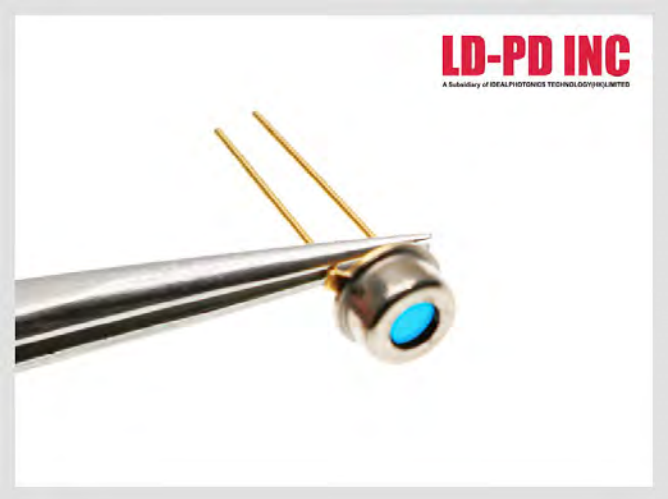
760/763nm SM VCSEL Laser diode for O_2 Sensing (Without TEC)



Description:

The PL-VCSEL-0760-0-A82 760nm VCSEL is a vertical emitting MOVPE grown GaAsP/AlGaAs Single Mode diode laser. The chips are mounted in TO46 can. Wavelength tuning can be achieved via laser current and temperature tuning. package with TEC and PD Built in. It is special designed for TDLAS Application. Good Narrow linewidth made it a great low cost choice for Analyzer measures oxygen manufacture without TEC.

Features:

- 100 MHz Spectral Bandwidth
- WavelengthTunability
- TO-46 Window with AR Coating
- Optimized for O_2 Sensing

Application:

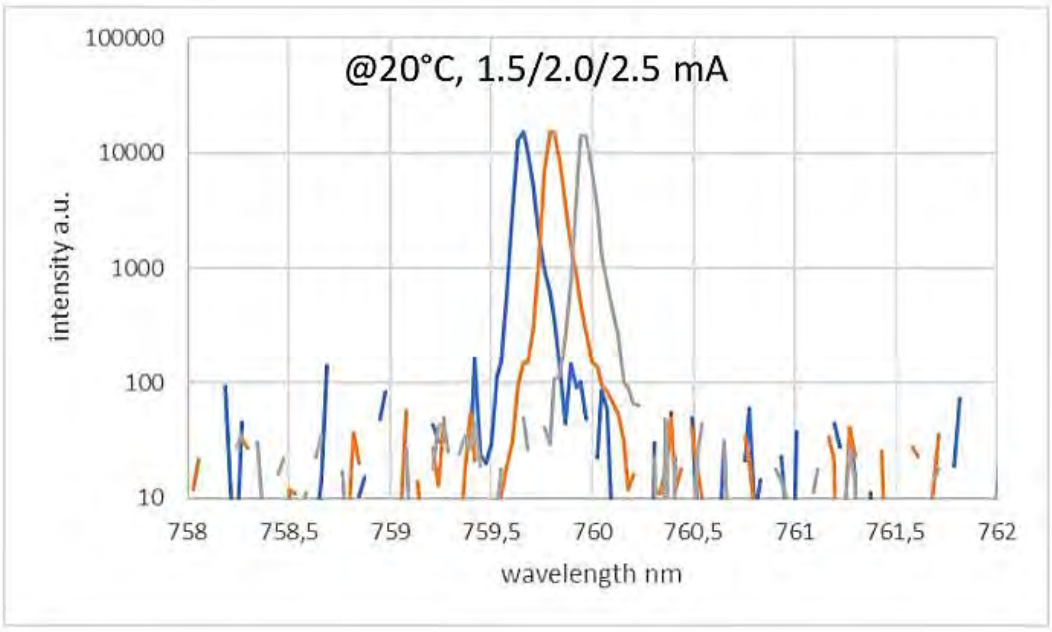
- TDLAS O_2 Sensing
- FTIR

Laser Specifications:

