

DESCRIPTION

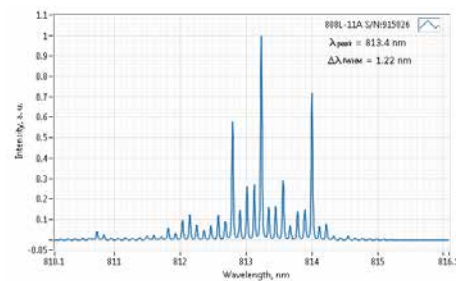
808 nm diode lasers (GaAlAs) are widely used for pumping Nd doped gain media. Recently these diode lasers are applied in dental surgeries, pain treatment, plastic welding and variety of other applications. 808 nm laser sources are offered in SLM and longitudinally multimode options, TEM00 operation.

SPECIFICATIONS

Specifications updated: 13 July 2020

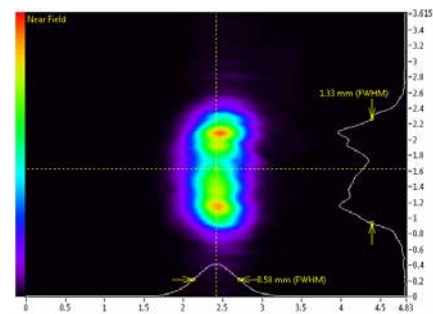
Parameter	Minimum Value	Typical Value	Maximum Value
Central Wavelength, nm	802	808	814
Longitudinal modes	-	Multiple	-
Spectral line width FWHM, nm	-	0.2	0.5
Output power, mW	-	110 ¹	-
Power stability, % (RMS, 8 hrs)	-	1 ²	2
Power stability, % (peak-to-peak, 8 hrs)	-	2 ³	3
Noise, % (RMS, 20 Hz to 20 MHz)	-	0.25 ⁴	0.6
Transversal modes	-	TEM00	-
Beam width (1/e ²), mm	-	1 ⁵	-
Beam height (1/e ²), mm	-	1.1	-
Horizontal beam divergence, mrad	-	1	-
Vertical beam divergence, mrad	-	1	-
M ² vertical axis	-	1.2	1.5
M ² horizontal axis	-	1.1	1.4
M ² effective	-	1.2	1.5
Polarization direction	-	Horizontal	-
Polarization contrast	1000	2000	5000
Control interface type	-	UART ⁶	-
Operation mode	-	APC (CW)	-
Modulation bandwidth, MHz	-	10 ⁷	-
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 ⁸	-
Beam height from the base, mm	9.9	10.4	10.9
Heat-sinking requirement, °C/W	-	1	-
Optimum heatsink temperature, °C	15	20	30
Warm up time, mins (cold start)	0.1	0.5	1
Temperature stabilization	-	Internal TEC	-
Overheat protection	-	Yes	-

TYPICAL SPECTRUM



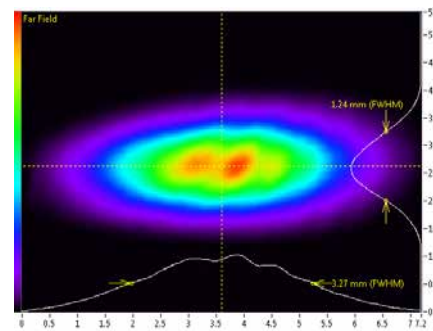
Typical spectrum of 0808 nm diode laser. Measured with 20 pm resolution.

TYPICAL NEAR FIELD



Typical near field (0.45 m from output aperture) beam profile. Non-circularized beam of a 0808 nm direct diode laser.

TYPICAL FAR FIELD



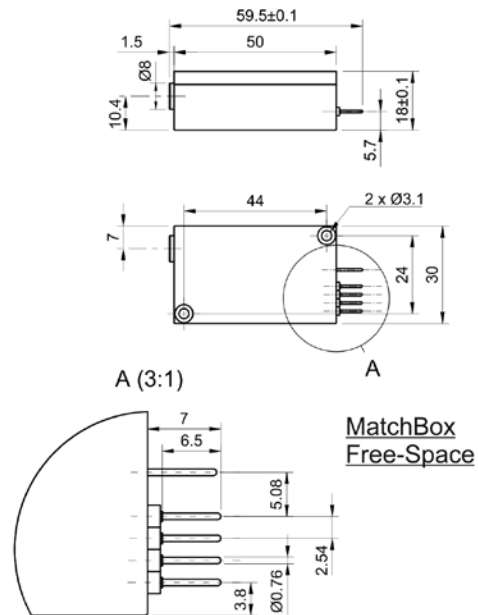
Typical far field (1 m from output aperture) beam profile. Non-circularized beam of a 0808 nm direct diode laser.



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Storage temperature, °C (non-condensing)	-10	-	50
Net weight, kg	0.1	0.12	0.14
Max. power consumption, W	0.4	2	10
Warranty, months (op. hrs)	-	14 (10000) ⁹	-
RoHS compliance	-	Yes	-
M ² effective	-	1.2	1.5
M ² effective	-	1.3	-
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 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 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.

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

⁵ Beam width and height are measured at 0.45 m from output aperture.

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

⁷ TTL digital modulation up to 10 MHz.

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.