



PART NUMBER 1550L-11A
 ITEM NAME 1550 NM LASER (DIODE; FREE-SPACE)

PRODUCT DATASHEET



DESCRIPTION

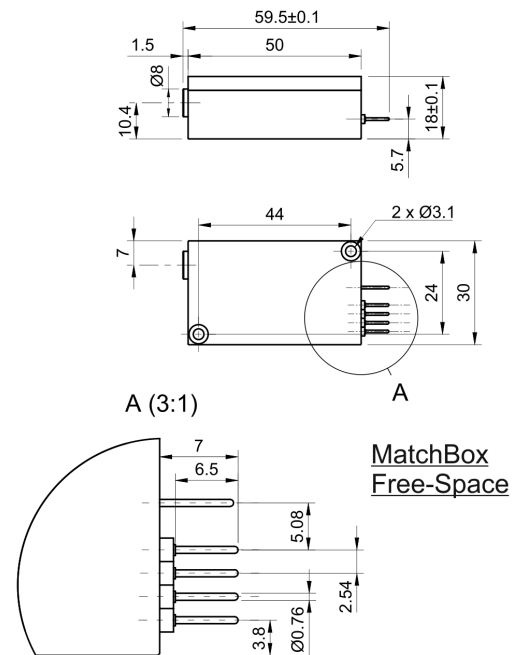
1550 nm free-space laser of the MatchBox series. The small size and all-in-one concept of the MatchBox series make the laser ready for integration into portable handheld devices. High long-term power stability is ensured by TEC thermal stabilization, as well as thermal and optical feedback.

SPECIFICATIONS

Specifications updated: 13 May 2021

Parameter	Minimum Value	Typical Value	Maximum Value
Central Wavelength, nm	1530	1550	1570
Longitudinal modes	-	Multiple	-
Spectral line width FWHM, nm	-	10	15
Output power, mW	-	120 ¹	130
Power stability, % (RMS, 8 hrs)	0.02	0.2 ²	1
Power stability, % (peak-to-peak, 8 hrs)	0.1	2 ³	3
Intensity noise, % (RMS, 20 Hz to 20 MHz)	0.1	0.25 ⁴	0.6
Transversal modes	-	TEM00	-
M ² horizontal axis	-	1.1	1.4
M ² horizontal axis	-	1.2	1.5
M ² effective	-	1.2	1.5
Polarization direction	-	Horizontal ⁵	-
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

DRAWING



Temperature stabilization	-	Internal TEC	-
Overheat protection	-	Yes	-
Storage temperature, °C (non-condensing)	-10	-	50
Net weight, kg	0.1	0.2	0.14
Max. power consumption, W	0.5	2	10
Warranty, months (op. hrs)	-	14 (10000) ⁹	-
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)	-

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.

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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 For lasers without integrated optical isolators.

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.