CWDM-XFP-1450-10-OPC

Cisco® Compatible TAA 10GBase-CWDM XFP Transceiver (SMF, 1510nm, 10km, LC, DOM)

Features

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

Applications:

- 10x Gigabit Ethernet over CWDM
- 8x/10x Fibre Channel
- Access, Metro and Enterprise
- Mobile Fronthaul CPRI/OBSAI

Product Description

This Cisco® XFP transceiver provides 10GBase-CWDM throughput up to 10km over single-mode fiber (SMF) using a wavelength of 1450nm 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.

OptioConnect's 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 internaltional trade. TAA requires that the U.S. Government may acquire only "U.S.-made or designated country end products.")

TAA COMPLIANT

Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883G Method 3015.7
- ESD to the LC Receptacle: compatible with IEC 61000-4-3
- EMI/EMC compatible with FCC Part 15 Subpart B Rules, EN55022:2010
- Laser Eye Safety compatible with FDA 21CFR, EN60950-1& EN (IEC) 60825-1,2
- RoHS compliant with EU RoHS 2.0 directive 2015/863/EU

CWDM Wavelength

Band	Channels	Wavelength		
		Min.	Typ.	Max.
O-Band	27	1264	1270	1277.5
	29	1284	1290	1297.5
	31	1304	1310	1317.5
	33	1324	1330	1337.5
	35	1344	1350	1357.5
E-Band Extended	37	1364	1370	1377.5
	39	1384	1390	1397.5
	41	1404	1410	1417.5
	43	1424	1430	1437.5
	45	1444	1450	1457.5

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature	TS	-40	+85	°C
Maximum Supply Voltage	VCC	-0.5	3.6	V
Operating Relative Humidity			95	%
Operating Case Temperature	Tc	0	+70	°C

*Exceeding any one of these values may destroy the device immediately.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.15	3.3	3.45	V	
Power Supply Current	Icc			750	mA	
Transmitter						
Input differential Impedance	Rin		100			
Differential data input	Vin,pp	120		820	mV	1
Transmit Disable Voltage	VD	2.0		Vcc	V	
Transmit Enable Voltage	VEN	GND		GND +0.8	V	
Transmit Disable Assert Time				10	us	
Receiver						
Differential data output swing	Vout,pp	340	650	850	mV	1
RX Rise time (20-80%)	tr			38	ps	
RX Fall time (20-80%)	tf			38	ps	
LOS Fault	VLOS fault	Vcc – 0.5		VccHOST	V	2
LOS Normal	VLOS norm	GND		GND+0.5		2

Notes:
1. After internal AC coupling
2. Loss of signal is open collector to be pulled up to with a 4.7k-10kohm resister to 3.15-3.6V. Logic 0 indicates normal operation; logic 1 indicates no signal detected.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Budget	PB		14		dB	
Data Rate			10.3125		Gbps	
Transmitter						
Center Wavelength	λC	λC-6	λC	λC-7.5	nm	
Spectral Width (-20dB)	Δλ			1	nm	
Side Mode Suppression Ratio	SMSR	30			dB	
Average Output Power	Pout	-1		4	dBm	3
Extinction Ratio	ER	3.5			dB	
Pout@TX Disable Asserted	Pout			-30	dBm	
Receiver						
Center Wavelength	λC	1260		1600	nm	
Receiver Sensitivity	Pmin			-15	dBm	4
Receiver Overload	Pmax	0.5			dBm	
LOS De-Assert	LOSD			-17.8	dBm	
LOS Assert	LOSA	-29.8			dBm	
LOS Hysteresis		1			dB	

Notes:

