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PART NUMBER 1030L-15B
ITEM NAME 1030 NM LASER (DPSS; PM FIBER)

PRODUCT DATASHEET

DESCRIPTION

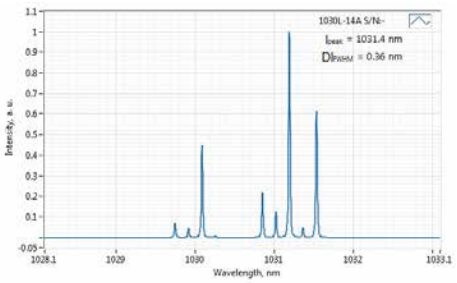
1030 nm DPSS laser features high power with very good TEM00 beam, with M2 of <1.2. It is often used for inspection of optical components at around 1030 nm radiation wavelength. This DPSS laser is based on Yb:YAG gain medium, therefore, exhibits very low quantum defect.

SPECIFICATIONS

Last edited on: *24 January 2019*

Parameter	Minimum Value	Typical Value	Maximum Value
Central Wavelength, nm	1028	1030	1032
Longitudinal modes	-	multimode	-
Spectral line width FWHM, nm	-	0.7	1
Output power, mW	-	300 [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)	-	3 [4]	30
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	-	N/A [5]	-
Input voltage, VDC	4.8	5	5.3
External power supply requirement	-	+5 V DC, 5 A	-
Dimensions, mm	-	50 x 30 x 18 [6]	-
Heat-sinking requirement, °C/W	-	0.5	-
Optimum heatsink temperature, °C	15	20	30
Warm up time, mins (cold start)	0.2	1	2
Temperature stabilization	-	Yes	-

TYPICAL SPECTRUM



Typical spectrum of 1030 nm DPSS laser. Measured with 20 pm resolution.

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Overheat protection	-	Yes	-
Storage temperature, °C (non-condensing)	-10	-	50
Net weight, kg	0.1	0.12	0.14
Max. power consumption, W	5	10	20
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.
[3] 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.
[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] 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.
[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.