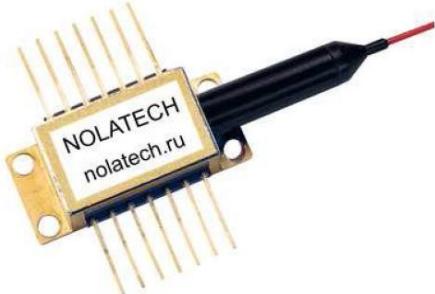


Tunable Laser Diode 980nm 10mW



TLD-980-14BF Fiber Bragg Grating laser is a stable narrow band light source with a wavelength tuning possibility in 1-2 nm range. The laser is packaged in 14-pin standard butterfly package with monitor photodiode and thermo-electric cooler (TEC).

Key Features

- Optical output: 10mW
- Narrow linewidth ($\Delta\nu < 0.1\text{MHz}$)
- Tuning range: > 1nm
- Wavelength: 980nm
- SM or PM fiber
- FC-APC connector
- Internal monitor PD and TEC
- 14-pin butterfly package

Optical and electrical characteristics: (T = 25°C)

Item	Symbol	Test condition	Min.	Typ.	Max.	Unit
Output Power	P _f			10		mW
Forward Voltage	V _F	P _f =10mW			2.5	V
Threshold Current	I _{th}		20		40	mA
Forward Current	I _F	P _f =10mW		150	200	mA
Center Wavelength	λ _c	P _f =10mW	900		980	nm
Spectral Width	Δλ	P _f =10mW		100		kHz
Side Mode Suppression Ratio	SMSR	P _f =10mW	40	45		dB
Relative Intensity Noise	RIN	P _f =10mW		-145		dB/Hz
Monitor Current	I _m	P _f =10mW, V _{RD} =5V	40		200	μA
PD Dark Current	I _d	V _{RD} =5V			0.1	μA
Cooler Voltage	V _C	I _F =EOL, TC=70°C			2.7	V
Cooler Current	I _C	I _F =EOL, TC=70°C			1.4	A
Thermal Resistance	R _o	T _{LD} =25°C, B=3900±100K	9.5	10.0	10.5	kΩ
Extinction Ratio	X _P	P _f =10mW	17			dB
Mode Hop Free Range	ΔI			30		mA
Tuning Range	Δf		1	1.5		nm
PZT Tuning Voltage	V _T		0		150	V
Current Tuning	Δλ/ΔI			0.001		nm/mA
Temperature Tuning	Δλ/ΔT			0.08		nm/°C

Absolute Maximum Ratings

Item	Symbol	Rating	Unit
LD Forward Current	I _f	300	mA
LD Reverse Voltage	V _r	1.8	V
PD Reverse Voltage	V _{RD}	10	V
Operation Case Temperature	T _c	-40 to +70	°C
Storage Temperature	T _{stg}	-40 to +85	°C
Cooler Current	I _c	1.4	A

PACKAGING

No.	FUNCTION	No.	FUNCTION
1	Cooler anode +	8	PZT tuning -
2	Thermistor	9	NC
3	PD anode -	10	LD anode +
4	PD cathode +	11	LD cathode -
5	Thermistor	12	NC
6	NC	13	Case
7	PZT tuning +	14	Cooler anode -

