XFP-10G-BX-U-20KM-C

Cisco® XFP-10G-BX-U-20 Compatible TAA 10GBase-BX XFP Transceiver (SMF, 1270nmTx/1330nmRx, 20km, LC, DOM)

Features:

- INF-8077i Compliance
- Simplex LC Connector
- Uncooled DFB transmitter and PIN receiver
- Single-mode Fiber
- Commercial Temperature 0 to 70 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free

Applications:

- 10GBase-BX Ethernet
- 8x/10x Fibre Channel
- Access, Metro and Enterprise

Product Description

This Cisco® XFP-10G-BX-U-20 compatible XFP transceiver provides 10GBase-BX throughput up to 20km over single-mode fiber (SMF) using a wavelength of 1270nmTx/1330nmRx via an LC connector. It is guaranteed to be 100% compatible with the equivalent Cisco® transceiver. This easy to install, hot swappable transceiver has been programmed, uniquely serialized and data-traffic and application tested to ensure that it will initialize and perform identically. Digital optical monitoring (DOM) support is also present to allow access to real-time operating parameters. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

ProLabs' transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S. – made or designated country end products."

Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883E Method 3015.4
- ESD to the LC Receptacle: compatible with IEC 61000-4-2
- EMI/EMC compatible with FCC Part 15 Subpart B Rules, EN55022:2010
- Laser Eye Safety compatible with FDA21CFR, EN60950-1&EN (IEC) 60825-1,2
- RoHS compliant with EU RoHS Directive 2011/65/EU

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ	Max.	Unit
Maximum Supply Voltage	Vcc	-0.5		4.0	V
Storage Temperature	TS	-40		85	°C
Operating Humidity	RH	0		85	%
Operating Temperature	Tc	0		70	°C
Data Rate (Gigabit Ethernet)		9.95	10	10.5	Gbps
9/125μm G.652 SMF	Lmax			20	km

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.13	3.30	3.47	V	Vcc
Power Supply Current	Icc			350	mA	Icc
Transmitter						
Differential data input swing	Vin, pp	120	600	850	mV	
Input differential impedance	Zin	90	100	110	Ω	
TX Disable-High		2.0		Vcc+0.3	V	
TX Disable-Low		Vee-0.3		0.8	V	
TX Fault-High		2.0		Vcc+0.3	V	
TX Fault-Low		Vee-0.3		0.8	V	
Receiver						
Differential data output swing	Vout, pp	300	600	850	mV	
Output Differential Impedance	Zin	90	100	110	Ω	
LOS-High		2.0		Vcc+0.3	V	
LOS-Low		Vee-0.3		0.8	V	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Output Opt. Power	PO	1		6	dBm	1
Optical Wavelength	λ	1260	1270	1280	nm	
Spectral Width (-20dB)	σ			1	nm	
Extinction Ratio	ER	4			dB	
Average Power of OFF Transmitter				-40	dBm	
Eye Diagram		Compatible with IEEE 802.3-2005				
Receiver						
Center Wavelength	λC	1320	1330	1340	nm	
Receiver Sensitivity	PIN			-13	dBm	
Receiver Overload	Pmax	0.5			dBm	
LOS Hysteresis		0.5		5	dB	
LOS Assert	LOSA	-30			dBm	
LOS De-Assert	LOSD			-15	dBm	

Note:

1. BER ≤10-12 @PRBS231 -1 at 10.3125Gb/s

Digital Diagnostic Functions

The digital diagnostic monitoring interface also defines another 256-byte memory map in EEPROM, which makes use of the 8 bit address 1010000X (A0h). The monitoring specification of the product is described in this table.
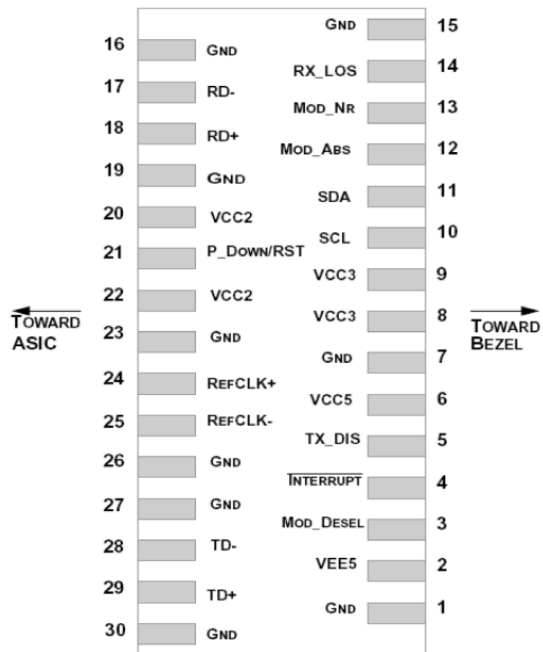
Parameter	Range	Accuracy	Calibration
Temperature	-5 to +85°C	±3°C	Internal
Voltage	2.97 to 3.63V	±3%	Internal
Bias Current	0 to 100mA	±10%	Internal
TX Power	1 to 6dBm	±2dB	Internal
RX Power	-13 to 0.5dBm	±3dB	internal

