

# Arktis Laser Product Datasheet

## LRS-1053 DPSS Laser System



### Series Specifications:

|                    |         |
|--------------------|---------|
| Nominal Wavelength | 1053 nm |
| Output Type        | CW      |
| Laser Source Type  | DPSS    |

### Overview:

The LRS-1053 Series of Diode-Pumped Solid-State (DPSS) Lasers are ideal for applications requiring 100 mW to >1500 mW of 1053 nm laser light with 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 applications such as measurement, communications research, spectral analysis, 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.

Available with both on-board and remote on/off control as well as a wide array of output power and stability levels, 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
- 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
- TTL and Analog modulation (input via BNC connector) *lab-spec models only*
- Adjustable output power (via lockable dial) *lab-spec models only*
- LED display showing LD current, laser cavity temperature *lab-spec models only*
- 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 RA5-M, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to RA5-M have been highlighted below in **red + bold**.


|  |                                      |                           |
|--|--------------------------------------|---------------------------|
| Output Power (mW)                        | <b>&gt;100, &gt;300, &gt;500</b>     | >1000, >1500              |
| Output Power Stability (%RMS/4h)         | <b>&lt;1, &lt;3, &lt;5, &lt;10</b>   | <1, <3, <5, <10           |
| Central Wavelength (nm)                  | <b>1053.3</b>                        | 1053.3                    |
| Wavelength Tolerance (+/- nm)            | <b>1</b>                             | 1                         |
| Divergence (mrad, full angle)            | <b>&lt;1.5</b>                       | <2                        |
| Beam Dimensions (mm, 1/e <sup>2</sup> )  | <b>1.5</b>                           | 3                         |
| Warm-up Time (minutes)                   | <b>10</b>                            | 10                        |
| M <sup>2</sup>                           | <b>&lt;1.5</b>                       | <2                        |
| Polarization Ratio                       | <b>&gt;100</b>                       | >100                      |
| Beam Pointing Stability (mrad)           | <b>&lt;0.05</b>                      | <0.05                     |
| Operating Temperature Range (°C)         | <b>10 to 35</b>                      | 10 to 35                  |
| Max. Analog Modulation Freq. (Hz)        | <b>500</b>                           | 500                       |
| Max. TTL Modulation Freq. (Hz)           | <b>500</b>                           | 500                       |
| Modulation Input Signal                  | <b>0-5 VDC</b>                       | 0-5 VDC                   |
| Total Power Consumption (W)              | <b>30, 35</b>                        |                           |
| Max. Power Input Duty Cycle              | <b>100%</b>                          | 100%                      |
| Standard Warranty (months)               | <b>12</b>                            | 12                        |
| MTTF (operational hours)                 | <b>10000</b>                         | 10000                     |
| Weight of Product or Laser Head (kg)     | <b>0.6</b>                           | 0.9                       |
| Beam Height from Base Plate (mm)         | <b>24.8</b>                          | 29                        |
| Dimensions of Product or Laser Head (mm) | <b>140.8 (l) x 73 (w) x 46.2 (h)</b> | 155 (l) x 77 (w) x 60 (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:       | <b>FM</b>                         | <b>FH</b>                   |
|--|--------------------------|-----------------------------------|-----------------------------|
| FDA-Compliant LabSpec<br> | Input Power              | <b>85v to 264v</b>                | 85v to 264v                 |
|  | Power Supply Weight (kg) | <b>1.5</b>                        | 2.6                         |
|  | Dimensions (mm)          | <b>154 (l) x 155 (w) x 95 (h)</b> | 268 (l) x 145 (w) x 106 (h) |

|   | Power Supply Type:       | <b>SH</b>                   | <b>SM</b>                  |
|---|--------------------------|-----------------------------|----------------------------|
| FDA-Compliant Standard<br> | Input Power              | 85v to 264v                 | 85v to 264v                |
|   | Power Supply Weight (kg) | 2.3                         | 1.2                        |
|   | Dimensions (mm)          | 238 (l) x 146 (w) x 102 (h) | 133 (l) x 130 (w) x 65 (h) |

