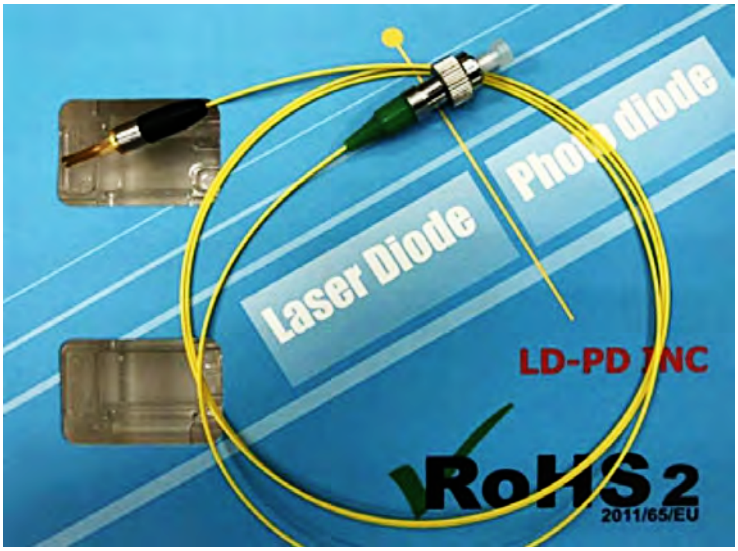
1310 nm Single Mode VCSEL with TEC built-in



Description:

The 1310 nm Vertical Cavity Surface Emitting Laser (VCSEL) is packaged in compact coaxial housing with single mode fiber pigtail. VCSEL-1310-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.

Features:

- Low dependence of electrical and optical characteristics over temperature
- Data rates from OC-3 to OC-48
- Lower Power Consumption

Applications:

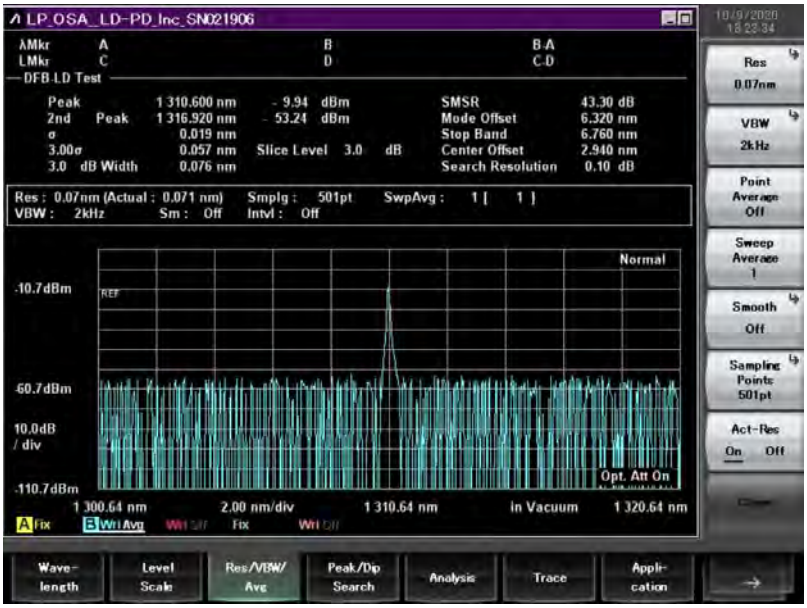
- Access network for long distance (>2 km)
- Metro area network
- Gigabit Ethernet

Electrical/Optical Characteristics:

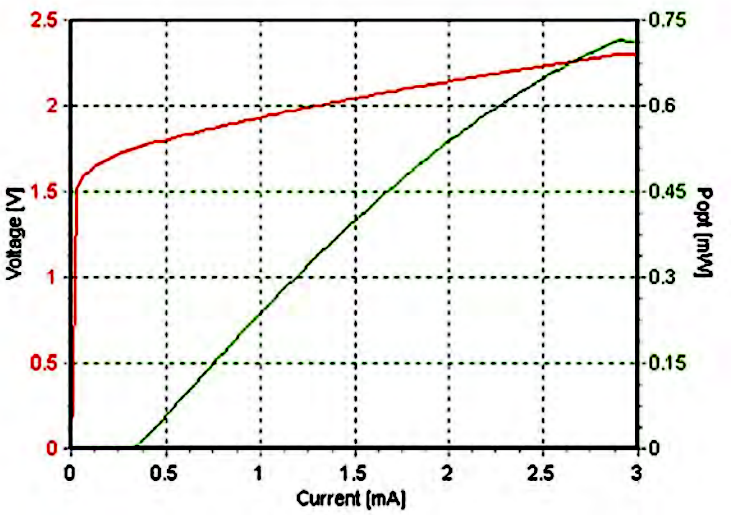
Condition:TO P = 20°C, IO P = 2.0 mA unless otherwise stated (TO P = chip backside temperature, controlled by the TEC)

