



PART NUMBER 0532L-31B  
 ITEM NAME 532 NM LASER (HP DPSS; FREE-SPACE)

## PRODUCT DATASHEET



### DESCRIPTION

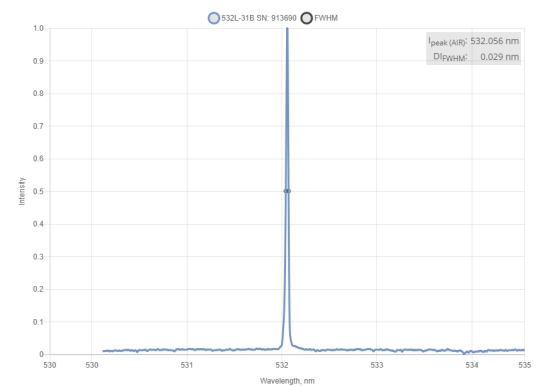
High power CW green laser at 532 nm is often used in industrial excitations processes, Ti:Sapphire laser pumping, large volume scanning, and sorting applications. 500 mW of 532 nm radiation was made available in a MatchBox form factor, which makes the laser module the most compact on the market. Single housing for optics and electronics minimizes wiring and simplifies integration. High electrical-to-optical efficiency minimized heatsinking requirements, whole copper enclosure acts as a perfect heat spreader.

### SPECIFICATIONS

Specifications updated: 18 June 2021

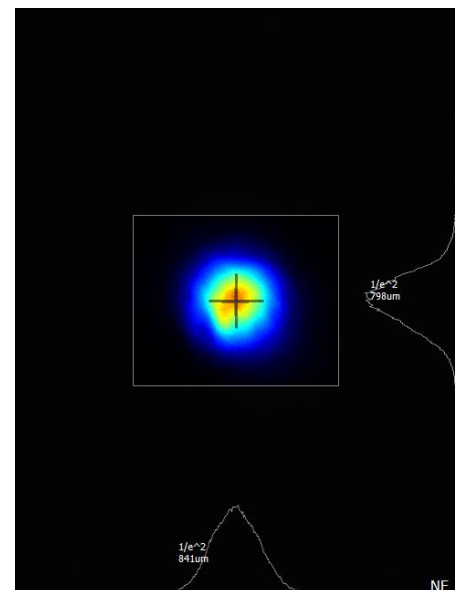
Parameter	Minimum Value	Typical Value	Maximum Value
Central Wavelength, nm	532	532.1	532.2
Longitudinal modes	-	Multiple	-
Spectral line width FWHM, nm	-	0.3	0.5
Output power, mW	-	500 <sup>1</sup>	-
Power stability, % (RMS, 8 hrs)	-	0.2 <sup>2</sup>	1
Power stability, % (peak-to-peak, 8 hrs)	-	2 <sup>3</sup>	3
Intensity noise, % (RMS, 20 Hz to 20 MHz)	-	3 <sup>4</sup>	30
Transversal modes	-	Near TEM <sub>00</sub>	-
Beam Diameter at Aperture (1/e <sup>2</sup> ), mm	-	1	-
Beam divergence (full angle), mrad	-	1.1	-
M <sup>2</sup> horizontal axis	-	3.1	3.4
M <sup>2</sup> vertical axis	-	1.6	2.2
M <sup>2</sup> effective	-	2.4	2.7
Polarization direction	-	Vertical <sup>5</sup>	-
Polarization contrast	1000	2000	3000
Control interface type	-	UART <sup>6</sup>	-
Operation mode	-	APC (CW)	-
Modulation bandwidth, kHz	-	N/A <sup>7</sup>	-
Input voltage, VDC	4.8	5	5.3
External power supply requirement	-	+5 V DC, 5A	-
Dimensions, mm	-	50 x 30 x 18 <sup>8</sup>	-
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



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) <sup>9</sup>	-
Residual IR wavelength contrast, dB	-	20	-
RoHS	-	Yes	-
CE compliance	-	- General Product Safety Directive (GPSD) 2001/95/EC - (EMC) Directive 2004/108/EC	-
Laser Safety Class	-	4	-
OEM lasers are not compliant with	-	IEC60825-1:2014 (compliant using additional accessories)	-
Country of origin	-	Lithuania	-

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> Noise level is measured with a fast photodiode connected to an oscilloscope. The overall system bandwidth is from 2 kHz to 20 MHz.

<sup>5</sup> For lasers without integrated optical isolators.

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

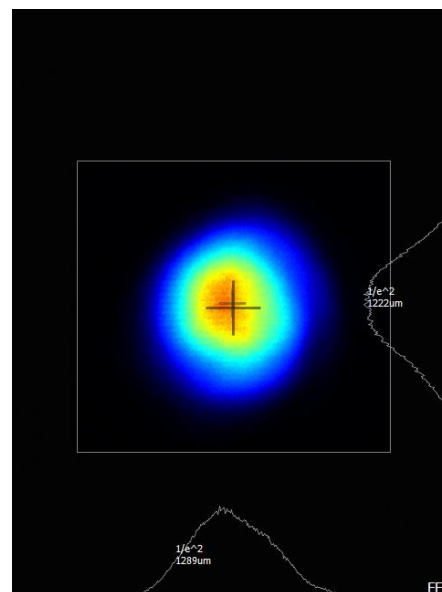
<sup>7</sup> Modulation of DPSS lasers is limited to a few kHz by physics. Therefore we recommend to modulate the laser by sending commands through UART interface. The TTL pin of DPSS lasers is configured to provide PWM signal for control of fan speed instead of modulation.

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

<sup>9</sup> 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



## DRAWING

