


 PART NUMBER 0515L-15A
 ITEM NAME 515 NM LASER (CW, DIODE; PM FIBER)

PRODUCT DATASHEET



DESCRIPTION

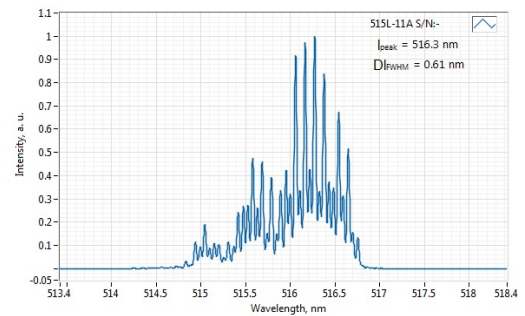
Green laser sources are often used for fluorescence excitation, Raman scattering, as well as for Ti:sapphire pumping applications. High long-term power stability is ensured by TEC thermal stabilization, thermal and optical feedbacks. USB communication lets laser to be easily controlled by connecting it to computer in any laboratory. This laser module is permanently fibered coupled to a single mode polarization maintaining fiber and provides a perfect beam with polarization extinction ratio of more than 20 dB.

SPECIFICATIONS

Last edited on: 24 January 2019

Parameter	Minimum Value	Typical Value	Maximum Value
Central Wavelength, nm	510	515	520
Longitudinal modes	-	multiple	-
Spectral line width FWHM, nm	0.5	1	1.2
Output power, mW	-	25 ¹	-
Power stability, % (RMS, 8 hrs)	-	1 ²	2
Power stability, % (peak-to-peak, 8 hrs)	-	2 ³	3
Noise, % (RMS, 20 Hz to 20 MHz)	-	0.8 ⁴	2
Transversal modes	-	TEM00	-
M ² effective	-	1.05	1.1
Polarization direction	-	Aligned within the slow axis of the PM fiber and the key position.	-
Polarization extinction ratio (from PM fiber), dB	20	23	30
Control interface type	-	UART/USB	-
Operation mode	-	APC (CW)	-
Modulation bandwidth, MHz	-	optional ⁵	-
Input voltage, VDC	4.8	5	5.3
External power supply requirement	-	+5 V DC, 1.5 A	-
Dimensions, mm	-	50 x 30 x 18 ⁶	-
Fiber Length, m	0.95	1	1.1
Heat-sinking requirement, °C/W	-	1	-
Optimum heatsink temperature, °C	15	20	30

TYPICAL SPECTRUM



Typical spectrum of 0515 nm diode laser. Measured with 20 pm resolution.

Warm up time, mins (cold start)	0.1	0.5	1
Temperature stabilization	-	Yes	-
Overheat protection	-	Yes	-
Storage temperature, °C (non-condensing)	-10	-	50
Max. power consumption, W	0.1	2	0.14
Net weight, kg	0.1	0.12	0.14
Max. power consumption, W	0.4	2	10
Warranty, months (op. hrs)	-	14 (10000) ⁷	-
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 Long term power test is carried out using an optical power meter with an input bandwidth of 10 Hz. 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 TTL digital modulation up to 10 MHz.

⁶ Excluding control interface pins and an output window/fiber assembly.

⁷ 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.