1. Output power is coupled into a 9/125μm SMF.
2. Average received power; BER less than 1E-12 and PRBS 231-1 test pattern.
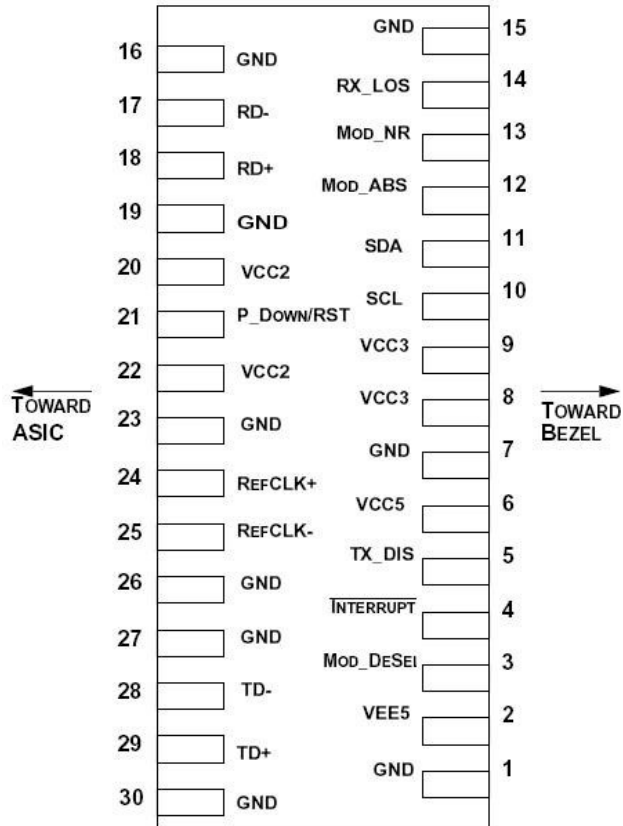
Pin Descriptions

Pin	Symbol	Function	Notes
1	GND	Module Ground	1
2	V$_{EE5}$	Optional -5.2 Power Supply - Not Required	
3	Mod_Desel	Module De-select; When held low allows module to respond to 2-wire serial interface commands	
4	Interrupt	Interrupt; Indicates presence of an important condition which can be read over the 2-wire serial interface.	2
5	TX_DIS	Transmitter Disable; Transmitter laser source turned off	
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	Serial 2-wire Interface clock.	2
11	SDA	Serial 2-wire Interface Data Line	2
12	Mod_Abs	Module Absent: Indicated module is not present. Grounded in the module.	2
13	Mod_NR	Module Not Ready	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 including the 2-wire serial interface, equivalent to a power cycle.	
22	VCC2	+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-10k ohms on host board to a voltage between 3.15V and 3.6V.
3. Reference Clock input is not required.

