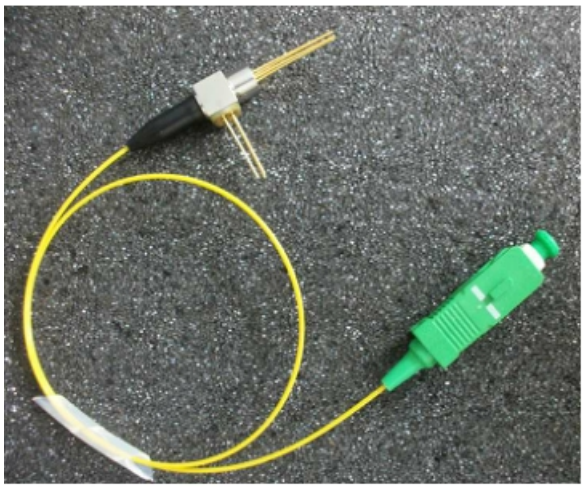
飞格光电 FIBER GRID
Jiangsu Fiber Grid CO., LTD
No.21 Building,36 Nan Wei Si Lu
Zhenjiang High-Tech New City, Zhenjiang Jiangsu China
Tel: (86) 511-8869-8558; Fax: (86) 511-8869-8557
E-mail:Sales@fiber-grid.com

T1550nm FP/R1310nm Analog Pigtail BOSA

FB-53643AN2-00

Description:

The FB-53643AN2-00 Bi-Directional modules have been designed specifically for full-duplex communication over a single fiber. The devices are particularly suited for ONU application, With 15500nm FP transmit and 13100nm receive application
The modules are designed to be compliant with Analog application.



Features:

- 15500nm Fary-Perot（FP）Laser Diode
- With Multi-Quantum Well structure.
- High linearity Laser Diode
- 1310nm High linearity PIN Photodiode.
- Operation in wide temperature range
- Cost-effective Uncooled Laser Technology.
- SC/APC Connector

Application:

- 1.25Gbps upstream and analog downstream reception.
- CATV system.

Specification:

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Condition
Module					
Operating Case Temperature	Top	-40	+85	℃	
Storage Temperature	Tstg	-40	+85	℃	
Solderability	Stemp	--	350℃ for 5+/-0.5S	℃,S	ANSJ/J-ATD-002
			260℃(<10S)	℃	
Laser Diode					
Forward Current	If	--	120	mA	CW
Reverse Voltage	Vf	--	2	V	
Output Power	Po	--	10	mW	CW
Monitor PD Forward Current	Imf	--	2	mA	
Monitor PD Reverse Voltage	Vmf	--	10	V	
Reverse Voltage(Analog PD)	VfAP	--	25	V	
Reverse Current(Analog PD)	IfAP	--	4	mA	

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Optical/Electrical Characteristics (T=25℃ , unless otherwise stated)

1550nm FP Laser Transmitter

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Optical Output Power	P_o	1.0	2.0	3	mW	CW , Iop=30mA
Threshold Current	I_{th}	--	8	15	mA	T=25 °C
Forward Voltage	V_F	--	1.1	1.6	V	
Operating Current	I_{op}	--	30	100	mA	CW, T=25 °C
Center Wavelength	□λc	1530	1550	1570	nm	CW, T=25 °C
Spectral Width (-20 dB)	Δλ	--	--	3	nm	
Tracking Error	TE	-1	--	1	dB	APC, -40~85 °C
Monitor Current	I_{mon}	100	--	1000	μA	V_R=5 V,
Monitor Dark Current	I_D	--	--	0.1	uA	V_R=5 V
PD Capacitance	Ct	--	--	10	PF	VRD=5V, f=1 MHz
Second-Order Inter-Modulation	IMD2	--	--	-45	dBc	f1=13MHZ,f2=19MHZ , OMI=10%,P=2mW
Third-Order Inter-Modulation	IMD3	--	--	-55	dBc	
Carrier to Noise Ratio	CNR	51	--	--	dB	
Relative Intensity Noise	RIN	--	--	-135	dB/HZ	f=5~300 MHz
Bandpass Flatness	BF	--	--	1	dB	Peak to Valley, 5~300 MHz
Rise/Fall Times	Tr , Tf	--	--	0.1	nS	20% to 80%
Noise Power Ratio	NPR	38	--	--	dB	Over a ≥10dB dynamic range , SCTE 174 7.1.2.Table 5

1310nm analog PIN Receiver

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Input Wavelength	λpd	1290	1310	1330	nm	Tc=25℃
Responsivity	R	0.75	0.90	--	A/W	λ=1310nm
Capacitance	Cpd	--	--	0.7	pF	
Bandwidth	BW	3.0	--		GHZ	
Dark Current	Id	--	--	5	nA	Vr=12V
Second Order Inter-Modulation Destortion	IMD2	--	--	-70	dBc	λ=1310nm(*1),Vr=12V
Composite Triple Beat	IMD3	--	--	-80	dBc	
Optical Return Loss	ORL	30	--	--	dB	λ=1310nm
Polarization Dependent Loss	PDL	--	--	0.5	dB	
Optical Isolation from External Source	ISO1	30	--	--	dB	λ=1530nm~1570nm
Optical Crosstalk from Internal LASER	Xopt	--	---	--	-40	(*2)

Note: 1* Two tone two laser test(f1=373.25MHZ, f2=451.25MHZ), OMI=40%, 0.5mW Per Laser

Note: 2* Xopt=10xlog { (Ixopt/R)/Pf } ,Ixopt is photo current at Pf=3dBm.

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Dimensions and Package Outline

(SC/APC Pigtail Connector)