

XFP-LR

10GBASE, XFP, LR, SMF TRANSCEIVER

1310nm, 10km REACH, DUPLEX LC CONNECTOR

Product Features

- Supports 9.95Gb/s to 11.3Gb/s data rates
- Hot-pluggable XFP Footprint
- Maximum Link Length up to 10km
- Temperature-Stabilized EML transmitter
- Duplex LC Connector
- XFP-MSA, IEEE 802.3ae compliant
- Power Dissipation <2.5W
- Built-in Digital Diagnostic Functions
- Available operating temperature ranges:
 - Commercial: 0°C to 70°C
 - Industrial: -40°C to 85°C



Product Applications

- 10GBASE-LR/LW & 10G Ethernet
- OTN / FC / CPRI

I. Maximum Ratings

Exceeding the limits below may damage the transceiver module permanently.

Parameter	Symbol	Min.	Typ.	Max.	Units
Maximum Supply Voltage	Vcc3	-0.5		4.0	V
Storage Temperature	TS	-40		85	°C

II. Operating/Electrical Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Case Operating Temperature	TC	0		+70	°C	Commercial
		-40		+85	°C	Industrial
Supply Voltage	Vcc3	3.13		3.45	V	
Supply Current	Icc3			720	mA	

III. Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Date Rate	BR	9.95	10.3	11.3	Gbps	
Transmitter						
Optical output Power	PO	-6		0	dBm	
Optical Wavelength	λ_C	1290		1330	nm	
Optical Extinction Ratio(for SDH)	ER	6			dB	
Optical Extinction Ratio(for Ethernet)	ER	3.5			dB	
Side Mode Suppression ratio	SSRmin	30			dB	
Average Launch power of OFF transmitter	POFF	-30			dBm	
TX Jitter	TXj	Compliant with each standard requirements				
Receiver						
Receiver Sensitivity@10.7Gb/s	Pmin			-14.5	dBm	
Maximum Input Power	Pmax	+0.5			dBm	
Optical Center Wavelength	λ_c	1270		1600	nm	
Receiver Reflectance	Rrx			-14	dB	
LOS De-Assert	LOSD			-16.5	dBm	
LOS Assert	LOSA	-28.5			dBm	
LOS Hysteresis		1			dB	

IV. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	Vcc3	3.13		3.45	V	
Supply Current	Icc3			720	mA	
Transmitter						
Module total power	P			2.5	W	
Input differential impedance	Rin		100		Ω	
Differential data input swing ^{*2}	Vin,pp	120		820	mV	
Transmit Disable Voltage	VD	2.0		Vcc	V	
Transmit Enable Voltage	VEN	GND		GND+ 0.8	V	
Transmit Disable Assert Time				10	us	
Tx Rise time (20 – 80%)	tr		40		ps	
Tx Fall time (20 – 80%)	tf		50		ps	
Receiver						
Differential Data Output Swing	Vout,pp	340	650	850	mV	1
Rise Time (20– 80%)	tr			38		
Fall Time (20– 80%)	tf			38		
LOS Fault	Vlosfault	Vcc – 0.5		VccHOST	V	2
LOS Normal	Vlosnorm	GND		GND+0.5	V	2

Notes:

1. After internal AC coupling
2. Loss Of Signal is open collector to be pulled up with a 4.7k – 10k ohm resistor to 3.15 – 3.6V. Logic 0 indicates normal operation; logic 1 indicates no signal detected.

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v. Ordering Information

Pivotal Part Number	Description
XFP-LR	XFP, 1310nm, LR SMF 10km 10G/2km OC-192 DDM, C-Temp
XFP-LRI	XFP, 1310nm, LR SMF 10km 10G/2km OC-192 DDM, I-Temp

Notes:

1. Please contact sales for specific OEM Platform part numbers to fit your network.

Warranty

<https://pivotaloptics.com/warranty/>

Disclaimer

External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.