Electrical Pin-out Details

Pin	Signal		Pin	Signal
		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			

TOWARD ASIC ← → TOWARD BEZEL

Recommended Host Board Power Supply Circuit

```
                              HOST Board

                                          ┌──────┐
                                          │      │  ┌──────────────┐
                                          │ XFP  │  │              │
  Host+3.3V    4.7μH      VCC3            │ Conn-│  │              │
     ●────────mmm────●──────●─────────────│ ector│  │  XFP Module  │
   0.1μF          22μF   0.1μF            │      │  │              │
    ─┬─           ─┬─    ─┬─              │      │  │              │
     ═              ═      ═               │      │  └──────────────┘
     ⏚              ⏚      ⏚               └──────┘
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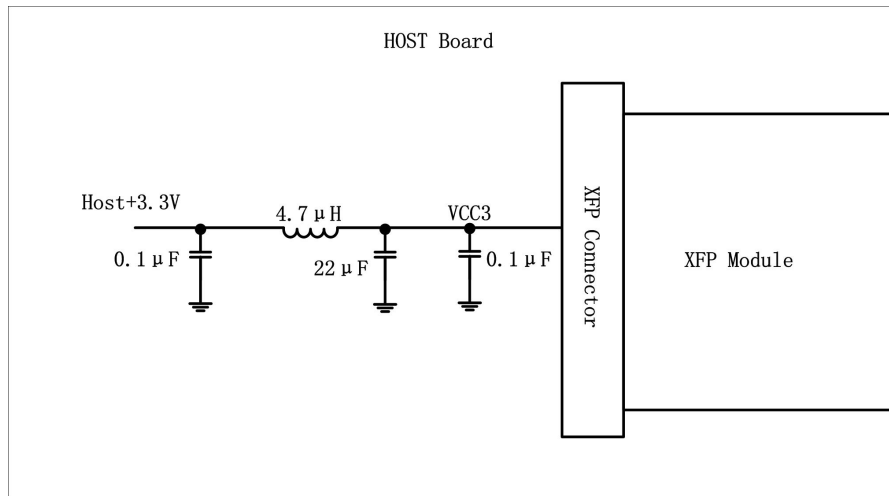
Recommend High-speed Interface Circuit

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                              HOST Board
                                                    XFP Module
  ┌─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┐      ┌─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┐
  │  XFP Receiver               │           XFP Transmitter         │
  │       ◁───────────── RD- ───│──◁──┤├──────────◁                 │
  │      CML                    │           CML                     │
  │       ◁───────────── RD+ ───│──◁──┤├──────────◁                 │
  │                             │                                   │
  │                             │                                   │
  │  XFP Transmitter            │                    XFP Receiver   │
  │       ▷───────────── TD+ ───│──▷──┤├──────────▷                 │
  │      CML                    │           CML                     │
  │       ▷───────────── TD- ───│──▷──┤├──────────▷                 │
  └─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┘      ─┤├──────────▷                │
