

1653.7nm DFB TO-CAN datasheet

P/N : WD12-270-B

Description

The laser diode module is a cost effective, highly coherent laser source. The Discrete Mode laser diode chip is packaged in an industry standard.



Features

- Narrow Linewidth < 2MHz
- Excellent wavelength control and stability
- Mode-Hop free tuning
- Excellent reliability
- Customer specific wavelengths available

Applications

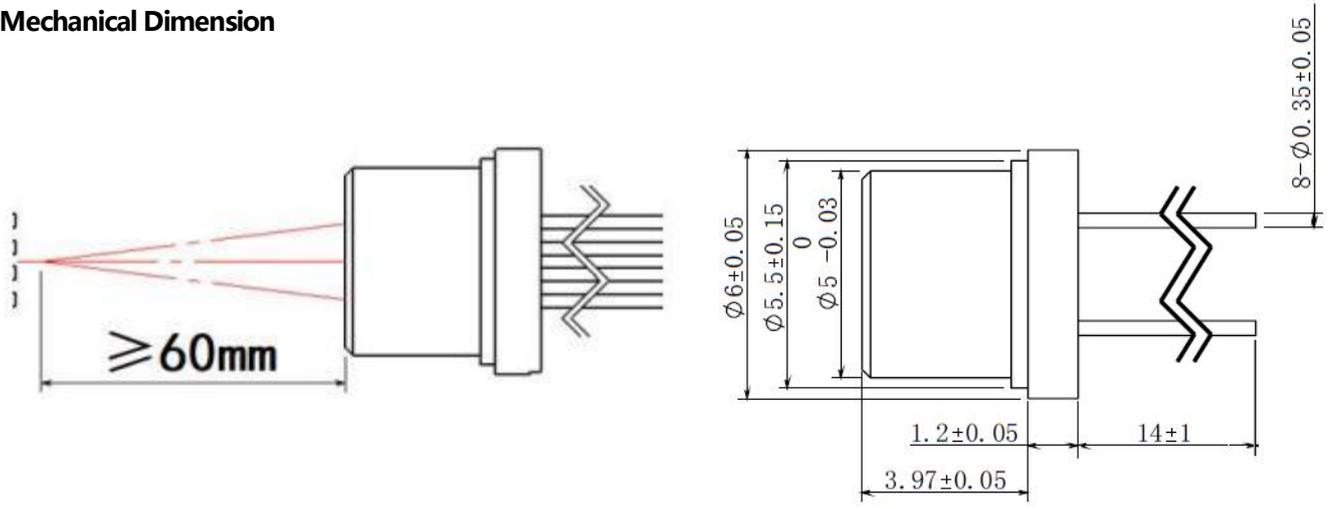
- Tunable diode laser absorption spectroscopy
- CH₄ Monitoring

Electrical/Optical Characteristics (T_{sub} = 25 °C, CW bias unless stated otherwise)

Parameter	Symbol	Value			Units	Note
		Min	Typ.	Max		
Differential efficiency	η	0.1	0.23		W/A	T=25°C
Threshold Current (BOL)	I _{TH}		13	18	mA	
Laser Forward Voltage	V _F		1.2	2	V	
Operating Current	I _{OP}		40	80	mA	
Output Power	P _{OP}	10			mW	IF = I _{OP} @ T _{OP}
Side-mode Suppression Ratio	SMSR	38	42		dB	CW, I _{OP} =40mA
Central Wavelength	λ_c	1651.3	1652.7	1653.9	nm	CW, I _{OP} =40mA
Spectral Width(-20 dB)	$\Delta\lambda$		0.12	1	nm	
Wavelength tuning coefficient	$\Delta\lambda/\Delta T$		0.1		nm/°C	
Wavelength Tuning Coefficient	$\Delta\lambda/\Delta I$		0.02		nm/mA	
Relaxation Oscillation Frequency	f _R	3		10	GHz	
Thermistor resistance	R _{th}	9.5	10	10.5	kΩ	T =25 °C
B constant of Rth	B	3800	3930	4000	K	

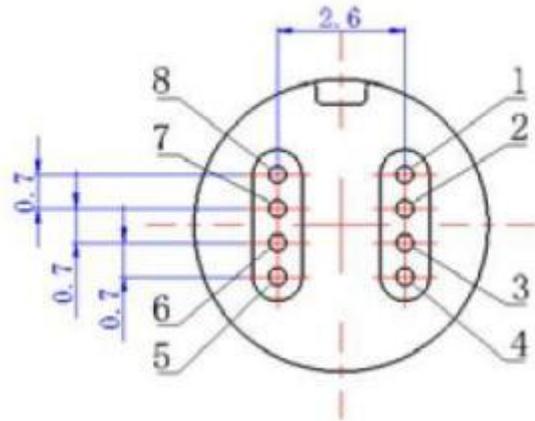
Thermistor current		10		200	uA	T =25 °C
TEC Current	I			0.5	A	Qc =0,DT=DTmax,Th =50 °C
TEC Voltage	V			1.94	V	Qc =0,I=Imax,Th =50 °C
TEC Power	Qc			0.52	W	I =Imax,DT=0,Th =50 °C
TEC Capacity	DT			76	°C	Qc =0, I=Imax,Th =50 °C

Mechanical Dimension



Pin Description

Pin	Standard
1	TEC (-)
2	THERMISTOR (+)
3	LD Anode
4	NC
5	NC
6	LD Cathode
7	THERMISTOR (-)
8	TEC (+)



Environment Specification

Item	Unit	Min	Typ	Max
Operation Temperature	°C	-10		70
Storage Temperature	°C	-40		70