Wavelength	1310nm +/-10nm
Wavelength Tuning Range	4 nm
Threshold Current	2 mA typ.
Laser Linewidth	0.1 nm
Forward Voltage	3 V
Series Resistance	100 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

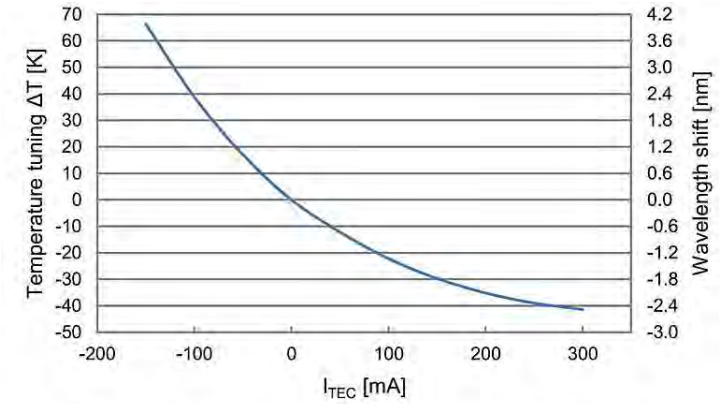
Spectrum:



L-I Curve(T@25°C):



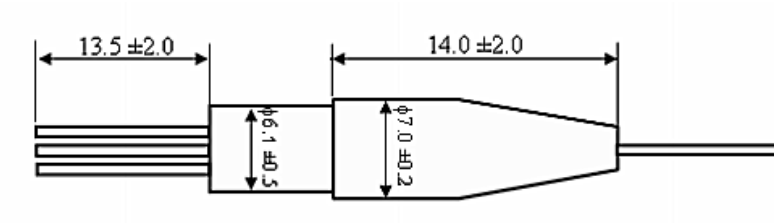
Temperature / wavelength tuning over TEC current*:



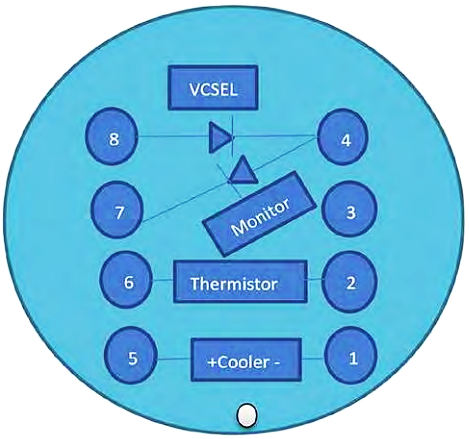
* TEC performance is dependent on heat load, ambient temperature and heatsink properties

Package Size:

unit (mm)



Pin definition:



1	Thermoelectric Cooler (-)	5	Thermoelectric Cooler (+)
2	Thermistor	6	Thermistor
3	N/C	7	PD Monitor Cathode (+)
4	VCSEL Cathode (-) / PD Monitor Anode (-)	8	VCSEL Anode (+)

Absolute Maximum Ratings:

Item	Unit	Min	Typ	Max
Store Temperature	°C	-40	25	125
Chip Temperature	°C	+10	25	40
Operating Current	mA	0	3.0	5.0
Forward Voltage	V	0.8	3.0	4.8
TEC Current	mA	-150	-	+300
Soldering Temperature*	°C	100	130	260
Electrical Power Dissipation	mw	-	-	5

(*TEC temperature must be below 150°C)

Ordering Info:

PL-VCSEL-☆-A8▽-W□□□□-XX

□□□□: Wavelength

0760: 760nm

0795: 794.7nm

*****

1310: 1310nm

☆ : TEC

0: Without TEC

1: With TEC

▽: Wavelength Tolerance

1: ±10nm

2: ±1.5nm

XXXX: Package

CPSA=Coaxial Package with SM1310+ FC/APC

CPSP=Coaxial Package with SM1310+ FC/PC

CPPP=Coaxial Package with PM Fiber+ FC/PC

CPPA=Coaxial Package with PM Fiber+ FC/APC

User Safety:

Safety and Operating Considerations

This device operates under reverse bias voltage, and the polarity of the device can't be reversed.

Operating the Photodiode outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with this component cannot exceed maximum peak optical power.

ESD PROTECTION——Electrostatic discharge (ESD) is the primary cause of unexpected laser diode failure. Take extreme precaution to prevent ESD. Use wrist straps, grounded work surfaces, and rigorous antistatic techniques when handling Photodiodes.