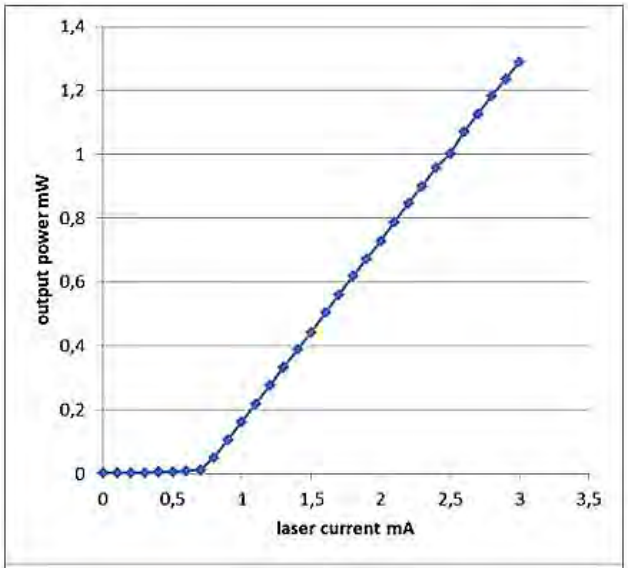
Condition:TO P = 20°C, IO P = 2.0 mA unless otherwise stated (TO P = chip backside temperature, controlled by the TEC)

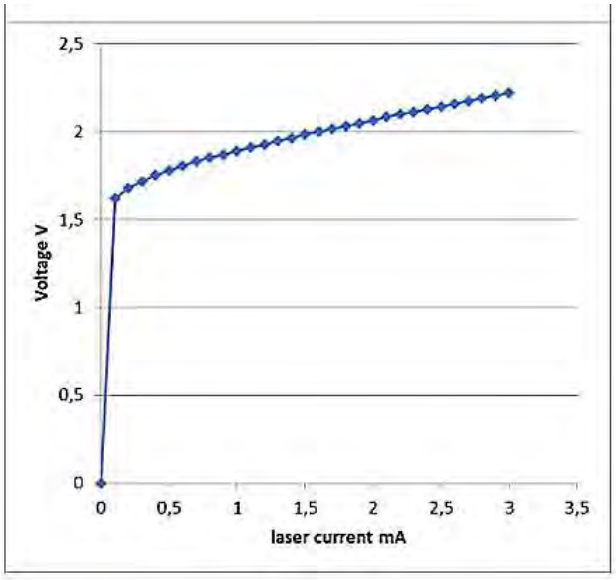
Parameters	Symbol	Min	Typ	Max	Unit	Remark
Emission Wavelength	λR	Detail precision Wavelength Choose From Below Absorption Line				
Threshold current	ITH		0.5		mA	
Output Power	Popt	0.25	0.5	0.75	mW	
Threshold Voltage	UTH		1.8		V	
Driving Current	IOP			2	mA	Popt = 0.3 mW
Laser voltage	UOP		2		V	Popt = 0.3 mW
Electro optic conversion rate	ηWP		12		%	Popt = 0.3 mW
Slope efficiency	ηS		0.3		W/A	
Differential series resistance	RS		250		Ω	Popt = 0.3 mW
3dB bandwidth	v3dB	0.10			GHz	Popt = 0.3 mW, Due to ESD protection diode
Relative intensity noise	RIN		-130	-120	dB/Hz	Popt = 0.3 mW @ 1 GHz
Wavelength tuning over current			0.6		nm/mA	
Thermal resistance (VCSEL chip)	Rthermal	3		5	K/mW	
Side mode supression		25			dB	I = 2 mA
Beam divergence	θ	10		25	°	Popt = 0.3 mW, full width 1/e2
Spectral Width			100		MHz	Popt = 0.3 mW

Spectrum:



