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PART NUMBER 0532L-26B
ITEM NAME 532 NM SLM LASER

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.
For fiber delivery, please check MM, SM, PM fiber output options. Higher output power is available on request.

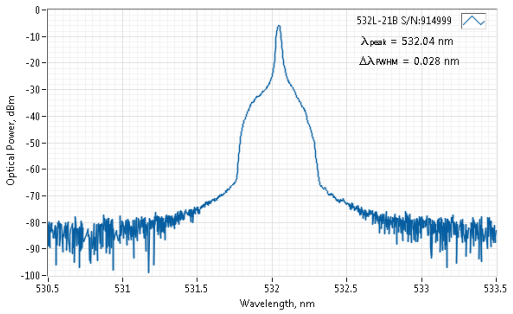
Note:
In optical systems with strong back-reflections (e.g. more than 10%), the laser does not have to be protected by using an optical isolator, unless high laser operation stability is required. Typical applications include interferometry, confocal microscopy (especially working with reflective samples),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

SPECIFICATIONS

Specifications updated: *24 January 2024*

Parameter	Minimum Value	Typical Value	Maximum Value
Central wavelength, nm	531.9	532.0	532.1
Spectral line width FWHM, MHz	-	2 [1]	6
Output power, mW	-	40 [2]	80
Power stability, % (RMS, 8 hrs)	0.03	0.1 [3]	0.5
Power stability, % (peak-to-peak, 8 hrs)	0.4	1 [4]	3
Intensity noise, % (RMS, 20 Hz to 20 MHz)	0.2	0.7 [5]	1
Residual IR wavelength contrast, dB	-	20	-
Side-mode suppression ratio (SMSR), dB	-	70	-
Longitudinal modes	-	Single	-
Transversal modes	-	Multiple	-
Polarization direction	-	Vertical	-
Fiber	-	TBD [6]	-
Fiber core diameter, µm	50	105 [7]	200
Control interface type	-	UART [8]	-
Operation mode	-	APC (CW) [9]	-
Modulation bandwidth, MHz	-	N/A [10]	-
Input voltage, VDC	4.8	5	5.3
Input current, A	-	5	-
Max. power consumption, W	5	15	25
Optimum heatsink temperature, °C	18	25	32
Warm up time, mins (cold start)	1	3	5
Temperature stabilization	-	Internal TEC	-
External fan control	-	-	-

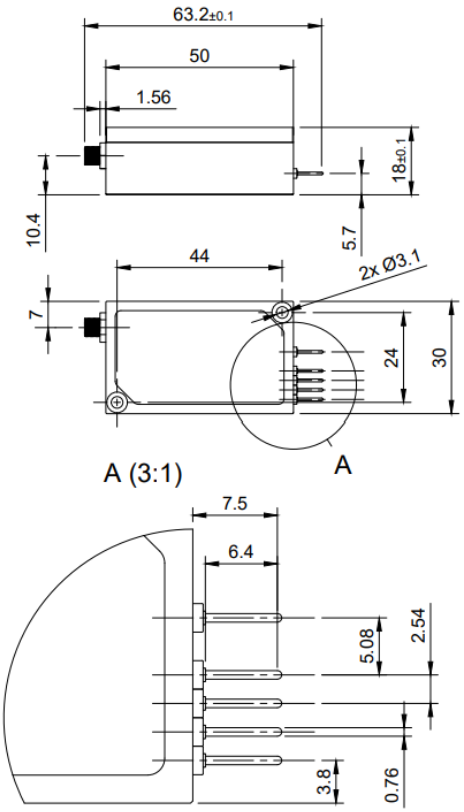
TYPICAL SPECTRUM



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

Overheat protection	-	Yes	-
Storage temperature, °C (non-condensing)	-10	-	50
Dimensions (WxDxH), mm	-	50 x 30 x 18 [11]	-
Net weight, kg	0.1	0.12	0.14
Laser safety class	-	3B	-
RoHS	-	Yes	-
CE compliance	-	- General Product Safety Directive (GPSD) 2001/95/EC - (EMC) Directive 2004/108/EC	-
OEM lasers are not compliant with	-	IEC60825-1:2014 (compliant using additional accessories)	-
Warranty, months (op. hrs)	-	14 (10000) [12]	-
Country of origin	-	Lithuania	-
Spectral line width FWHM, pm	-	0.002 [13]	0.005

DRAWING



[1] Measured using HighFinesse LineWidth Analyzer LWA-10k having 10 kHz resolution. Linewidth Analyzer testing is not provided for each laser being manufactured, the standard test is OSA measurement with 20-30 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.
[4] 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.
[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] Can be supplied upon request.
[7] Other core diameters to be discussed.
[8] Break-out-boxes AM-C8 and AM-C3 can be used for conversion of UART communication to either USB or RS232.
[9] APC - Automatic Power Control.
[10] SLM lasers shall not be modulated - use external modulators instead.
[11] Excluding control interface pins and an output window/fiber assembly.
[12] Whichever occurs first. The laser has an integrated operational hours counter.
[13] Converted from bandwidth value.

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