



PART NUMBER 0532L-11B
 ITEM NAME 532 NM LASER (DPSS; FREE-SPACE)

PRODUCT DATASHEET



DESCRIPTION

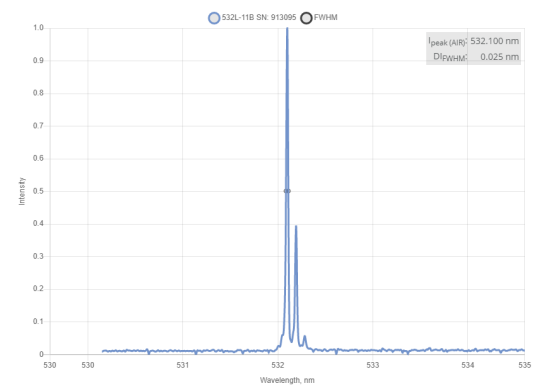
The compact 532 nm module is a DPSS laser featuring high output power, very good beam quality, and superior long-term power stability. The lower-coherence version features several longitudinal modes at higher power and typically single-longitudinal mode at a power level of ~10 mW. 532 nm wavelength radiation is commonly used in fluorescence excitation, scanning microscopy, and general green light illumination. The free-space version features a small beam diameter and a very small form factor.

SPECIFICATIONS

Specifications updated: 9 July 2021

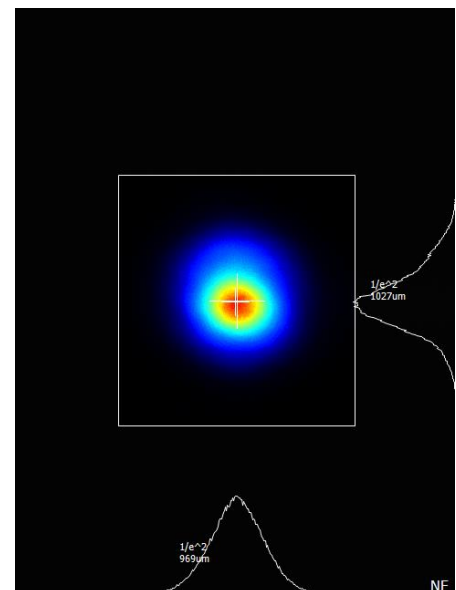
| Parameter | Minimum Value | Typical Value | Maximum Value |
|---|---------------|---------------------------|---------------|
| Central Wavelength, nm | 531.9 | 532 | 532.3 |
| Longitudinal modes | - | Multiple | - |
| Spectral line width FWHM, nm | 0.02 | 0.1 | 0.3 |
| Output power, mW | - | 200 ¹ | 250 |
| Power stability, % (RMS, 8 hrs) | 0.02 | 0.1 ² | 0.5 |
| Power stability, % (peak-to-peak, 8 hrs) | 0.1 | 0.5 ³ | 3 |
| Intensity noise, % (RMS, 20 Hz to 20 MHz) | 0.5 | 3 ⁴ | 30 |
| Transversal modes | - | TEM00 | - |
| Beam width (1/e ²), mm | - | 1 ⁵ | 1.6 |
| Beam height (1/e ²), mm | - | 0.8 | 1.4 |
| Horizontal beam divergence, mrad | - | 1.1 | 1.6 |
| Vertical beam divergence, mrad | - | 1.1 | 1.5 |
| M ² effective | - | 1.3 | 1.5 |
| Polarization direction | - | Vertical ⁶ | - |
| Polarization contrast | 500 | 1000 | 2000 |
| Control interface type | - | UART ⁷ | - |
| Operation mode | - | APC (CW) | - |
| Modulation bandwidth, Hz | - | 500 ⁸ | - |
| Input voltage, VDC | 4.8 | 5 | 5.3 |
| External power supply requirement | - | +5 V DC, 5A | - |
| Dimensions, mm | - | 50 x 30 x 18 ⁹ | - |
| Beam height from the base, mm | 9.9 | 10.4 | 10.9 |
| Heat-sinking requirement, °C/W | - | <0.5 | - |

TYPICAL SPECTRUM



Typical spectrum of 0532 nm DPSS laser. Measured with 20 pm resolution.

TYPICAL NEAR FIELD



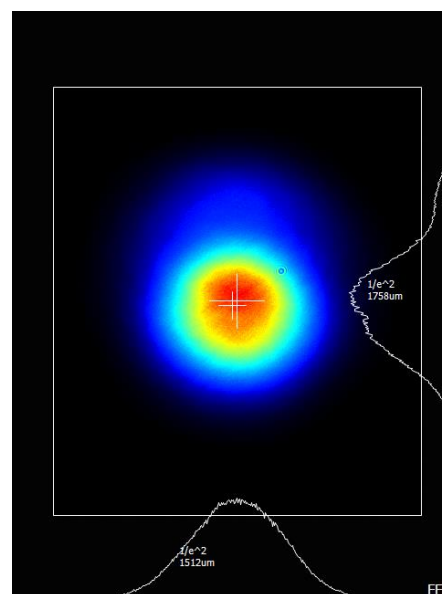
Typical near field (0.45 m from output aperture) beam profile. Circular beam of a 0532 nm DPSS laser.

| | | | |
|--|-----|--|------|
| Optimum heatsink temperature, °C | 20 | 25 | 30 |
| Warm up time, mins (cold start) | 0.2 | 1 | 2 |
| Temperature stabilization | - | Internal TEC | - |
| Overheat protection | - | Yes | - |
| Storage temperature, °C (non-condensing) | -10 | - | 50 |
| Net weight, kg | 0.1 | 0.12 | 0.14 |
| Max. power consumption, W | 5 | 15 | 25 |
| Warranty, months (op. hrs) | - | 14 (10000) ¹⁰ | - |
| Residual IR wavelength, dB contrast | - | 20 | - |
| RoHS | - | Yes | - |
| CE compliance | - | - General Product Safety Directive (GPSD) 2001/95/EC - (EMC) Directive 2004/108/EC | - |
| Laser Safety Class | - | 3B | - |
| OEM lasers are not compliant with | - | IEC60825-1:2014 (compliant using additional accessories) | - |
| Country of origin | - | Lithuania | - |

- ¹ The optical power can be tuned from virtually 0% to 100%. However, other specifications, such as central wavelength, power stability, noise, polarization ratio, beam shape, quality and circularity are not guaranteed at power levels other than factory preset power. Significantly worse power stability is to be expected at very low power levels, e.g. <3% from specified nominal power.
- ² The long term power test is carried out at constant laser body temperature (+/-0.1 °C) using an optical power meter with an input bandwidth of 10 Hz. The actual measurement rate has a period of about 20 seconds to 1 minute.
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- ⁴ Noise level is measured with a fast photodiode connected to an oscilloscope. The overall system bandwidth is from 2 kHz to 20 MHz.
- ⁵ Beam width and height are measured at 0.45 m from output aperture.
- ⁶ For lasers without integrated optical isolators.
- ⁷ Break-out-boxes AM-C8 and AM-C3 can be used for conversion of UART communication to either USB or RS232.
- ⁸ TTL modulation is enabled on request.
- ⁹ Excluding control interface pins and an output window/fiber assembly.
- ¹⁰ Whichever occurs first. The laser has an integrated operational hours counter.

Note: Product specifications are subject to change without prior notice to improve reliability, function or design or otherwise.

TYPICAL FAR FIELD



Typical far field (1 m from output aperture) beam profile. Circular beam of a 0532 nm DPSS laser.

DRAWING

