

# 1512nm 14pin Butterfly DFB datasheet

P/N : WD51-FA0

## Features

14-pin Butterfly Package

Integrated optical isolator, TEC, Thermistor

Single-mode fiber pigtail output, FC/APC connector

Telcordia-GR468

## Applications

NH<sub>3</sub> sensor

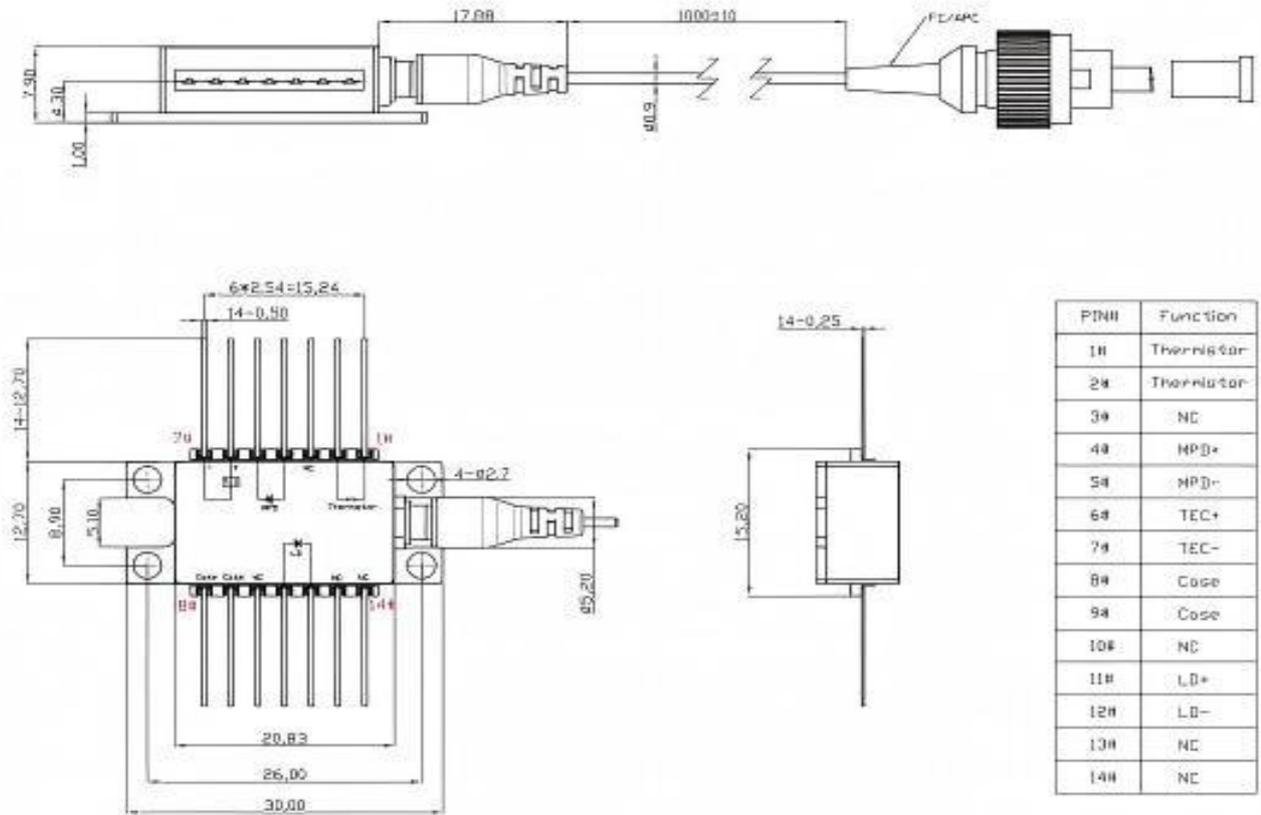
## ABSOLUTE MAXIMUM RATING(TSU = 25°C TA = 25 ± 5°C)

Parameter	Symbol	Units	Min	Max
Reverse voltage (LD)	VRLD	V	-	2
Forward Current (LD)	IFLD	mA	-	200
Reverse Voltage (MPD)	VRMPD	V	-	10
Forward Current (MPD)	IFMPD	mA	-	2
TEC Current	ITEC	A	-1.0	1.0
TEC Voltage	VTEC	V	-3.0	3.0
Case Operating Temperature	TC <sub>Case</sub>	°C	-5	+75
Storage Temperature	TS <sub>Storage</sub>	°C	-40	85
Storage humidity	RH	%	0	95
Pin Soldering Temperature	TS <sub>Soldering</sub>	°C	-	260
Pin Soldering Time	t <sub>Soldering</sub>	s	-	10
Fiber Bend Radius	RF <sub>Fiber</sub>	mm	30	-
Fiber Tensile Strength	FF <sub>Fiber</sub>	N	-	5
ESD Damage Threshold ( HBM )	ESDHBM	V	-	250

## Electrical/Optical Characteristics (TSU =25°C TA =25± 5°C)

Parameter	Symbol	Unit	Test Condition	Min.	Typ.	Max.
LD Forward Current	VFLD	V	CW, IFLD= 100mA	-	-	1.5
Threshold Current	I <sub>th</sub>	mA	CW	-	16	25
Output Power	P <sub>Out</sub>	mW	CW, IFLD = 100mA	8	-	-
Slope Efficiency	SE	mW/mA	CW, IFLD = 100mA	0.1	-	0.5
Peak Wavelength	λ <sub>P</sub>	nm	CW, IFLD= 100mA	1508	1511	1514
Side-Mode Suppression Ratio	SMSR	dB	CW, IFLD= 100mA	35	-	-
Linewidth	Δf	MHZ	CW, IFLD= 100mA , FWHM	-	-	2
Wavelength Temperature Tunability	Δλ <sub>P</sub> /ΔT <sub>Submount</sub>	nm/°C	-	-	0.1	-
Wavelength Current Tunability	Δλ <sub>P</sub> /Δ IFLD	nm/mA	CW,IFLD= 100~200mA	-	0.02	-
MPD Backlight Current	I <sub>RMPD</sub>	mA	CW,IFLD=100A V <sub>RMPD</sub> =5V	0.05	-	2
MPD Dark Current	I <sub>dMPD</sub>	nA	V <sub>RMPD</sub> =5V	-	-	100
NTC thermistor resistance	R <sub>T</sub>	kΩ	@25°C	9.5	10	10.5
NTC thermistor B constant	B	K	@25°C/50°C	3800	3930	4000

**Pin Connection Type & Outline Drawings :**



**Cautions :**

- 1.This product emits laser radiation during operation. Never direct the laser beam at any part of the human body.
2. This product is electrostatic-sensitive. Operate it only in an ESD-protected area (EPA) , and ensure all tools that come into direct contact with the device are properly grounded. Improper handling may cause permanent and irreversible damage.
- 3.This product is equipped with an optical connector. After testing and inspection, immediately install the dust cap to prevent prolonged exposure of the connector end face, which can lead to contamination or damage.