10Gb/s XFP BIDI 1270/1330nm& 1330/1270nm 20km Transceiver

BX7311T-CN/BX3711T-CN Product Specification

FEATURES

- Typical data rate 10.3125Gbps
- 1270nm DFB Laser and PIN photo detector
- 1330nm DFB Laser and PIN photo detector
- Duplex LC receptacle
- Single +3.3V power supply
- Hot-pluggable XFP footpint
- International Class1 laser safety certified
- Operating temperature range: 0 ~ +70℃
- RoHS Compliant
- Support Digital Diagnostic Monitoring interface
- Max reach 20km over SMF

APPLICATIONS

- 10GBASE-LR 10G Ethernet
- 10GBASE-LW 10G Ethernet
- 1200-SM-LL-L 10G Fiber Channel

ORDERING INFORMATION

Part Number	From Factor	Data Rate	Media	Distance (km)	Wavelength (nm)	Temperature (℃)
BX7311T-CN	XFP	10.3Gbps	SMF	20	1270/1330	0~70
BX3711T-CN	XFP	10.3Gbps	SMF	20	1330/1270	0~70

ABSOLUTE MAXIMUM RATINGS

Exceeding the limits below may damage the transceiver permanently.

Parameter	Symbol	Min	Typ	Max	Unit.	Note
Storage Temperature	TSTG	-40	-	85	ºC	
Operating Relative Humidity	RH	5	-	95	%	
Supply Voltage	VCC	-0.5	-	4	V	

RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Min	Typ	Max	Unit.	Note
Operating Case Temperature	Tc	0	-	70	ºC	
Supply Voltage	VCC3	3.13	3.3	3.47	V	
Supply Current	ICC3	-	-	300	mA	+3.3V Supply
Data Rate	DR	-	10.3125	-	Gbps	

ELECTRICAL and OPTICAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit.	Note
Transmitter@10.3125Gbps						
Tx Differential Input Amplitude	Vin p-p	180	-	700	mV	
Input Differential Impedance	Zin	80	100	120	Ω	
Output Optical Power	PO	-3	-	3	dBm	
Extinction Ratio	ER	3.5	-	-	dB	
Center Wavelength Range	λ c	1260	1270	1280	nm	
		1320	1330	1340	nm	
Spectrum Width(-20dB)	Δ λ	-	-	1	nm	
Optical Return Loss Tolerance	RL	12	-	-	dB	
Tx Disable Voltage	VOH	2	-	VCC	V	LVTTL
	VOL	0	-	0.4	V	LVTTL
Optical Power at Tx Disable	Ptxdis	-	-	-30	dBm	
Receiver@10.3125Gbps						
Rx Differential Output Amplitude	Vout p-p	300	-	850	mV	
Receiver Optical Wavelength	λ c	1320	1330	1340	nm	
		1260	1270	1280	nm	
Receiver Sensitivity	Sen	-	-	-15	dBm	Note 1
Receiver Overload	OL	0.5	-	-	dBm	
LOS Voltage	Normal	2	-	Vcc	V	LVTTL
	Fault	0	-	0.4	V	LVTTL
LOS Assert Level	LOSA	-30	-	-	dBm	
LOS De-Assert Level	LOSD	-	-	-17	dBm	
LOS Hysteresis	LOSH	0.5		6	dB	

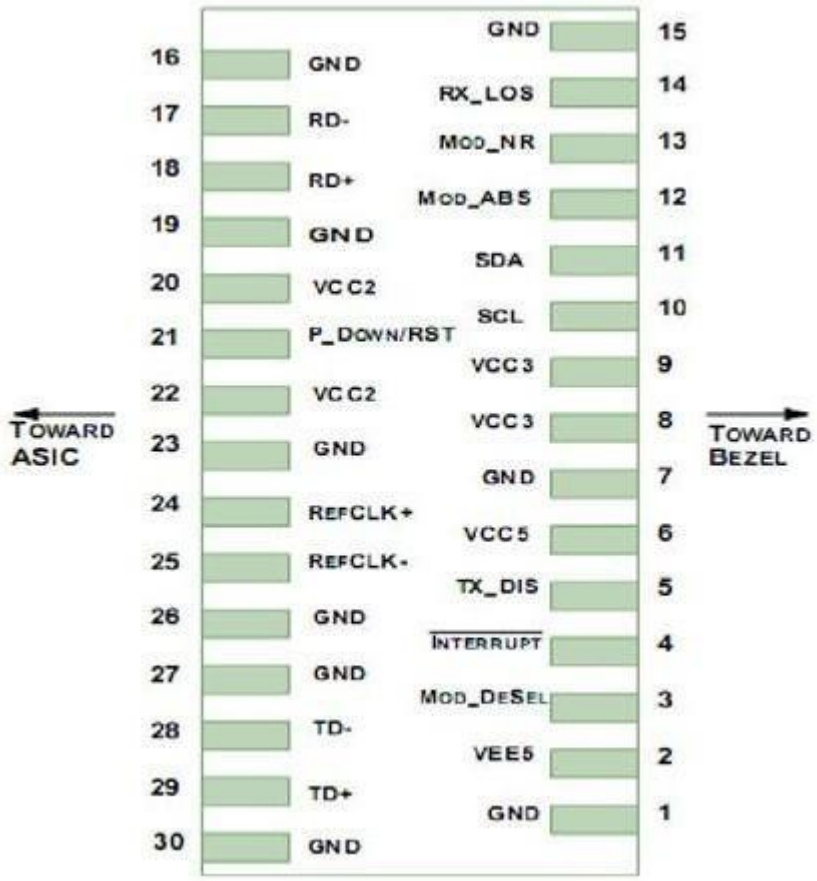
Notes:

1. Measured with 2^31-1 NRZ Pattern. BER≤1E-12@10Gpbs, ER=3.5dB

Digital Diagnostic Functions

Parameter	Symbol	Min.	Max.	Unit	Repeatability	Notes
Temperature	DDMI_Temp	-3	3	℃	± 1℃	1LSB=1/256℃
Supply Voltage	DDMI_VCC	-3%	3%	V	± 1 %	1LSB=0.1mV
Bias Current	DDMI_Ibias	-10%	10%	mA	± 5 %	1LSB=2uA
TX Optical Power	DDMI_TX	-3	+3	dB	± 0.5 dB	1LSB=0.1uW
RX Optical Power	DDMI_RX	-3	+3	dB	± 1.5 dB	1LSB=0.1uW

PIN DIAGRAM

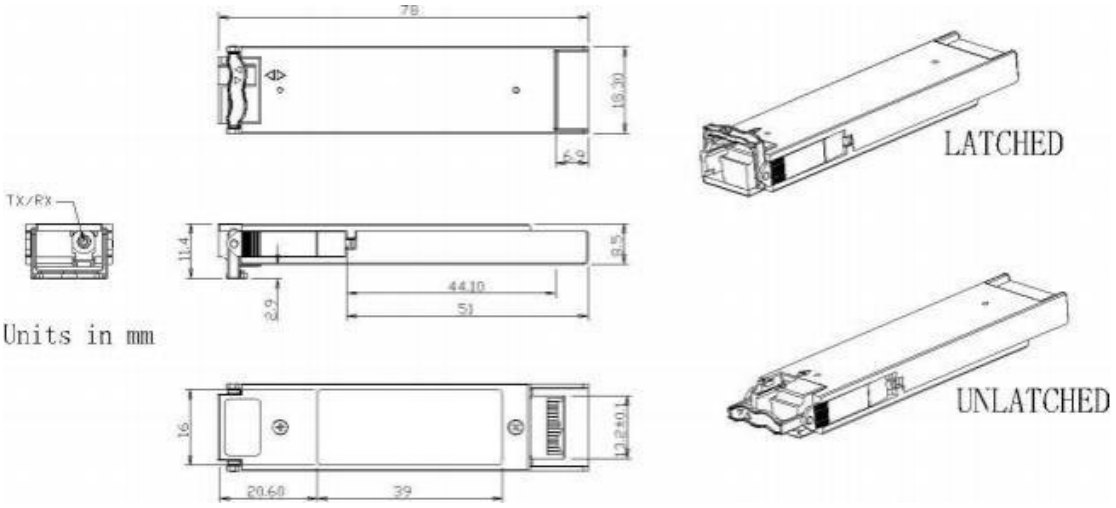


PIN DESCRIPTIONS

Pin	Symbol	Description	Notes
1	GND	Module Ground	1
2	VEE5	Optional -5.2 Power Supply - Not required	
3	Mod-Desel	Module De-select; When held low allows the module to respond to 2-wire serial interface commands	
4	Interrupt	Interrupt (bar); Indicates presence of an important condition which can be read over the serial 2-wire interface	2
5	TX_DIS	Transmitter Disable; Transmitter laser source turned off	
6	VCC5	+5 Power Supply	
7	GND	Module Ground	1
8	VCC3	+3.3V Power Supply	
9	VCC3	+3.3V Power Supply	
10	SCL	Serial 2-wire interface clock	2
11	SDA	Serial 2-wire interface data line	2
12	Mod_Abs	Module Absent; Indicates module is not present. Grounded in the module.	2
13	Mod_NR	Module Not Ready; XGIGA defines it as a logical OR between RX_LOS and Loss of Lock in TX/RX.	2
14	RX_LOS	Receiver Loss of Signal indicator	2
15	GND	Module Ground	1
16	GND	Module Ground	1
17	RD-	Receiver inverted data output	
18	RD+	Receiver non-inverted data output	
19	GND	Module Ground	1
20	VCC2	+1.8V Power Supply - Not required	
21	P_Down/RST	Power Down; When high, places the module in the low power stand-by mode and on the falling edge of P_Down initiates a module reset Reset; The falling edge initiates a complete reset of the module	
22	VCC2	including the 2-wire serial interface, equivalent to a power cycle. +1.8V Power Supply - Not required	
23	GND	Module Ground	1
24	RefCLK+	Reference Clock non-inverted input, AC coupled on the host board - Not required	3
25	RefCLK-	Reference Clock inverted input, AC coupled on the host board - Not required	3
26	GND	Module Ground	1
27	GND	Module Ground	1
28	TD-	Transmitter inverted data input	
29	TD+	Transmitter non-inverted data input	
30	GND	Module Ground	1

Notes:
1. Module circuit ground is isolated from module chassis ground within the module.
2. Open collector; should be pulled up with 4.7k – 10kohms on host board to a voltage between 3.15V and 3.6V.
3. A Reference Clock input is not required by the AC-XFBL-23/32G10-20. If present, it will be ignored

MECHANICAL SPECIFICATION



LABEL DIAGRAM

Optowire

BX7311T-CN

XFP 10G BIDI 1270/1330nm 20km LC

Class 1 Laser

MADE IN CHINA

S/N: ?????????

X.XX.XX.XXX

Optowire

BX3711T-CN

XFP 10G BIDI 1330/1270nm 20km LC

Class 1 Laser

MADE IN CHINA

S/N: ?????????

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