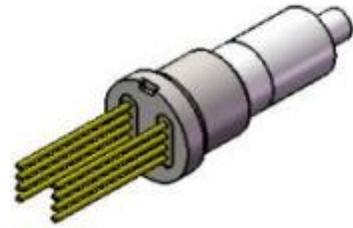


1653.7nm DFB CO TO-CAN datasheet

P/N : WD12-393-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 hermetically sealed 8 pins TO-package.



Features

- Long working distance , small light spot
- 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)

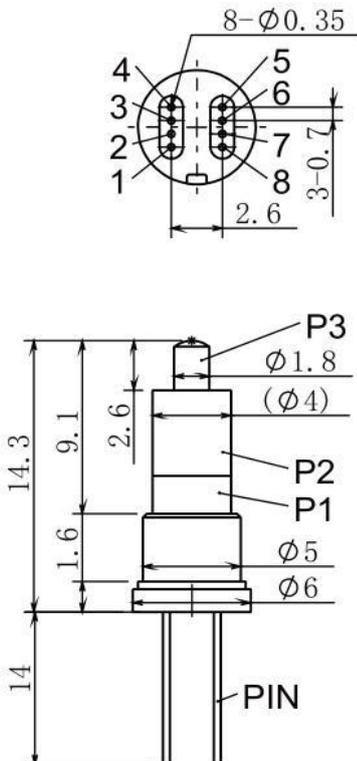
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Centre Wavelength	λ	T = 15-40°C	1652.7	1653.7	1654.7	nm
Side Mode Suppression Ratio	SMSR	CW , I _{op} = 110mA	35	---	---	dB
Threshold Current	I _{th}	T = 25°C	---	8	25	mA
Operating Current	I _{op}		---	80	120	mA
Output Power (P)	P _{op}	CW , I _{op} = 110mA	10	---	---	mW
Monitor Output Current	I _m	I _f = I _{th} + 20m A	30	---	2000	uA
Slope Efficiency	Slope	CW	0.1	0.2	0.4	W/A
Temperature Tuning Coefficient	$\Delta\lambda/\Delta T$		---	0.1	0.12	nm/°C
Forward Voltage	V _f		---	1.2	1.6	V
Dynamic Spectral Width		at -20dB	---	0.1	1	nm
Spot Size	Φ	at 10m	---	70	---	mm
		at 30m	---	200	---	

Thermistor						
Resistance (Standard 10kΩ @ 25 °C Thermistor)	Rth	Tc=Tld=25 °C	9.5	10	10.5	KΩ
B constant of Rth	B		3800	3930	4000	K
Thermistor current		Tc=Tld=25 °C	10	---	200	uA
Thermoelectric(TEC)						
TEC Current Maximum	Imax	0.5	A	Qc =0, ΔT=ΔTmax , Th=50°C		
TEC Voltage Maximum	Vmax	1.8	V	Qc =0, I= Imax, Th=50°C		
Delta Tmax	ΔTmax	76	°C	Qc =0, I= Imax, Th=50°C		
TEC Power Maximum	Qcmax	0.52	W	Qc =0, ΔT =0, Th=50°C		
---	Thmax	200.0	°C	Maximum Processing Temperature		

Environment Specification

Item	Unit	Min	Typ	Max
Operation Temperature	°C	-10		70
Storage Temperature	°C	-40		85

Mechanical Dimension and Pin Description



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

Notice: Part P1&P2&P3 made by glass, must not touch.