

BiDi-F1000
Bi-Directional-Coaxial LD/PD Module
(FTTx)

Technical Specification

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1.0 PRODUCT FEATURE

- Laser optical: DFB or FP
- DFB laser optical: with isolation or without isolation
- Low threshold current and operating current
- High output power
- Built-in InGaAsP monitor PD
- High responsivity, InGaAs planar PIN detector
- Wide temperature range operation($T_c = -40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$)
- Fiber ITU-T G.657 Bending low loss, fiber optic cable features



2.0 MAIN APPLICATION

- video, audio data transmission
- FTTx PON
- RFoG
- CATV HFC
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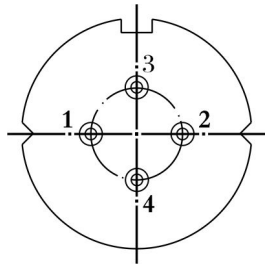
3.0 Technique index

Performance			Index			Supplement
			Min.	Typ.	Max.	
Transmit	Operating wavelength (λ_c)	(nm)	1310, 1550, 1590, 1610			-
	Center wavelength accuracy	(nm)	-1.5		+1.5	
	Laser Type		FP			For Data
			DFB			For Analog or Data
	Threshold current (I_{th})	(mA)	-	5	15	$\lambda_{nm}, 25^\circ C$
	Spectral width ($\Delta\lambda$)	(nm)	-		1	CW, $I_{th}+20mA$
	Output powe (P_o)	(dBm)	-	2.0		CW, $I_{th}+20mA, \lambda_{nm}$
	Operating voltage (V_{op})	(V)	-	1.6	2.0	CW, $I_{th}+20mA$
	Rise/ Fall time (T_r/T_f)	(nS)	-	0.2	0.3	CW, $I_{th}+20mA$
Monitor current (I_m)	(mA)	0.1	0.7	-	CW, $I_{th}+20mA$	
Receiver	Rx Operating wavelength	(nm)	1310,1550			
	Responsivity (R)	(AW)	0.7	0.9		VR=5V, $\lambda=1550$ nm
	Dark current (I_d)	(nA)	-	0.1	2	VR=5V, $25^\circ C$
	Saturation power (P_{max})	(dBm)	3	-	-	VR=5V, $25^\circ C$
	Rise and Fall time (T_r/T_f)	(ns)	-	0.1		RL=50 Ω
	Reverse Voltage (V_R)	(V)	-	-	1.5	-
	Capacitance (C_t)	(pF)	-	0.9	1.0	VR=5V
General feature	Return Loss	(dB)	50			
	Connector		APC			
	Fiber Type		SMF28 900 μm			
	Optical fiber length	(m)	0.5	0.8	1.5	
General Limit value	Storage temperature (T_{st})	($^\circ C$)	-40		+100	
	Operating temperature (T_{op})	($^\circ C$)	-40		+85	-
	Reverse voltage (V_R)	(V)			2	CW
	Relative Humidity (RH)	(%)		50	95	

Soldering temperature/time	(°C /S)		260/10	-
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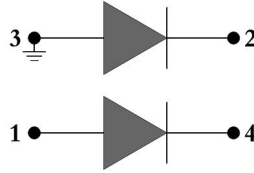
4.0 PIN Defination

4.1 Transmit



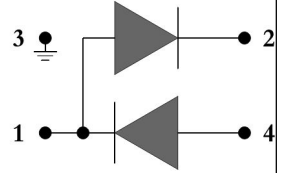
A Type:

- 【3】** LD “+”
- 【2】** LD “-”
- 【1】** PD “+”
- 【4】** PD “-”



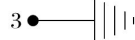
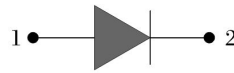
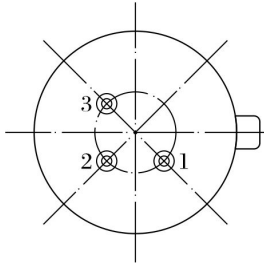
B Type:

- 【1】** LD “+”
- 【2】** LD “-”
- 【1】** PD “+”
- 【4】** PD “-”
- 【3】** Case.



