

Arktis Laser Product Datasheet

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


| | | | | |
|--|--|-----------------------------|-----------------------------|-----------------------------|
| Output Power (mW) | >100, >300, >500, >1000 | >1000 | >1000, >2000 | >5000, >8000 |
| Single Pulse Energy (µJ) | 1, 10, 30, 50 | 500 | 100, 200 | 150, 200, 250 |
| Optimal Pulse Frequency (Hz) | 10000 | 2000 | 10000 | 25000, 30000 |
| Output Power Stability (%RMS/4h) | <1, <3, <5, <10 | <1 | <1, <3, <5, <10 | <1, <3, <5, <10 |
| Central Wavelength (nm) | 531.65 | 531.65 | 531.65 | 531.65 |
| Wavelength Tolerance (+/- nm) | 1 | 1 | 1 | 1 |
| Divergence (mrad, full angle) | <1.5 | <4.5 | <2 | <2 |
| Beam Dimensions (mm, 1/e ²) | 3 | 1 | 4 | 4 |
| 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 | 50000 | 20000 | 10000 |
| Operating Temperature Range (°C) | 15 to 35 | 15 to 35 | 15 to 35 | 15 to 35 |
| 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% |
| Standard Warranty (months) | 12 | 12 | 12 | 12 |
| MTTF (operational hours) | 10000 | 10000 | 10000 | 10000 |
| Weight of Product or Laser Head (kg) | 2.6 | 5.4 | 6.1 | 10.2 |
| Beam Height from Base Plate (mm) | 68.2 | 101 | 93.5 | 113 |
| Dimensions of Product or Laser Head (mm) | 240 (l) x 99 (w) x 94 (h) | 261 (l) x 194 (w) x 127 (h) | 346 (l) x 140 (w) x 125 (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.

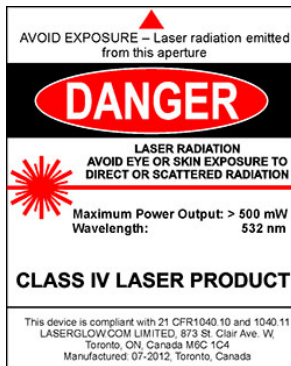
| | Power Supply Type: | AW | AL | AZ |
|---|--------------------------|------------------------------------|---------------------------------|-----------------------------|
|  FDA-Compliant AOM Driver | Input Power | 85v to 264v | 85v to 264v | 85v to 264v |
| | Power Supply Weight (kg) | 6.88 | 8.3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



Dimensional Drawing - Laser Form Factor: N:

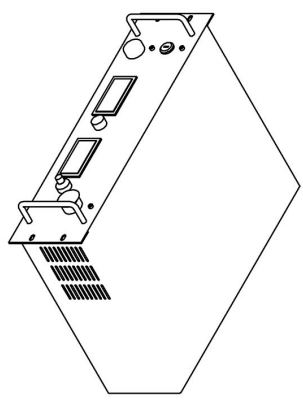
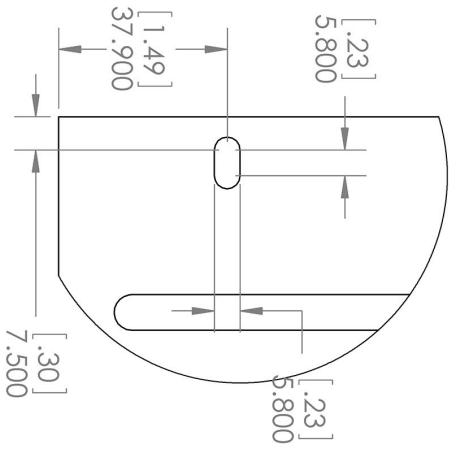
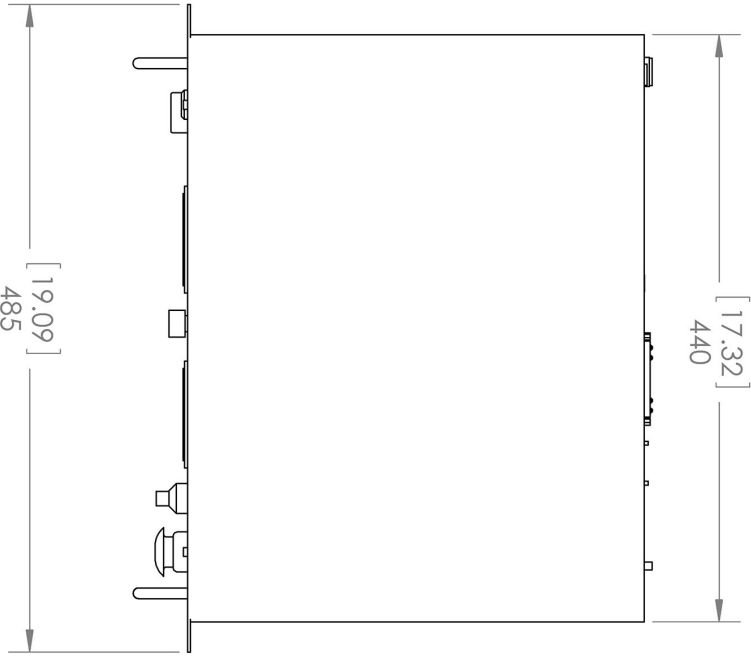
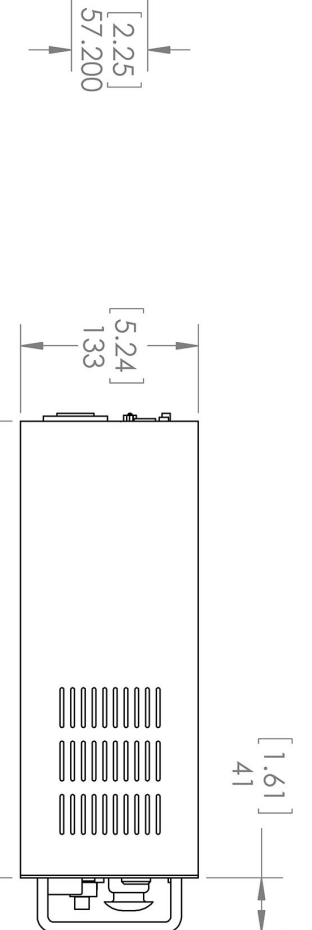
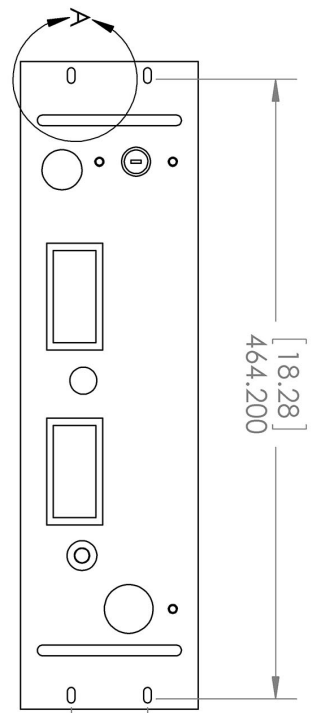


DETAIL A
SCALE 1 : 1



| | | | |
|--|--|---|--|
| UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MM(INCH) TOLERANCES: +/- 0.75 MM | | TITLE: Laserglow Technologies | |
| THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LASERGLOW TECHNOLOGIES. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF LASERGLOW TECHNOLOGIES IS PROHIBITED. © 2012 LASERGLOW.COM LIMITED. ALL RIGHTS RESERVED | | SCALE: 1:3 | |
| Lab/OEM N/V Housing | | SHEET 1 OF 1 | |
| REV 1 | | 1 | |







Dimensional Drawing - Power Supply Form Factor: AW:



| | | | |
|---|--|---|--|
| <p>UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETER TOLERANCES: +/- 0.75 MM</p> | | <p>TITLE: Laserglow Technologies</p> | |
| <p>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LASERGLOW TECHNOLOGIES. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF LASERGLOW TECHNOLOGIES IS PROHIBITED. © 2012 LASERGLOW.COM LIMITED. ALL RIGHTS RESERVED</p> | | <p>SCALE: 1:5</p> | |
| <p>AW Supply</p> | | <p>REV 1</p> | |
| <p>SHEET 1 OF 1</p> | | <p>SHEET 1 OF 1</p> | |

Accessories:

The most popular accessories for model P53-N 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.arktislaser.com/AFF | |
|  AFS2002XX | Armored Fiber With SMA 905 Connectors 200um Core Multimode 2 m length Full Details: www.arktislaser.com/AFS | |
|  AGF5327XX | LSG-532-NF-7 Fit-Over Safety Goggles 532nm Output: OD 7+ at 190-532 nm CE Certified Full Details: www.arktislaser.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.arktislaser.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.arktislaser.com/ACS | |
|  ACALBNWXX | Carrying Case-104 Holds Lab/OEM N or W size Standard/Labspec laser Full Details: www.arktislaser.com/ACA | Included With Laser |

FOR MORE INFORMATION PLEASE CONTACT:

Arktis Laser

112 Elizabeth St, Unit 5-331, Toronto, ON, Canada M5G 1P5

Tel. 1-416-886-1178 Fax 1-647-874-7129

sales@arktislaser.com www.arktislaser.com

E&OE: Data included in this sheet may be subject to change without notice.

Please confirm critical specifications with our staff prior to ordering.