Pin Descriptions

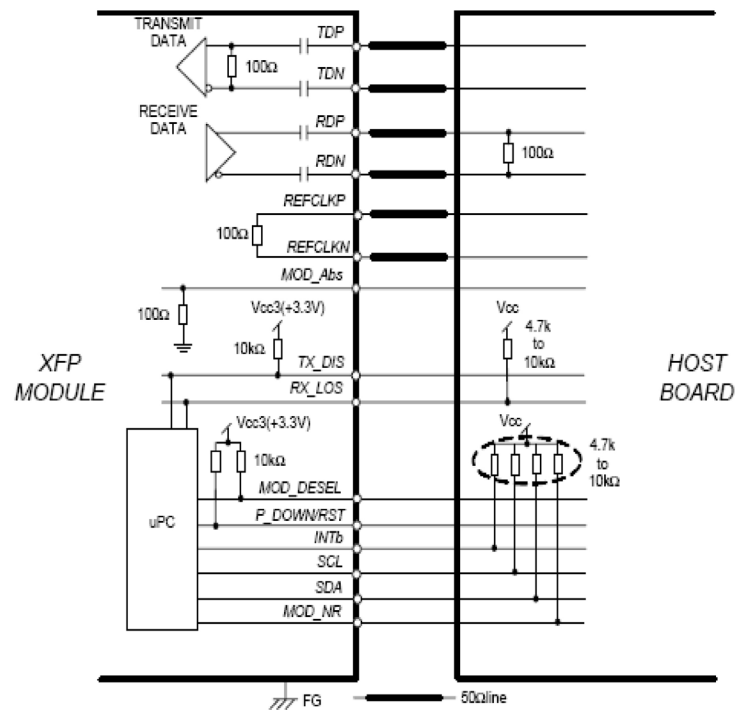| Pin	Symbol	Name/Descriptions	Ref.
1	GND	Module Ground	
2	Vee5	(not required)	
3	MOD_DESEL	Module De-select; When Held low allows the module to respond to 2-wire serial interface. LVTTL-I	
4	/INTERRUPT	Interrupt; Indicates presence of an important condition which can be read via the 2-wire serial interface. LVTTL-O	2
5	TX_DIS	Transmitter Disable. Logic1 indicates laser output disabled, LVTTL-I	
6	VCC5	+5V Power Supply (Not required)	
7	GND	Module Ground	1
8	VCC3	+3.3V Power Supply	
9	VCC3	+3.3V Power Supply	
10	SCL	2-Wire Serial Interface Clock. LVTTL-I	2
11	SDA	2-Wire Serial Interface Data Line. LVTTL-I/O	2
12	MOD_Abs	Indicates Module is not present. Grounded in the Module. LVTTL-O	2
13	MOD_NR	Module Not Ready; Indicating Module Operational Fault. Open-collector. LVTTL-O	2
14	RX_LOS	Loss of Signal indication. Logic 1 indicates loss of Signal. Open-collector. LVTTL-O	2
15	GND	Module Ground	1
16	GND	Module Ground	1
17	RD-	Receiver Inverted Data Output. CML-O	
18	RD+	Receiver Non-Inverted Data Output. CML-O	
19	GND	Module Ground	1
20	VCC2	+1.8V Power Supply (Not required).	3
21	P_DOWN/RST	Power down; When high, requires the module to limit power consumption to 1.5W or below. 2-Wire serial interface must be functional in the low power mode. LVTTL-I Reset; The falling edge initiates a complete reset of the module including the 2-wire serial interface, equivalent to a power cycle. LVTTL-I	
22	VCC2	+1.8V Power Supply (Not required)	3
23	GND	Module Ground	1
24	REFCLK+	Reference Clock (Not required)	
25	REFCLK-	Reference Clock (Not required)	
26	GND	Module Ground	1
27	GND	Module Ground	1
28	TD-	Transmitter Inverted Data Input. CML-I	
29	TD+	Transmitter Non-Inverted Data Input. CML-I	
30	GND	Module Ground	1

Notes:

1. Module ground pins GND are isolated from the module case and chassis ground within the module.
2. Open collector; should be pulled up with 4.7K-10Kohms to a voltage between 3.15V and 3.6V on the host board.
3. The pins are open within module.

