



PART NUMBER 0532L-23B
 ITEM NAME 532 NM SLM LASER (DPSS; SM FIBER)

PRODUCT DATASHEET



DESCRIPTION

Green single-frequency laser at 532 nm is one of the most important lines for Raman excitation. Very narrow-spectrum combined with good beam quality makes this laser perfect for scanning micro Raman applications. The 532 nm SLM laser is a very compact DPSS module for portable diagnostic applications, RGB holography, as well as various scientific setups. The module contains a powerful Peltier cooler, microprocessor-based electronics, a USB control interface, and many useful accessories for ease of integration. In portable applications, this laser can be powered from conventional USB power banks.

Note:

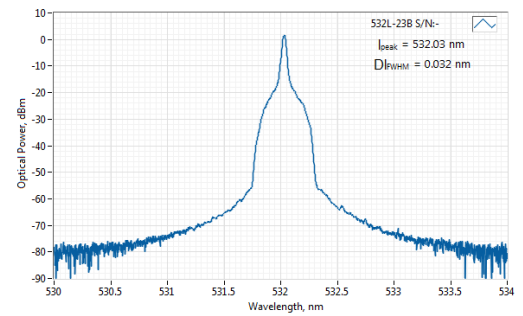
In optical systems with strong back-reflections (e.g. more than 10%), the laser does not have to be protected by using an optical isolator, unless high laser operation stability is required. Typical applications include interferometry, confocal microscopy (especially working with reflective samples), etc.

SPECIFICATIONS

Specifications updated: 5 March 2021

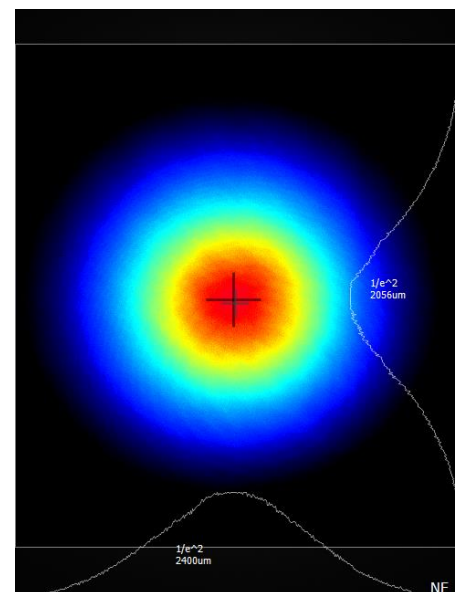
Parameter	Minimum Value	Typical Value	Maximum Value
Central Wavelength, nm	531.9	532.0	532.1
Longitudinal modes	-	Single	-
Spectral line width FWHM, pm	-	0.1 ¹	1
Output power, mW	-	25 ²	50
Side-mode suppression ratio (SMSR), dB	40	50	60
Power stability, % (RMS, 8 hrs)	0.1	0.3 ³	1
Power stability, % (peak-to-peak, 8 hrs)	0.4	1 ⁴	3
Noise, % (RMS, 20 Hz to 20 MHz)	0.3	0.5 ⁵	1
Transversal modes	-	TEM00	-
Control interface type	-	UART ⁶	-
Operation mode	-	APC (CW)	-
Modulation bandwidth, MHz	-	N/A ⁷	-
Input voltage, VDC	4.8	5	5.3
External power supply requirement	-	+5 V DC, 5A	-
Dimensions, mm	-	50 x 30 x 18 ⁸	-
Fiber Length, m	0.95	1	1.1
Heat-sinking requirement, °C/W	-	0.5	-
Optimum heatsink temperature, °C	20	25	30
Warm up time, mins (cold start)	1	3	5
Temperature stabilization	-	Internal TEC	-
Overheat protection	-	Yes	-
Storage temperature, °C (non-condensing)	-10	-	50
Net weight, kg	0.1	0.12	0.14

TYPICAL SPECTRUM



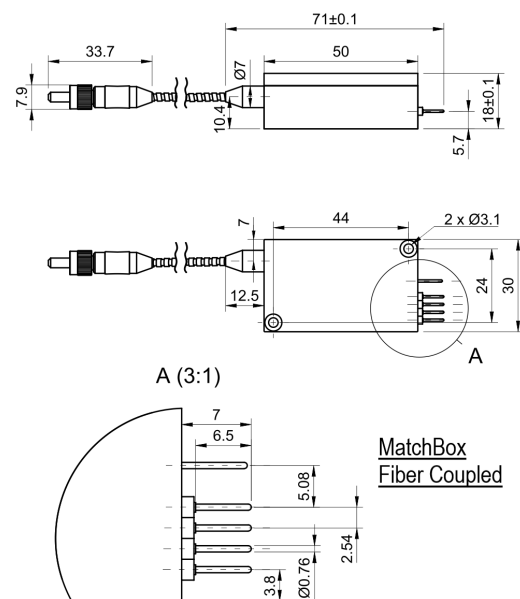
Typical spectrum of 0532 nm DPSS laser. Measured with 20 pm resolution.

TYPICAL NEAR FIELD



Max. power consumption, W	5	15	25
Warranty, months (op. hrs)	-	14 (10000) ⁹	-
Residual IR wavelength 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	-

DRAWING



¹ Measured with a scanning Fabry-Perot interferometer having 7.5 Mhz resolution, with scanning frequency of about 10 Hz. Interferometer testing is not provided for each laser being manufactured, the standard test is OSA measurement with 10-20 pm resolution instead.

² The output power of SLM lasers shall not be tuned and SLM performance is not guaranteed at power ratings other than factory preset. However, the power setting capability is not disabled. External attenuators are recommended instead.

³ 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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⁵ Noise level is measured with a fast photodiode connected to an oscilloscope. The overall system bandwidth is from 2 kHz to 20 MHz.

⁶ Break-out-boxes AM-C8 and AM-C3 can be used for conversion of UART communication to either USB or RS232.

⁷ SLM lasers shall not be modulated - use external modulators instead.

⁸ Excluding control interface pins and an output window/fiber assembly.

⁹ 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.