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

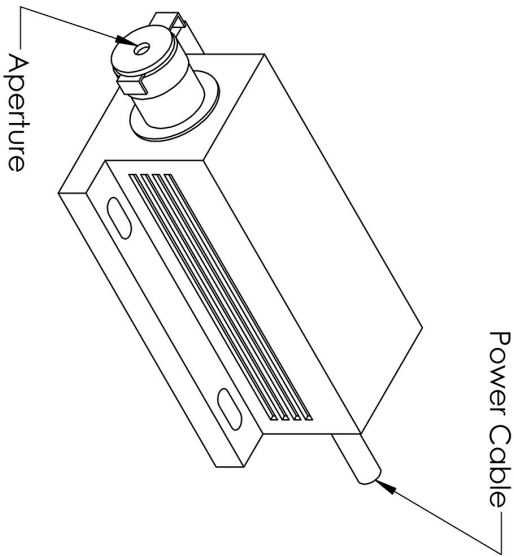
\*Dimensions for fiber-integrated (l\_) include laser head packaged inside.

## Regulatory Classification:

The model you have selected (RA5-M) requires the following safety label(s):



**Dimensional Drawing - Laser Form Factor: M:**



DETAIL A  
SCALE 1 : 1

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN MM(INCH)

TOLERANCES: +/- 0.75 MM

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Laserglow Technologies

TITLE:

Lab/OEM  
M/R Housing REV 1

SCALE: 1:2

SHEET 1 OF 1

**Dimensional Drawing - Power Supply Form Factor: FM:**



UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN MM(INCH)  
 TOLERANCES: +/- 0.75 MM

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**Laserglow Technologies**

TITLE:

**Power Supply**  
**FM/FR**








REV  
**1**

SCALE: 1:3

SHEET 1 OF 1

## Accessories:

The most popular accessories for model RA5-M are shown below. For additional details regarding these or other accessories please see our website or contact us directly.

| Part Number   | Description   |                     |
|---|---|---------------------|
| <br>AGFA647XX   | LSG-1064-NF-7 Fit-Over Safety Goggles 1064nm<br>Output: OD 7+ at 950-1070 nm<br>CE Certified<br>Full Details: <a href="http://www.arktislaser.com/AGF">www.arktislaser.com/AGF</a>  |                     |
| <br>ACFMIRHXA   | FC/PC Fiber Coupler/Collimator for IR wavelengths (1000 to 1300 nm) (installed and aligned)<br>11mm diameter input lens<br>Full Details: <a href="http://www.arktislaser.com/ACF">www.arktislaser.com/ACF</a>               |                     |
| <br>ACSMIRHXA   | SMA-905 Fiber Coupler/Collimator for IR wavelengths (1000 to 1300 nm) (installed and aligned)<br>11mm diameter input lens<br>Full Details: <a href="http://www.arktislaser.com/ACS">www.arktislaser.com/ACS</a>             |                     |
| <br>AFS2002XX   | Armored Fiber With SMA 905 Connectors 200um Core Multimode 2 m length<br>Full Details: <a href="http://www.arktislaser.com/AFS">www.arktislaser.com/AFS</a>   |                     |
| <br>AFF2002XX  | Armored Fiber With FC/PC Connectors 200um Core Multimode 2m length<br>Full Details: <a href="http://www.arktislaser.com/AFF">www.arktislaser.com/AFF</a>  |                     |
| <br>TBK       | Complete optics kits with breadboard mounting hardware.<br>External modulators, variable attenuators, free-space fiber launch systems<br>Full Details: <a href="http://www.arktislaser.com/TBK">www.arktislaser.com/TBK</a> |                     |
| <br>ACALBMXXX | Carrying Case-102<br>Holds Lab/OEM M, R and S size, standard or LabSpec laser<br>Full Details: <a href="http://www.arktislaser.com/ACA">www.arktislaser.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.