High Power FP Laser - OTDR

Description

A High Optical power Fabry-Perot Laser designed for OTDR applications. This is a pulsed laser with built in monitor Photodiode.

Features

- High output power
- Built in monitor Photodiode
- Available wavelengths
  - 850 nm
  - 1310 nm
  - 1550 nm
- Pulse Width (PW) = 10 µs, Duty 1%
- Ability to choose desired optical connector.

Applications

- Optical time-domain reflectometer (OTDR)

Electro-Optical Characteristics (T_{op} 23 ± 3°c, unless otherwise specified)

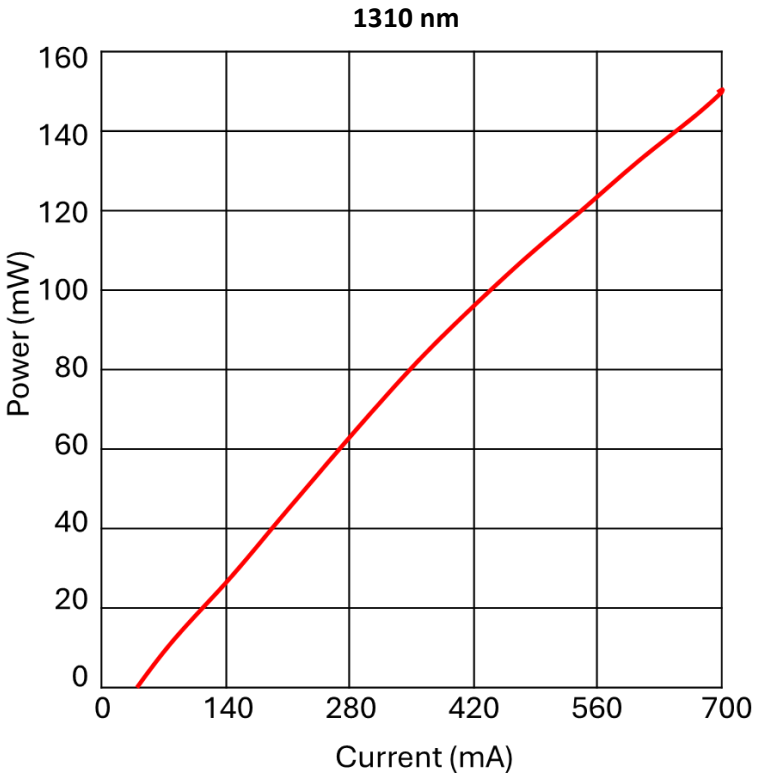
Parameter	Symbol	Min.	Typ.	Max	Unit	Notes
Forward Voltage	V_{FP}			3.5	V	850, 1310, 1550 nm
Threshold Current	I_{th}		18	25	mA	850 nm
			10	15	mA	1310, 1550 nm
Optical Power	P_o		160		mW	850 nm, If = 300 mA, PW = 10 µS Duty = 1%
			120			1310, 1550 nm, If = 300 mA, PW = 10 µS Duty = 1%
Center Wavelength	λ_c	λ_c -10	λ_c	λ_c + 10	nm	PW = 10 µS Duty = 1%
Rise Time	T_r		1	2	ns	850 nm , 10-90%
			0.5	1		1310, 1550 nm , 20-80%
Fall Time	T_f		1	2	ns	850 nm , 90-10%
			0.5	1		1310, 1550 nm , 80-20%

