</sup>	<2	<1.5	<1.2	<b>&lt;3</b>	<6
Polarization Ratio	>100			<b>&gt;100</b>	>100
Beam Pointing Stability (mrad)	<0.05				
Operating Temperature Range (°C)	10 to 35			<b>10 to 35</b>	10 to 35
Total Power Consumption (W)	25, 30, 70, 120	30	22	<b>135</b>	214, 230, 312
Max. Power Input Duty Cycle	100%	100%	100%	<b>100%</b>	100%
Standard Warranty (months)	12	12	12	<b>12</b>	12
MTTF (operational hours)	10000	10000	10000	<b>10000</b>	10000
Weight of Product or Laser Head (kg)	1.6	10.2	1	<b>2.6</b>	6.1
Beam Height from Base Plate (mm)	45	113	27.4	<b>68.2</b>	93.5
Dimensions of Product or Laser Head (mm)	211.5 (l) x 88 (w) x 74 (h)	420 (l) x 142 (w) x 144 (h)	142.5 (l) x 60 (w) x 50 (h)	<b>240 (l) x 99 (w) x 94 (h)</b>	346 (l) x 140 (w) x 125 (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.

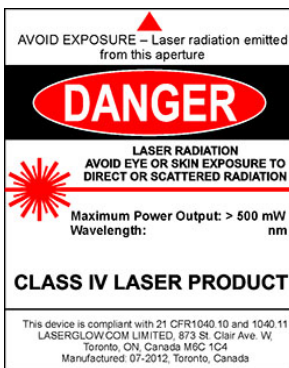
<div>FDA-Compliant Standard</div> <div></div>	Power Supply Type:	SF	SN	SW	SH
	Input Power	85v to 264v	85v to 264v	85v to 264v	85v to 264v
	Power Supply Weight (kg)	2.3	2.3	5.1	2.3
	Dimensions (mm)	238 (l) x 146 (w) x 102 (h)	238 (l) x 146 (w) x 102 (h)	307 (l) x 168 (w) x 123 (h)	238 (l) x 146 (w) x 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 (L45-N) requires the following safety label(s):



Dimensional Drawing - Laser Form Factor: N:










Dimensional Drawing - Power Supply Form Factor: SN:



## Accessories:

The most popular accessories for model L45-N are shown below. For additional details regarding these or other accessories please see our website or contact us directly.

Part Number	Description	
 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>	
 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>	
 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.