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PART NUMBER 0785L-44A
ITEM NAME 785 NM NARROW LINEWIDTH LASER (HP VBG DIODE; MM FIBER)

PRODUCT DATASHEET

DESCRIPTION

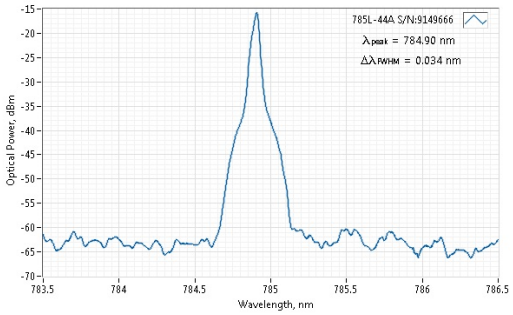
High power 785 nm narrow spectrum laser for industrial Raman applications. Fiber coupled to a multimode fiber which results in circular, nearly top-hat homogeneous beam output. This high-power SLM laser found its applications in industrial Raman Spectroscopy and other sensing applications.
Despite its high output power, this ultra-compact self-contained laser module can be used the same way as any other laser in the MatchBox series. Stainless steel fiber jacket ensures robustness in harsh industrial environments. This 785 nm unit features good center wavelength stability and wide operational temperature range.

SPECIFICATIONS

Last edited on: *24 January 2019*

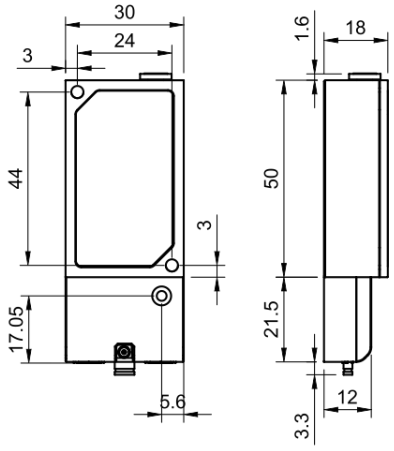
Parameter	Minimum Value	Typical Value	Maximum Value
Central Wavelength, nm	784.5	785	785.5
Longitudinal modes	-	Narrow Spectrum	-
Spectral line width FWHM, pm	20	30	50
Output power, mW	-	450 [1]	-
Side-mode suppression ratio (SMSR), dB	40	50	60
Power stability, % (RMS, 8 hrs)	-	1 [2]	2
Power stability, % (peak-to-peak, 8 hrs)	-	2 [3]	3
Noise, % (RMS, 20 Hz to 20 MHz)	-	0.25 [4]	0.6
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, 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
Warm up time, mins (cold start)	0.2	1	2
Temperature stabilization	-	Yes	-
Overheat protection	-	Yes	-
Storage temperature, °C (non-condensing)	-10	-	50

TYPICAL SPECTRUM



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

DRAWING



Matchbox (with breakout-box) dimensions

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 output power of SLM lasers shall not be tuned and SLM performance is not guaranteed at power ratings other than factory preset. However, the power setting capability is not disabled. External attenuators are recommended instead.
[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] SLM lasers shall not be modulated - use external modulators instead.
[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.