

1653.7nm DFB TO-CAN datasheet

P/N: WD22-01A

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

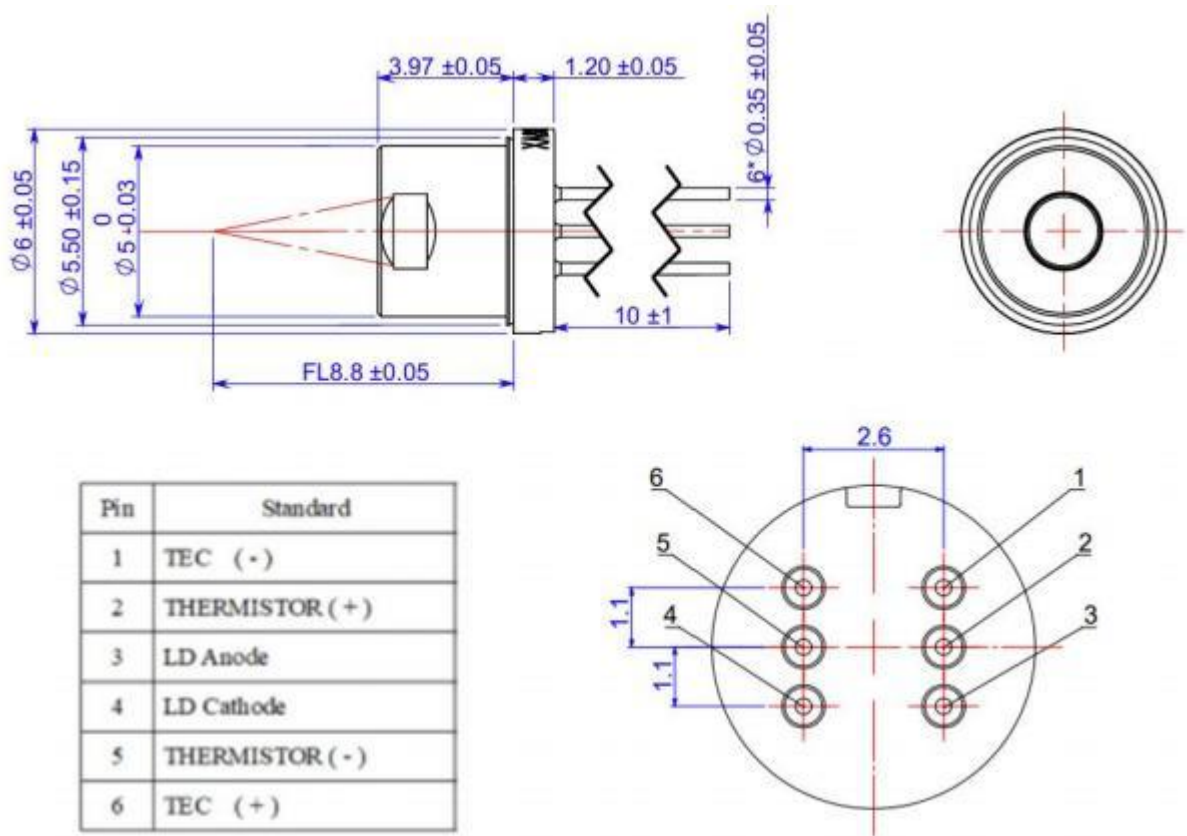
CH₄ Monitoring

Parameter	Symbol	Value			Units	Note
		Min	Typ.	Max		
Differential efficiency	η	0.1	0.23	---	mW/mA	T=25°C
Threshold Current (BOL)	ITH	--	13	18	mA	
Laser Forward Voltage	VF	--	1.2	2	V	
Operating Current	lop	--	60	80	mA	
Output Power	POP	4	6	--	mW	CW, lop = 40mA
Side-mode Suppression Ratio	SMSR	35	42	--	dB	CW, lop = 40mA
Central Wavelength	λ_c	1652.7	1653.7	1654.7	nm	T=25°C
Operating Temperature	Tc	25	35	50	°C	lop=60mA、 λ_c =1653.7nm
	Tc	35	--	50		lop=60mA、 λ_c =1653.7nm
Spectral Width(-20 dB)	$\Delta\lambda$	--	0.12	1	nm	
Wavelength tuning coefficient	$\Delta\lambda/\Delta T$	---	0.1	0.12	nm/°C	
Relaxation Oscillation Frequency	fR	3	---	10	GHz	

Electrical/Optical Characteristics(Tsub=25°C, CW bias unless stated otherwise)

Thermistor resistance	Rth	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	---	---	1.8	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



Environment Specification

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