

## Laser Diode 976nm 40mW



FPL-FBG-976-14BF-40 is FBG-stabilized laser diode module designed for optical measurement and communication. The laser is packaged in 14-pin standard butterfly package with monitor photodiode and thermo-electric cooler (TEC). Module is pigtailed with 0,7-1,0 m of single mode polarization maintaining fiber and connectorized by FC/APC connector.

### Key Features

- Optical output: 40mW
- Efficient coupling into single mode fiber
- CW or pulsed operation
- SM or PM Fiber
- FC-APC connector
- 14-pin butterfly package
- Internal monitor PD and TEC
- Low power consumption

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

Item	Symbol	Test condition	Min.	Typ.	Max.	Unit
Output Power	$P_f$		30	40		mW
Forward Voltage	$V_F$	$P_f=40mW$			2.5	V
Threshold Current	$I_{th}$			20	40	mA
Forward Current	$I_F$	$P_f=40mW$		200	300	mA
Center Wavelength	$\lambda_c$	$P_f=40mW$	975	976	977	nm
Spectral Width	$\Delta\lambda$	$P_f=40mW$			1	nm
Monitor Current	$I_m$	$P_f=40mW, V_{RD}=5V$	40		500	$\mu A$
PD Dark Current	$I_d$	$V_{RD}=5V$			0.1	$\mu A$
Cooler Voltage	$V_C$	$I_F=EOL, TC=70^\circ C$			2.7	V
Cooler Current	$I_C$	$I_F=EOL, TC=70^\circ C$			1.4	A
Thermal Resistance	$R_o$	$T_{LD}=25^\circ C, B=3900\pm 100K$	9.5	10.0	10.5	k $\Omega$
Extinction Ratio	$X_P$	$P_f=40mW$	17			dB
Temperature Coefficient of FBG	$\Delta\lambda/\Delta T$			0.01		nm/ $^\circ C$

## Absolute Maximum Ratings

Item	Symbol	Rating	Unit
LD Forward Current	$I_f$	350	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	NC
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	NC	14	Cooler cathode

