High-power pulsed lasers

1310…1650 nm single-mode pulsed lasers in 5.6 mm TO-can

Overview

Modulight's RangerLase product family includes a series of high-performance single-mode lasers in 1310 nm, 1490 nm, 1550 nm, 1625 nm and 1650 nm. These laser chips are suitable for OTDR, and other applications demanding high power and single transverse mode.

All these lasers are also available as bare die chip, and a coaxial fiber pigtail.



Applications

Defense	Industrial	Communications
Test & measurement	Test & measurement	Test & measurement

Electro-optical Characteristics, Typical Values

Parameter	Symbol	ML1344	ML1925	ML1345	ML1340	ML1526	Unit
Central Wavelength (I_{OP} = 500 mA)	λ	1310	1490	1550	1625	1650	nm
Peak Power	P_{OPT}	> 300	200	> 200	> 100	> 100	mW
Operating Current (P_{OPT} = 100 mW)	I_{OP}	700	550	650	430	500	mA
Operating Voltage (P_{OPT} = 40 mW, CW)	V_{OP}	1.3	1.2	1.2	1.2	1.3	V
Slope Efficiency	η	0.45	0.40	0.32	0.26	0.22	W/A
Threshold Current	I_{TH}	40	45	35	50	55	mA
Spectral Width	$\Delta\lambda$	4	5	4.5	< 7	3	nm

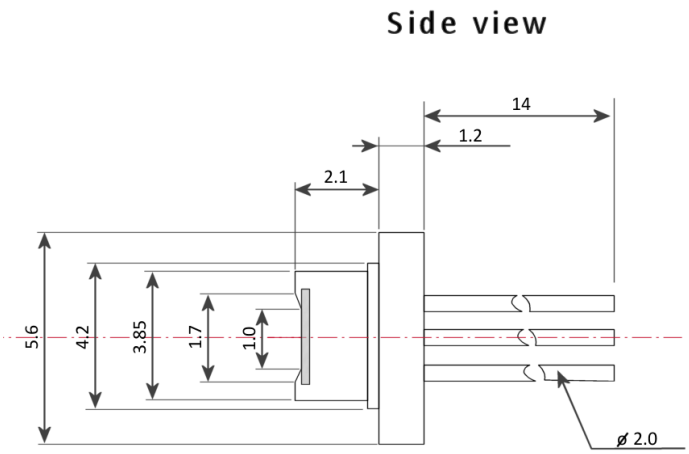
All above values are for operation @ 25°C. If not otherwise stated, the characteristics are for operation under pulse current (pulse width = 10 µs and duty cycle 1 %).

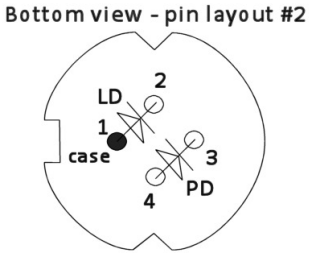
Absolute Maximum Ratings

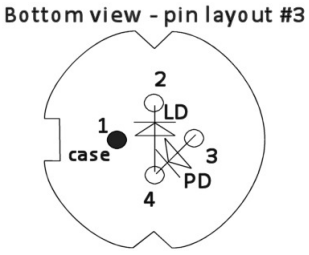
Parameter	Symbol	ML1344	ML1925	ML1345	ML1340	ML1526	Unit
LD Forward Current	I_{FLD}	1000	1000	1000	750	800	mA
Operating Temperature Range	T_{AMB}	0…70 [1]	0…60 [1]	0…60 [1]	10…60 [1]	10…40 [1]	°C
Storage Temperature Range	T_{STG}	-40…85	-40…85	-40…85	-40…85	-40…85	°C

1 A non-condensing environment should be ensured over the useful temperature range.

Mechanical Specification



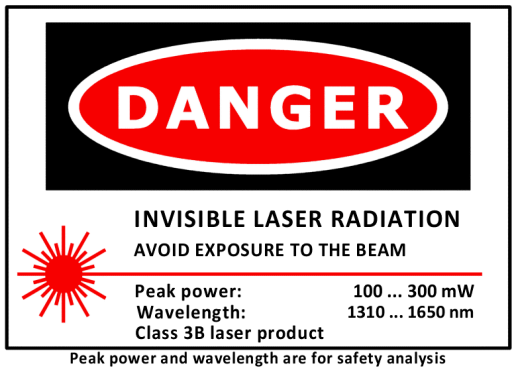




All dimensions are millimeters (mm). The default pin layouts are #3 for product ML1340 (1625 nm TO-can) and #2 for all other products. Other pin layouts are available as per customer request. Monitoring photodiode is optional, not included by default.

Safety Information

- The laser light emitted from this laser diode is invisible and potentially harmful to the human eye. Avoid eye and skin exposure to the beam, both direct and reflected.
- Products are subject to the risks normally associated with sensitive electronic devices including static discharge, transients, and overload. Please ensure ESD protection prior to handling the products.
- These Modulight products are not intended for use in systems where product malfunction can reasonably be expected to result in personal injury.



Peak power and wavelength are for safety analysis only, not to present device performance.

Liability note

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