



PART NUMBER 0785L-12A
 ITEM NAME 785 NM LASER (DIODE; CIRCULARIZED BEAM)

PRODUCT DATASHEET

DESCRIPTION

Such 785 nm diode module could provide a perfect Gaussian beam with M2 less than 1.05. It is a perfect choice for applications where beam shape and quality is a sensitive issue. Compact housing, plug and play operation make this laser easy to integrate in almost every setup.

SPECIFICATIONS

Specifications updated: 17 August 2020

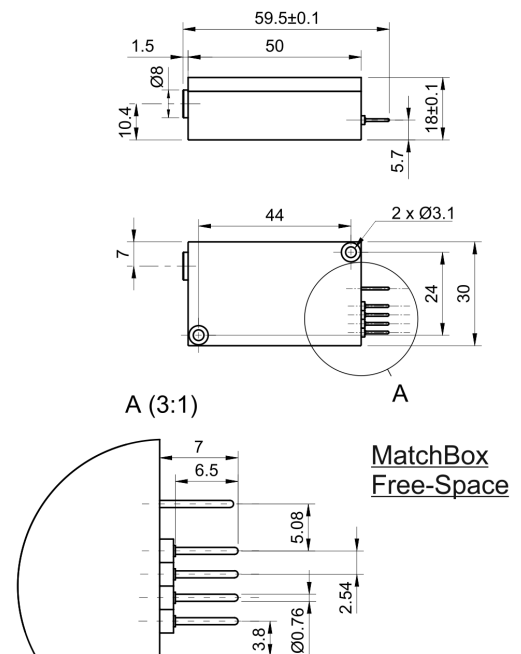
Parameter	Minimum Value	Typical Value	Maximum Value
Central Wavelength, nm	782	785	788
Longitudinal modes	-	Multiple	-
Spectral line width FWHM, nm	-	0.2	0.5
Output power, mW	-	90 ¹	-
Power stability, % (RMS, 8 hrs)	-	1 ²	2
Power stability, % (peak-to-peak, 8 hrs)	-	2 ³	3
Intensity noise, % (RMS, 20 Hz to 20 MHz)	-	0.25 ⁴	0.6
Transversal modes	-	TEM00	-
Beam Diameter at Aperture (1/e ²), mm	-	1	-
Beam divergence (full angle), mrad	-	1.1	-
M ² effective	-	1.05	1.06
Polarization direction	-	Random	-
Control interface type	-	UART ⁵	-
Operation mode	-	ACC (CW)	-
Modulation bandwidth, MHz	-	10 ⁶	-
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 ⁷	-
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	-
Storage temperature, °C (non-condensing)	-10	-	50
Net weight, kg	0.1	0.12	0.14
Max. power consumption, W	0.4	2	10

TYPICAL SPECTRUM

Spectrum of 785 nm Laser (Diode; Circularized Beam)

Typical spectrum of 0785 nm diode laser. Measured with 20 pm resolution.

DRAWING



Warranty, months (op. hrs)	-	14 (10000) ⁸	-
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 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 Break-out-boxes AM-C8 and AM-C3 can be used for conversion of UART communication to either USB or RS232.

⁶ TTL digital modulation up to 10 MHz.

⁷ Excluding control interface pins and an output window/fiber assembly.

⁸ 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.