TOWARD ASIC				TOWARD BEZEL
		GND	15	
16	GND			
		RX_LOS	14	
17	RD-			
		MOD_NR	13	
18	RD+			
		MOD_ABS	12	
19	GND			
		SDA	11	
20	VCC2			
		SCL	10	
21	P_DOWN/RST			
		VCC3	9	
22	VCC2			
		VCC3	8	
23	GND			
		GND	7	
24	REFCLK+			
		VCC5	6	
25	REFCLK-			
		TX_DIS	5	
26	GND			
		INTERRUPT	4	
27	GND			
		MOD_DESEL	3	
28	TD-			
		VEE5	2	
29	TD+			
		GND	1	
30	GND			

Pin-out of connector Block on Host board

Recommend Circuit Schematic

Mechanical Specifications
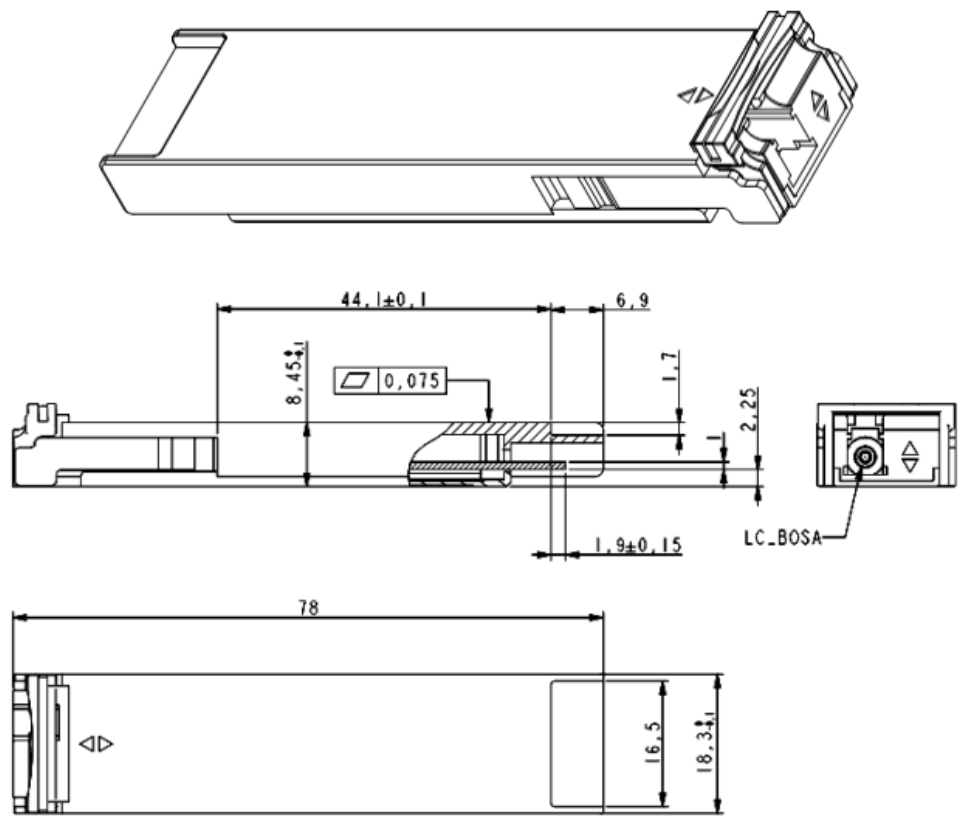
About ProLabs

Our experience comes as standard; for over 15 years ProLabs has delivered optical connectivity solutions that give our customers freedom and choice through our ability to provide seamless interoperability. At the heart of our company is the ability to provide state-of-the-art optical transport and connectivity solutions that are compatible with over 90 optical switching and transport platforms.

Complete Portfolio of Network Solutions

ProLabs is focused on innovations in optical transport and connectivity. The combination of our knowledge of optics and networking equipment enables ProLabs to be your single source for optical transport and connectivity solutions from 100Mb to 400G while providing innovative solutions that increase network efficiency. We provide the optical connectivity expertise that is compatible with and enhances your switching and transport equipment.

Trusted Partner

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure that you get immediate answers to your questions and compatible product when needed. With Engineering and Manufacturing offices in the U.K. and U.S. augmented by field offices throughout the U.S., U.K. and Asia, ProLabs is able to be our customers best advocate 24 hours a day.

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