Absolute Maximum Ratings

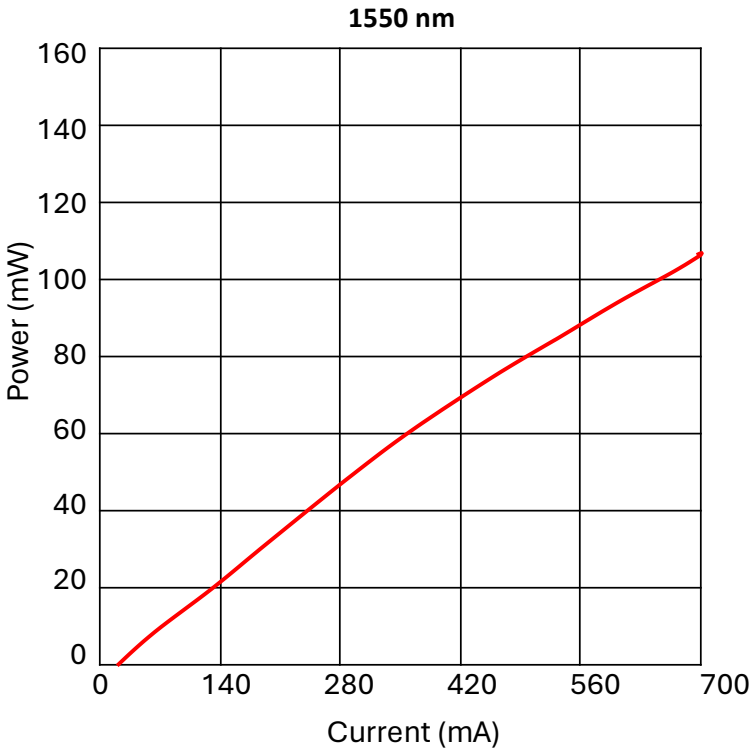
Parameter	Symbol	Condition	Min.	Max.	Unit
Reverse Voltage	V_r	Laser Photodiode		2 10	V
Forward Current	I_F			700	mA
Reverse Current	I_R	Photodiode		2	mA
Optical Input power	P_{in}			10	mW
Storage Temperature	T_{stg}		-25	90	°C
Storage Humidity	H_{stg}			85	% r.H.
Operating Temperature	T_{op}		-25	80	°C
Soldering Temperature	T_{st}	60 sec		200	°C
ESD Susceptibility		HBM	100		V

Operating at maximum ratings for a prolonged period will cause damage to the device.

LIV Curve (T_{op} = 23°C)

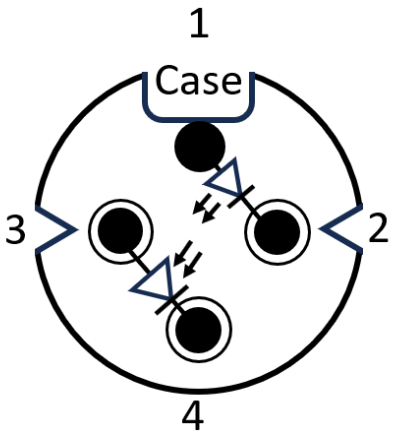


Graph 1: 1310 nm 140 mW FP Laser



Graph 2: 1550 nm 100 mW FP Laser

Pin Configuration



Pin Number	Function
1	Laser Anode (+)/ Case
2	Laser Cathode (-)
3	PD Anode (+)
4	PD Cathode (-)

