VCSEL-1577-T-SM

Tunable VCSEL 1577 nm, Single Mode with built-in TEC

OVERVIEW

The Optilab VCSEL-1577-T-SM is a wavelength tunable Vertical Cavity Surface Emitting Laser (VCSEL) diode. Utilizing a MEMS based tuning capacity, its peak wavelength can be tuned over 10 nm at 100 kHz. VCSEL-1577-T-SM is designed for fiber sensing, laser transmitter and optical communication applications. It also integrates an internal TEC and optical isolator for stable single mode output. Contact Optilab for more information.

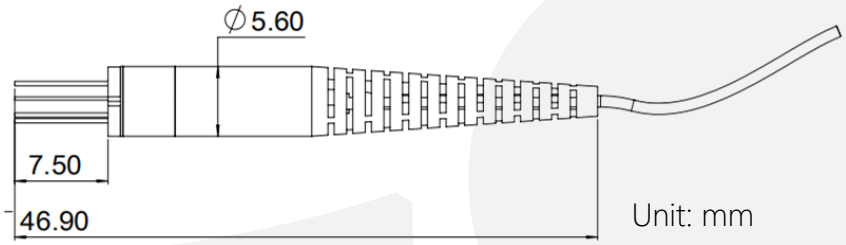
FEATURES

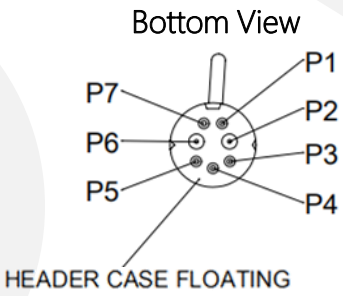
- 10 nm Wavelength Tuning Range
- 100 kHz Wavelength Turning Speed
- Mode Hopping Free Tuning
- Integrated TEC and Optical Isolator
- Single Mode Output
- 0.6 mW CW Output Power
- Small Footprint (TO-56)
- 10 Gb/s Direct Modulation

USE IN

- OCT Imaging
- 1577nm Optical Communications
- RFoF
- FBG Sensing
- LIDAR

MECHANICAL DRAWING & PIN OUT





PIN No.	PIN1	PIN2	PIN3	PIN4	PIN5	PIN6	PIN7
ASSIGN MENT	TEC +	LD -	TIUNING (Vt -)	THERMI STOR	THERMI STOR	LD + / Vt +	TEC -

VCSEL-1577-T-SM

SPECIFICATIONS

GENERAL

Output Wavelength	1567 ~ 1577 nm; ± 2 nm
Output Power	0.6 mW typ.
Side Mode Suppression Ratio	40 dB typ.
Laser Linewidth	300 MHz typ.
Relative Intensity Noise	-127 dB/Hz
LD Threshold Current	7 mA
LD Operation Current	18 mA
RF Bandwidth (S21)	8.5 GHz
Electrical Return Loss (S22)	-5 dB
RF Input Impedance	50 Ω
Wavelength Tuning Voltage	18 V max.
Wavelength Tuning Current	100 μA
Wavelength Tuning Speed	100 kHz
Wavelength Tuning Range	10 nm typ.
Thermistor	10 kΩ

ABSOLUTE MAXIMUM RATINGS

Operation Temperature	0°C ~ 70 °C
Storage Temperature	-20°C ~ 85 °C
Soldering Temperature	350 °C
LD Forward Current	25 mA
LD Forward Voltage	2.5 V
Tuning Voltage	20 V
Tuning Current	0.1 mA
TEC Voltage	1.5 V
TEV Current	0.8 A

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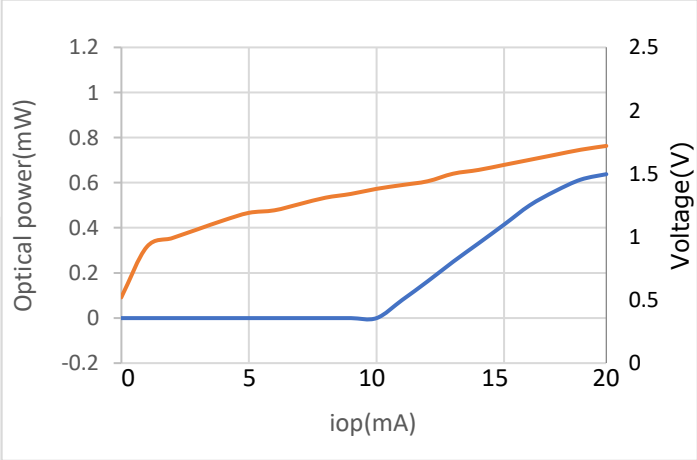
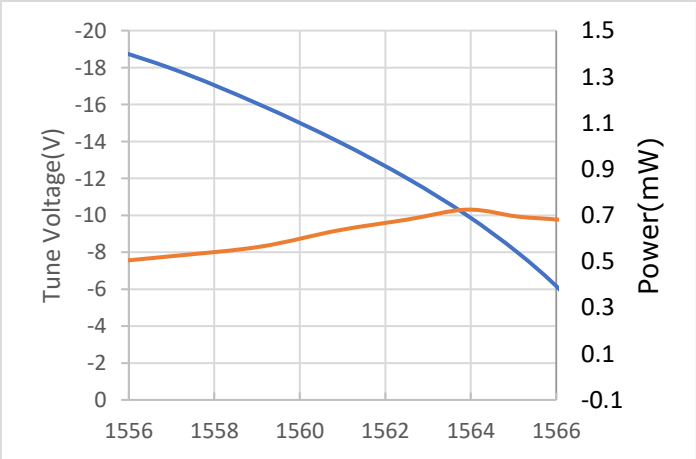
TEST REPORT

L-I-V Curve



Wavelength Tuning Curve



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RELATED EVALUATION BOARD

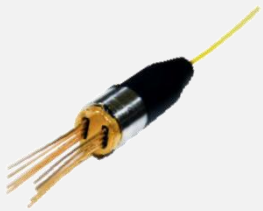
- **VCSEL-T-EVAL**

Optilab VCSEL-T-EVAL is an evaluation board designed for ease of testing. It provides convenient access to all 7pins and data output ports.

- **SWL-15XX-MC**

Optilab SWL-15XX-MC is a low cost Swept Wavelength Laser module. It features fast continuous sweeping of 100kHz within 10nm range.

- **VCSEL-1550-SM**



Optilab VCSEL-1550-SM is a packaged in compact coaxial housing with single mode fiber pigtail. It requires very low drive current and features built-in TEC.