

## 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:  $> 1\text{nm}$
  - 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	$V_f$	$P_f=10\text{mW}$			2.5	V
Threshold Current	$I_{th}$		20		40	mA
Forward Current	$I_f$	$P_f=10\text{mW}$		150	200	mA
Center Wavelength	$\lambda_c$	$P_f=10\text{mW}$	900		980	nm
Spectral Width	$\Delta\lambda$	$P_f=10\text{mW}$		100		kHz
Side Mode Suppression Ratio	SMSR	$P_f=10\text{mW}$	40	45		dB
Relative Intensity Noise	RIN	$P_f=10\text{mW}$		-145		dB/Hz
Monitor Current	$I_m$	$P_f=10\text{mW}, V_{RD}=5\text{V}$	40		200	$\mu\text{A}$
PD Dark Current	$I_d$	$V_{RD}=5\text{V}$			0.1	$\mu\text{A}$
Cooler Voltage	$V_C$	$I_f=EOL, TC=70^\circ\text{C}$			2.7	V
Cooler Current	$I_C$	$I_f=EOL, TC=70^\circ\text{C}$			1.4	A
Thermal Resistance	$R_o$	$T_{LD}=25^\circ\text{C}, B=3900\pm 100\text{K}$	9.5	10.0	10.5	k $\Omega$
Extinction Ratio	$X_P$	$P_f=10\text{mW}$	17			dB
Mode Hop Free Range	$\Delta I$			30		mA
Tuning Range	$\Delta f$		1	1.5		nm
PZT Tuning Voltage	$V_T$		0		150	V
Current Tuning	$\Delta\lambda/\Delta I$			0.001		nm/mA
Temperature Tuning	$\Delta\lambda/\Delta T$			0.08		nm/ $^\circ\text{C}$