Table 1: Device Pin out

Device Dimensions

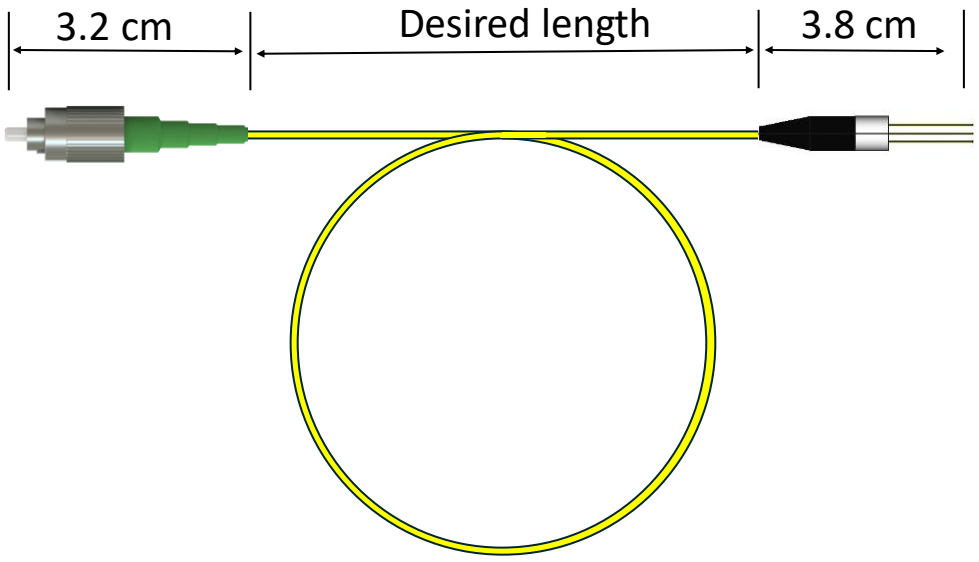
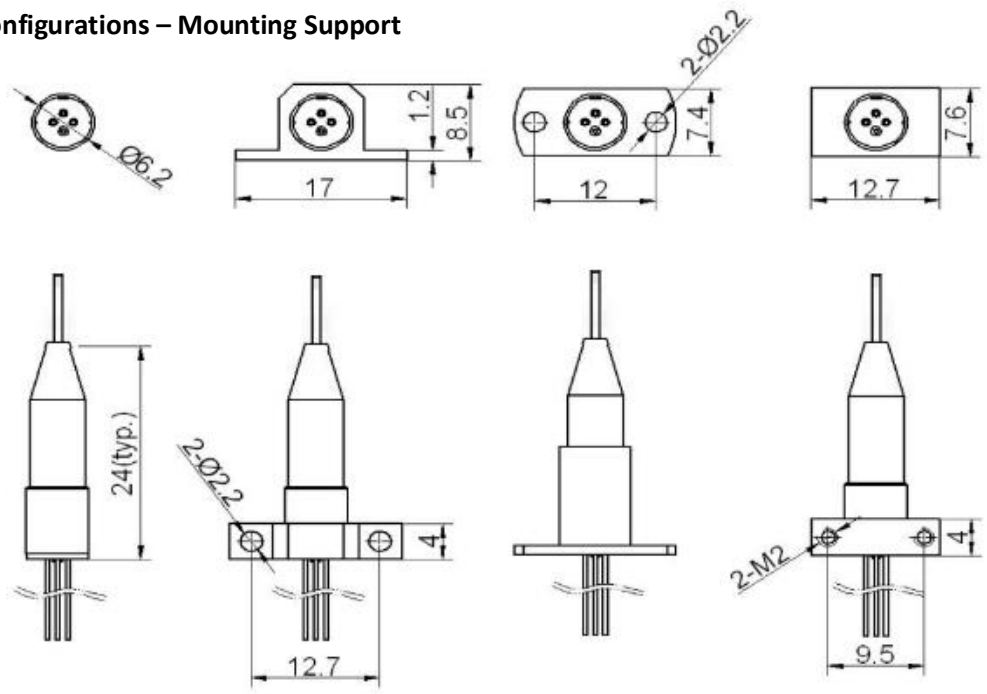


Fig 2: Device mechanical drawing. (All units in mm). Fiber and connector size differs based on build configuration.

Build Configurations – Mounting Support



(a) (b) (c) (d)

Device Nomenclature

DL25O-TO-X-XX-XX

Product Line – FP Laser OTDR

Device body style – TO-CAN

Device Mounting Support;

- **(a)** No Mount
- **(b)** Horizontal Mount
- **(c)** Vertical Mount
- **(d)** Horizontal threaded

Wavelength

08 – 850 nm
13 – 1310 nm
15 -- 1550nm

Optical Connector

(00) No Connector
(FA) FC/APC
(FP) FC/PC
(CA) LC/APC
(CP) LC/PC

Inquiry Information

Sales: All inquiries regarding sales please contact Sales@NuPhotonics.com

General: If you are interested in a custom solution, general information, or engineering related information please contact Inquiry@NuPhotonics.com

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Alpha Build: Devices in Alpha build are in internal engineering build and testing stages. Major changes may happen for production build.

Beta Build: Devices in Beta build are for external customer and engineering sample testing stages. Minor changes may happen for production build.

Production Build: Customer ready devices. Small appearance changes may occur between devices.

Obsolete: Currently not supported.