                              ┤├───────────▷                        │
             Reference Clock  ─┤├──────────▷                        │
                                     └─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┘
                                          XFP Connector
```
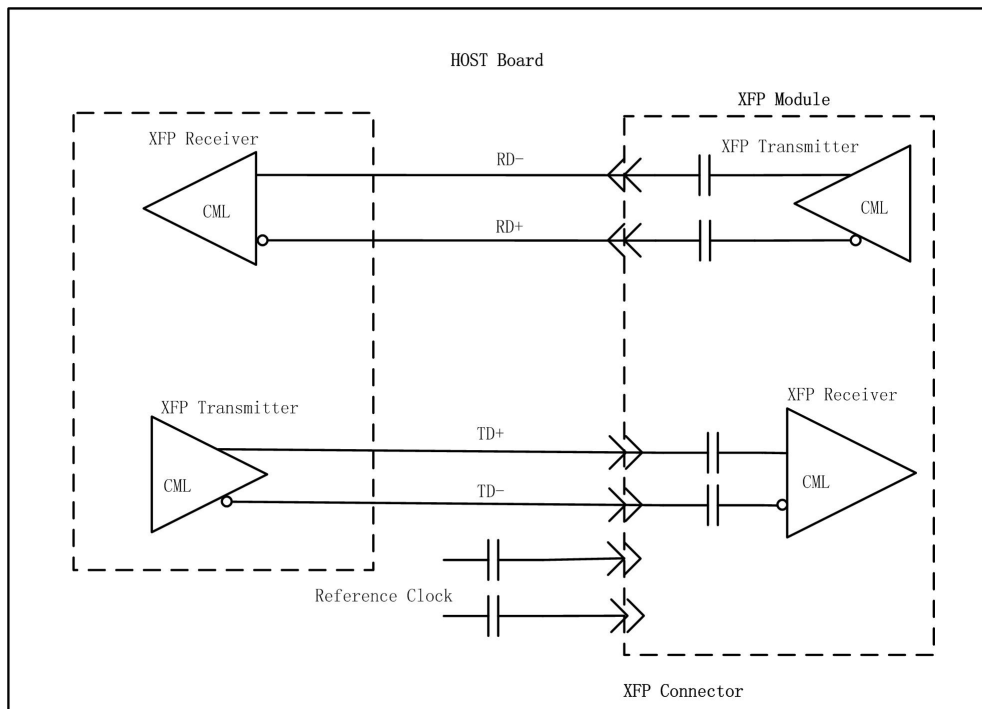
Mechanical Specifications
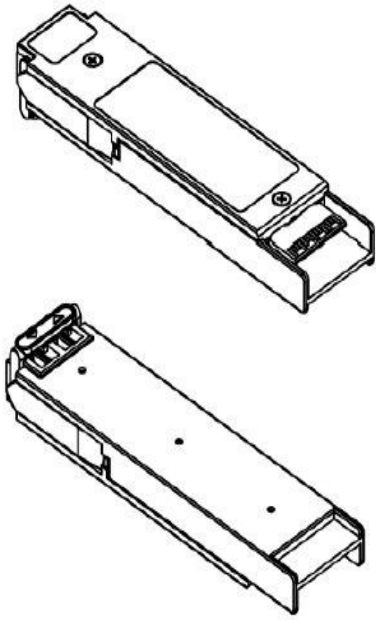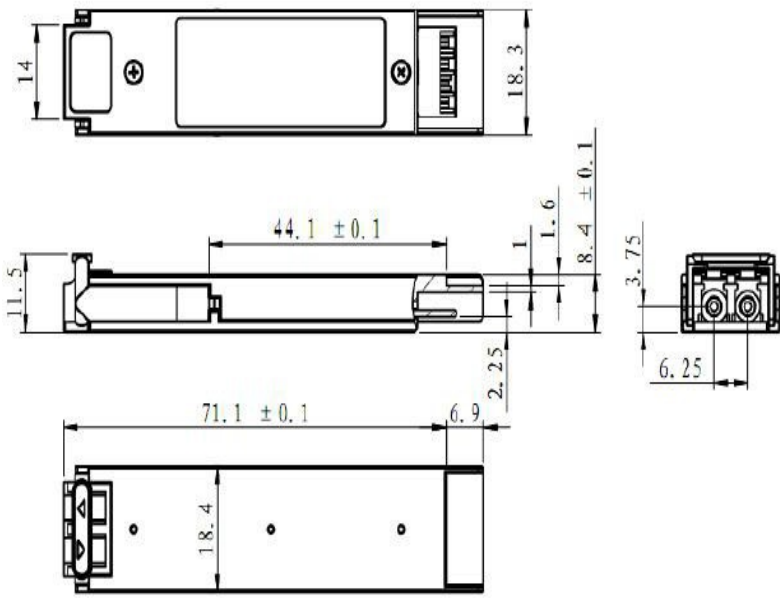
OptioConnect
Innovation for the Future of High-Speed Networking

Who We Are
OptioConnect is reshaping the landscape of communication and high-speed networking through intelligent technology. With a core focus on cutting edge technology, we deliver smarter fiber optic solutions for enterprise networks, data centers, and next-gen telecom infrastructures.

What We Do
At OptioConnect, we fuse advanced engineering with intelligent automation to drive the future of networking. Our AI-integrated solutions are designed to optimize performance and streamline operations with:

- Superior Performance
- Network and traffic optimization
- Intelligent energy management
- Seamless OEM compatibility
- Scalable cost-efficiency

Smarter Networks by Design
Innovation isn't just a goal—it's our process. We embed AI and machine learning across our R&D and product lines, enabling adaptive performance, automated tuning, and faster deployment cycles. The result? Networks that don't just work—they learn, evolve, and outperform.

Our Team
Our engineers, data scientists, and network architects bring decades of experience and a future-focused mindset. We provide hands-on support with intelligent insights that turn complex challenges into simple solutions.

Our Mission
To deliver AI-enhanced connectivity that reduces cost, increases speed, and maximizes efficiency—empowering our partners to operate at the forefront of a rapidly evolving digital world.

Let's Connect
Discover how OptioConnect's intelligent infrastructure solutions can power your network's next leap forward.
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