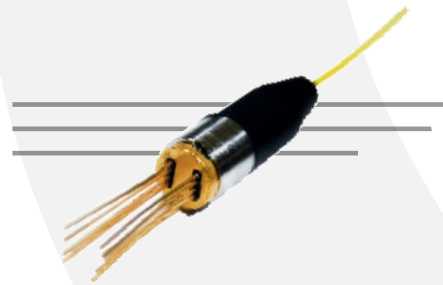




# VCSEL-1545-SM



## VCSEL Coaxial, 1545 nm Single Mode with TEC built-in

### OVERVIEW

The 1545 nm Vertical Cavity Surface Emitting Laser (VCSEL) is packaged in compact coaxial housing with single mode fiber pigtail. VCSEL-1545-SM is designed for fiber sensing, laser transmitter and optical communication applications. It requires very low drive current and can be temperature stabilized with built-in TEC. Contact Optilab for more information.

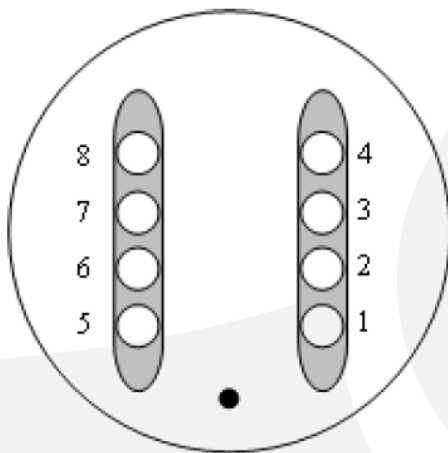
### FEATURES

- Wavelength stabilization with TEC
- Low drive current
- Wavelength tuning through current and temperature
- Data rates up to 2.5 Gbps
- TO package with single mode fiber

### APPLICATION

- Fiber Sensor
- General Purpose R&D
- Optical network
- RFoF

### TO PACKAGE BOTTOM SIDE VIEW



### PIN CONFIGURATION

- 1 TEC Cathode(-)
- 2 Thermistor
- 3 Not Connected
- 4 VCSEL Cathode/PD Anode
- 5 TEC Anode(+)
- 6 Thermistor
- 7 PD Cathode
- 8 VCSEL Anode





# VCSEL-1545-SM

## SPECIFICATIONS

### GENERAL

Wavelength	1545nm +/-2.5nm
Wavelength Tuning Range	4 nm
Threshold Current	2 mA typ.
Laser Linewidth	0.1 nm
Forward Voltage	3 V
Series Resistance	100 $\Omega$ typ.
Output Power	0.5 mW typ.
Side Mode Suppression	35 dB typ.
Rise and Fall Time	100 ps typ.
Monitor Current	0.1 mA typ.
Modulation Bandwidth	3 GHz typ

### ABSOLUTE MAXIMUM RATINGS

Forward Current	15 mA
Reverse Voltage	5 V
Operating Temperature	70 °C
Reflow Temperature	260 °C
TEC Maximum Current	0.7 A

### MECHANICAL

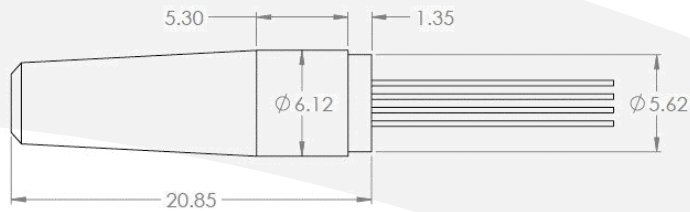
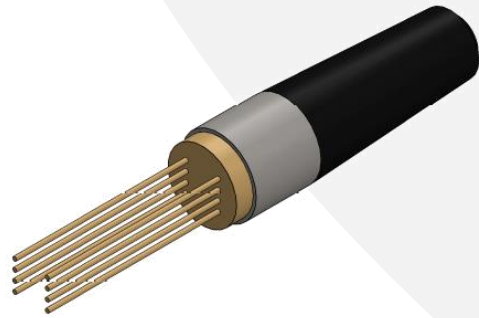
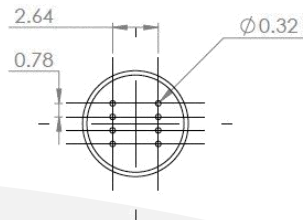
Operation Temperature Range	0 °C to +70 °C
Storage Temperature Range	0 °C to +100 °C
Fiber Type	SMF28
Connector	FC/APC
Housing Type	T056 w/8 pins





# VCSEL-1545-SM

MECHANICAL DRAWING



RELATED PRODUCT

- **VCSEL-1550-T**



Optilab VCSEL-1550-T is a tunable VCSEL diode with wide tuning range up to 10nm. It also features internal TEC and optical isolator for stable output.