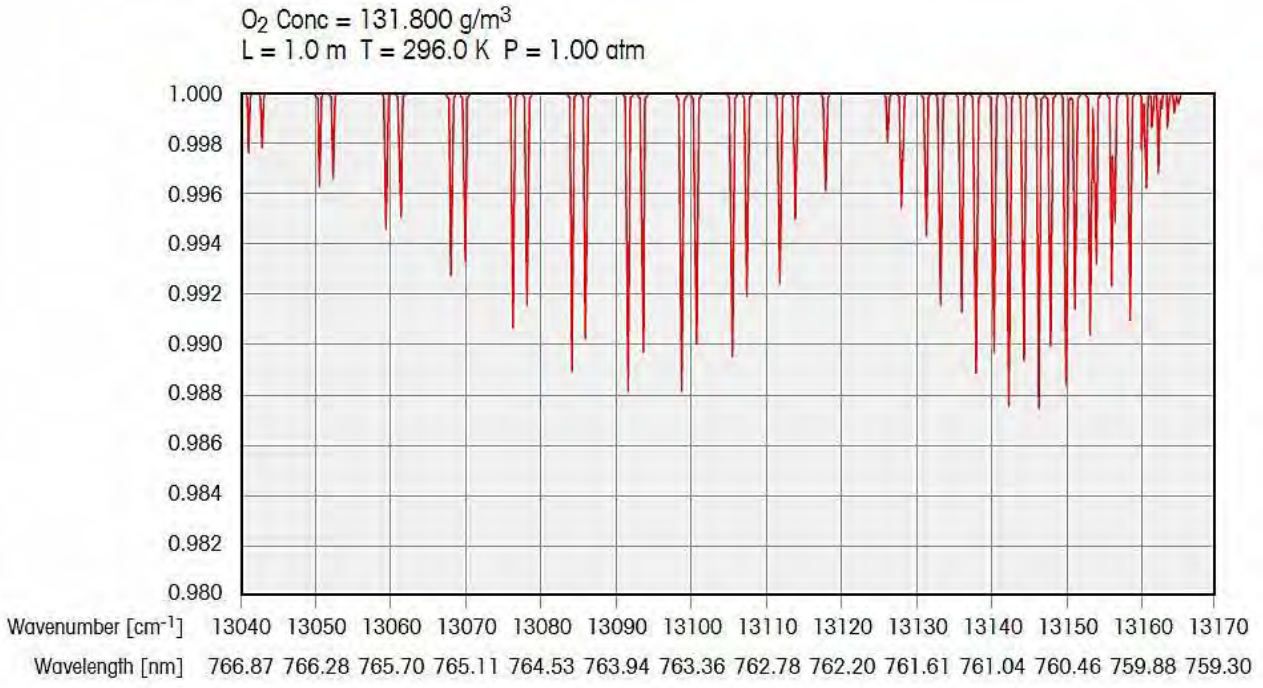
L-I Curve(T@25°C):





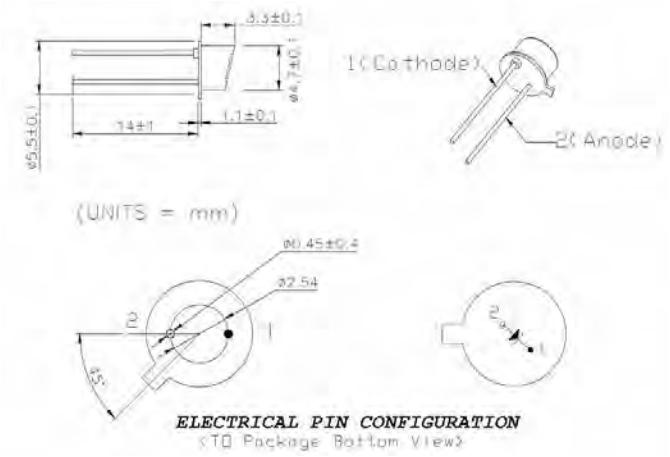
We strongly suggest the Maximum Current within 2mA in order to guarantee the performance this VCSEL Diode.

Oxygen Absorption line:



Dimensions and Pin definitions:

Dimensions Unit in: mm



Pin Number	Description
1	LD-
2	LD+

Absolute Maximum Ratings:

Item	Unit	Min	Typ	Max
Store Temperature	°C	-40	25	125
Chip Temperature	°C	+10	25	40
Operating Current	mA	0	2	2.5
Forward Voltage	V	0.8	1.2	1.8
Soldering Temperature*	°C	100	130	270
Electrical Power Dissipation	mw	-	-	5

Ordering Info:

PL-VCSEL-□□□□-□-A8▽-TO39-XX

□□□□: Wavelength

0760: 760nm

*****

1653.7: 1653.7nm

□: TEC

0: Without TEC

1: With TEC

▽: Wavelength Tolerance

1: ±0.5nm

2: ±1.5nm