


 PART NUMBER 0405L-25A  
 ITEM NAME 405 NM SLM (VBG DIODE; PM FIBER)

## PRODUCT DATASHEET

### DESCRIPTION



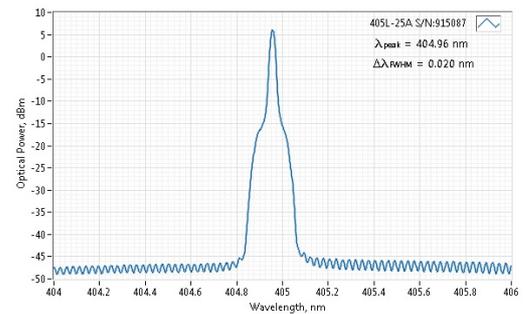
Polarization-maintaining (PM) fiber coupled SLM 405 laser is distinguished by a very good beam quality and homogeneity. Integrated power electronics and monolithic fiber attachment makes this laser immune to thermal changes in the environment and the output delivers spatially filtered TEM<sub>00</sub> polarized radiation.

### SPECIFICATIONS

Last edited on: 24 January 2019

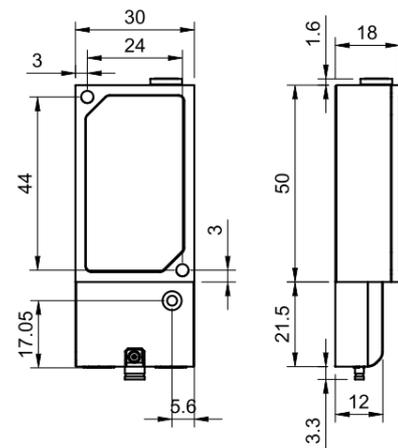
Parameter	Minimum Value	Typical Value	Maximum Value
Central Wavelength, nm	404.9	405	405.1
Longitudinal modes	-	Single	-
Spectral line width FWHM, pm	-	0.1 <sup>1</sup>	1
Output power, mW	-	15 <sup>2</sup>	-
Side-mode suppression ratio (SMSR), dB	40	50	60
Power stability, % (RMS, 8 hrs)	-	1 <sup>3</sup>	2
Power stability, % (peak-to-peak, 8 hrs)	-	2 <sup>4</sup>	3
Noise, % (RMS, 20 Hz to 20 MHz)	-	0.25 <sup>5</sup>	0.6
Transversal modes	-	TEM <sub>00</sub>	-
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 <sup>6</sup>	-
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 <sup>7</sup>	-
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 405 nm diode laser. Measured with 10 pm resolution.

### DRAWING



Matchbox (with breakout-box) dimensions

Warm up time, mins (cold start)	0.2	1	2
Temperature stabilization	-	Yes	-
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
Warranty, months (op. hrs)	-	14 (10000) <sup>8</sup>	-
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	-

<sup>1</sup> Measured with a scanning Fabry-Perot interferometer having 7.5 Mhz resolution, with scanning frequency of about 10 Hz. Interferometer testing is not provided for each laser being manufactured, the standard test is OSA measurement with 10-20 pm resolution instead.

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> 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.

<sup>5</sup> Noise level is measured with a fast photodiode connected to an oscilloscope. The overall system bandwidth is from 2 kHz to 20 MHz.

<sup>6</sup> SLM lasers shall not be modulated - use external modulators instead.

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

<sup>8</sup> 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.