

3291nm Single frequency DFB Laser



Description:

The LD-PD's Distributed Feedback Lasers (DFB) are specifically designed for high-precision gas detection using tunable diode laser absorption spectroscopy (TDLAS). Our devices operate reliably in more than 40,000 installations worldwide. For more than 10 years LD-PD has set the standard for DFB laser technology and we manufacturer routinely providing DFB lasers at any wavelength.

Features:

- Mono mode, Continuous Wave
- Room Temperature operation
- Mode hop free tuning

Optional:

- TDLAS
- Data Communication
- MIR Testing

Laser Specifications:

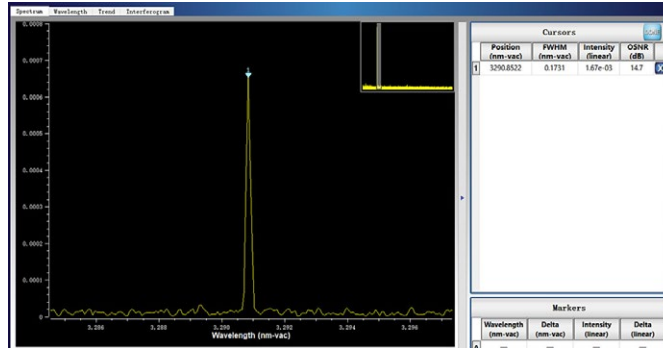
Tsub=25°C, CW bias unless stated otherwise

parameters	symbol	unit	minimum	typical	maximum
operating wavelength (at Top, Iop)	λ_{op}	nm		3291nm	
optical output power (at I_{op})	Pop	mW		10	
operating current	Iop	mA		120	
operating voltage	Vop	V		5	
threshold current	Ith	mA	15	30	50
side mode suppression ratio	SMSR	dB		> 35	
current tuning coefficient	CI	nm / mA		0.10	
temperature tuning coefficient	CT	nm / K		0.35	
operating chip temperature	Top	°C	+10	+20	+50
operating case temperature*	TC	°C	-20	+25	+50
storage temperature*	TS	°C	-30	+20	+70

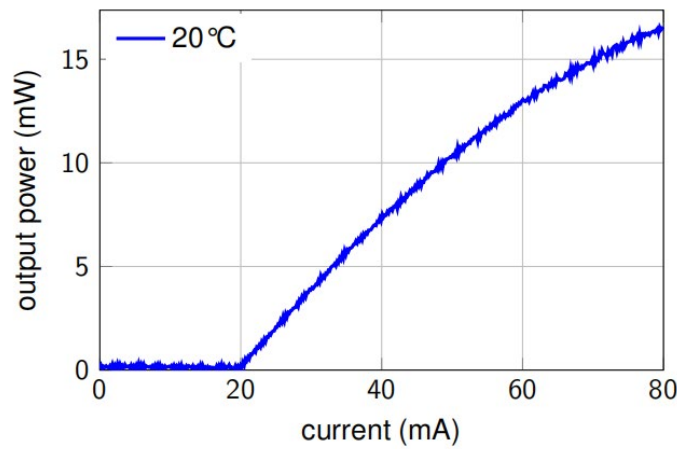
Laser Specifications:

Parameter	Symbol	Value	Unit
Max. temp. diff. (@ Q=0 W)	ΔT_{max}	65	K
Max. current	max	1.4	A
Max. voltage	max	3.8	V
Max. power (@ $\Delta T = 0K$)	max	3	W
Thermistor R0 @ 25 °C	R0	10000	Ω
Thermistor Beta	B	3930	

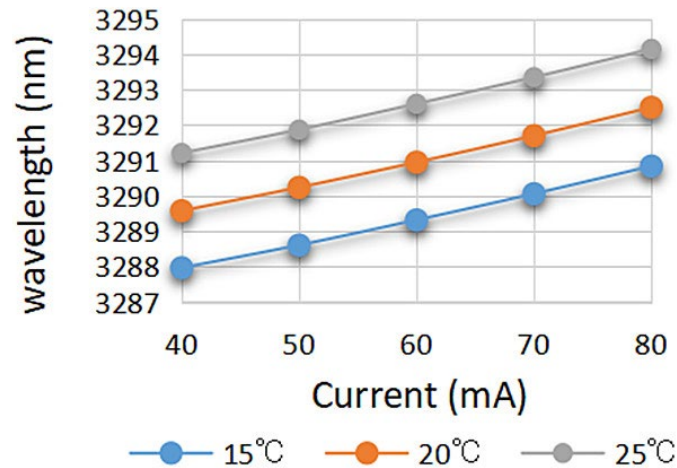
Spectrum:



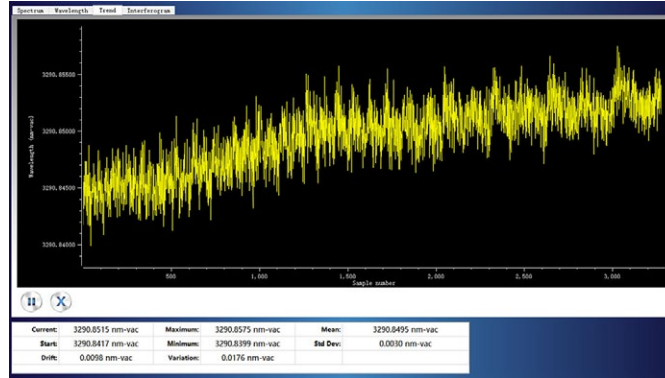
Power vs Current:



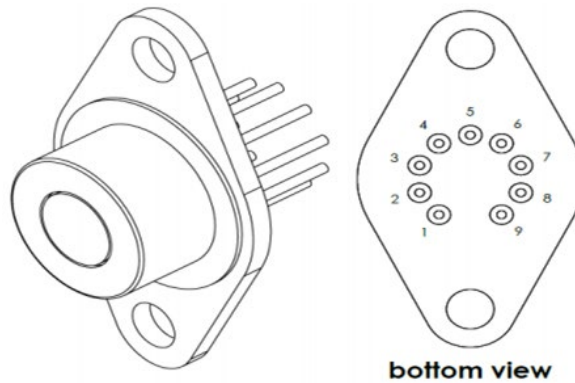
Tuning Characteristics:



Wavelength Stability:



Outline Drawing:



# Pin	Function	# Pin	Function
1	TEC (+)	6	n/c
2	Thermistor	7	LD (+)
3	Thermistor	8	LD (-)
4	n/c	9	TEC (-)
5	n/c		

Absolute Maximum Ratings:

Parameter	Symbol	Unit	min	typical	max
Operation Voltage	U	V			3.9
Max. Current	I _{max}	mA			80
Threshold Current	I _{th}	mA		19	
Slope Ef ciency	e	mW/mA		0.352	

Parameter	Symbol	Unit	min	typical	max
Wavelength	λ	nm		3390	
Operation Temperature	T	°C	20	20	25
Operation Current	I	mA		44	
Output Power	Popt	mW		8.6	

Note:

Caution: Before operating the TEC, the housing must be connected to a suitable heatsink

Note: The cap is no heatsink and not suited to be used as contact with a heatsink. Only use the bottom of the base plate for this purpose.

Note: The cap must not be used as base for any fixtures as e.g. collimation

OEM Info:

TDLAS-DFB-□□□□-☆-A8▽

□□□□: Wavelength

3000: 3000nm

4000: 4000nm

☆: Output Power

A: 5mW

B: 10mW

▽: Wavelength Tolerance

1: ± 1 nm

2: ± 2 nm