

1653.7nm DFB TO-CAN datasheet

P/N : WD22-R51-A

Description

The coaxial heated single-mode laser is a TO-can product assembled from a 1653.72nm direct-modulated laser chip, a built-in heating resistor, a thermistor, a 5pin TO56 base, and other peripheral components .

Features

RoHS compliant

Reliability conforms to Telcordia GR-468

Applications

Civil CH₄ Monitoring

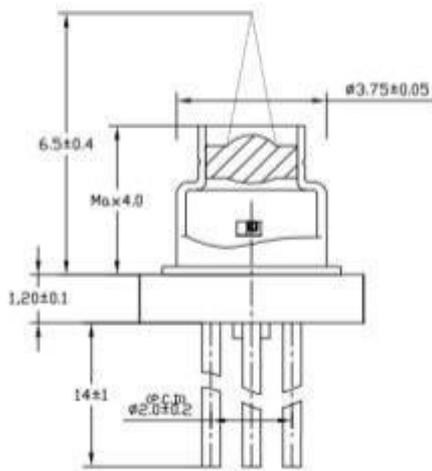
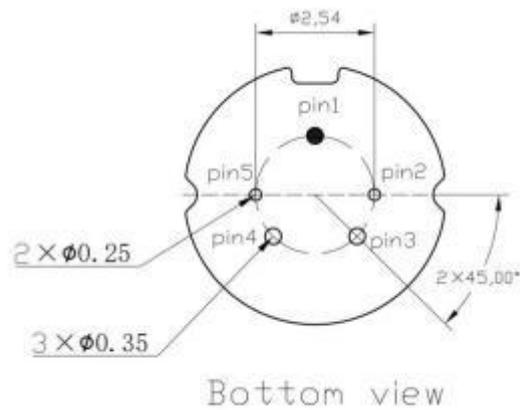
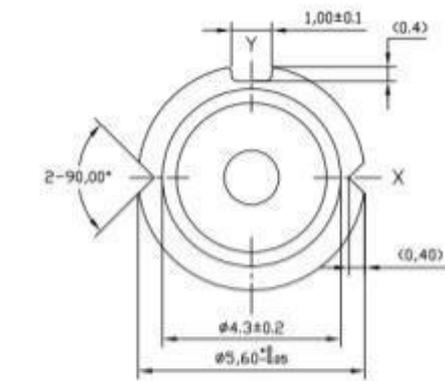
Electrical/Optical Characteristics (T_c = 30°C unless stated otherwise)

Parameter	Symbol	Value			Units	Note
		Min	Typ.	Max		
Threshold Current	I _{th}	-	15	18	mA	CW
Forward Voltage	V _f	1.0	1.3	2	V	I _{op} = 40mA
Operating Current	I _{op}	-	40	-	mA	CW
Output Power	P _{op}	2	5	-	mW	CW, I _{op} = 40mA
Side-mode Suppression Ratio	SMSR	35	-	-	dB	CW, I _{op} = 40mA
Central Wavelength	λ _c	1648.3	1649.3	1650.3	nm	I _{op} = 40mA
Spectral Width(-20 dB)	Δλ	-	0.16	0.8	nm	CW, I _{op} = I _{th} + 30mA
Wavelength/Temperature Coefficient	Δλ/ΔT		0.1		nm/°C	
Wavelength/Current Coefficient	Δλ/ΔI		0.015		nm/mA	
Series Resistance	R _s	-	10	15	Ω	CW
Heating resistance	R _t	-	14	-	Ω	CW
Thermistor resistance	R _{th}	9.5	10	10.5	kΩ	T = 25°C
B constant of R _{th}	B	3800	3930	4000	K	
Thermistor current		10		200	uA	T = 25 °C

ABSOLUTE MAXIMUM RATING

Parameter	Symbol	Units	Min	Max
Storage Temperature	Ts	°C	-40	+95
Operating Temperature	To	°C	-10	+55
Relative Humidity	RH	%	5	95
Forward power	Pf	mW	-	20
Forward current	If	mA	-	120
Reverse voltage	Vr	V	-	2

Mechanical Dimensions & Pin Description



Pin	Description
1	GND /Rth +/Rt
2	LD-
3	Rt
4	Rth-
5	LD+

The correct power-on sequence is as follows : 1. All ground cables are connected; 2. Negative voltage connection; 3.

Forward voltage connection; 4. Other connections. The power-off sequence is the opposite of the power-on sequence.