4.2 Receiver

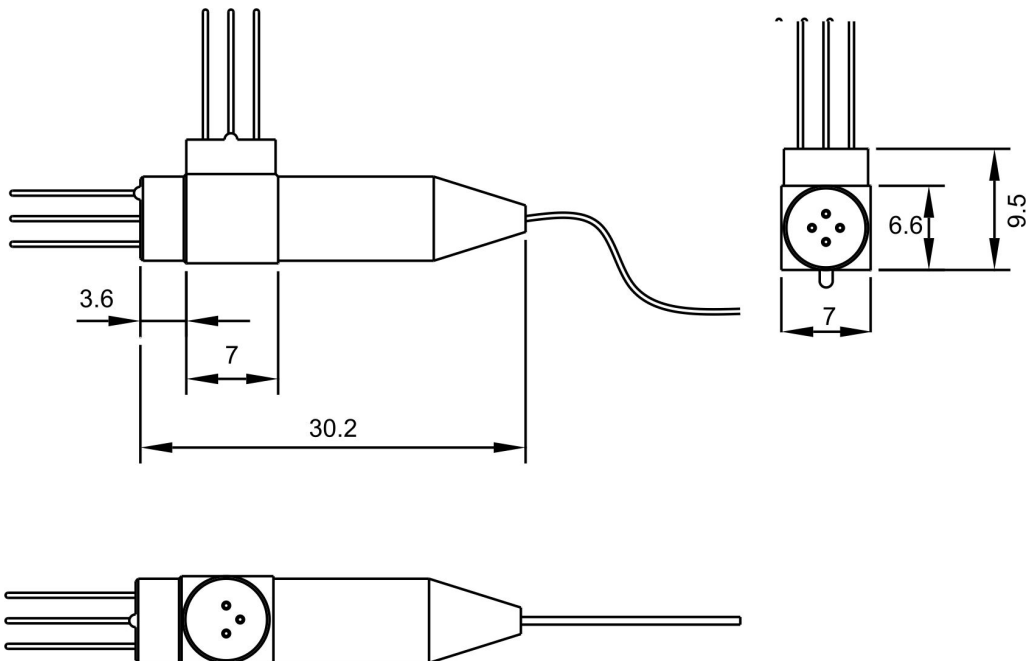
B Type (Bottom View):



B Type:

- 【1】** PD “+”
- 【2】** PD “-”
- 【3】** Case.

5.0 Dimensions



6.0 PRODUCT SERIES

No.	Model	Tx Operating Wavelength	Laser Type	Rx Operating Wavelength	典型应用
1	BiDi-F1310-x-F O-x-R1550	1310 nm	FP Without ISO	1550 nm	RFoG、HFC
2	BiDi-F1310-x-F I-x-R1550		FP With ISO		
3	BiDi-F1310-x-D O-x-R1550		DFB Without ISO		
4	BiDi-F1310-x-D I-x-R1550		DFB With ISO		
5	BiDi-F1550-x-F O-x-R1310	1550 nm	FP Without ISO	1310 nm	RFoG、HFC
6	BiDi-F1550-x-F I-x-R1310		FP With ISO		
7	BiDi-F1550-x-D O-x-R1310		DFB Without ISO		
8	BiDi-F1550-x-D I-x-R1310		DFB With ISO		
9	BiDi-F1610-x-F O-x-R1550	1610 nm	FP Without ISO	1550 nm	RFoG Compatible FTTx PON
10	BiDi-F1610-x-F I-x-R1550		FP With ISO		
11	BiDi-F1610-x-D O-x-R1550		DFB Without ISO		
12	BiDi-F1610-x-D I-x-R1550		DFB With ISO		
13	BiDi-F1590-x-F O-x-R1550	1590 nm	FP Without ISO	1550 nm	RFoG Compatible FTTx PON
14	BiDi-F1590-x-F I-x-R1550		FP With ISO		
15	BiDi-F1590-x-D O-x-R1550		DFB Without ISO		
16	BiDi-F1590-x-D I-x-R1550		DFB With ISO		

7.0 Model explanation

BiDi - F 1 □□□ - □ - □□ / □ - R□□□ - B - □□ / □□

Tx Operating Wavelength (nm)		Output Power (dBm)		Laser Type		DFB Laser The Built-in Isolator		Tx Pin Defination		Rx Operating Wavelength (nm)		Rx Pin Defination		Connector		Fiber length	
1310	1310	2	1~2	D	DFB	O	With ISO	A	A Type	131	1310	B	B Type	SA	SC/APC	05	0.5M
1550	1550	3	2~3	F	FP	I	Without ISO	B	B Type	155	1550			FA	FC/APC	08	0.8M
1590	1590													LA	LC/APC	10	1.0M
1610	1610																