

XFP-LR

10GBASE, XFP, LR, SMF TRANSCEIVER

1310nm, 10km REACH, DUPLEX LC CONNECTOR

Features

- Supports 8.0Gb/s to 11.1Gb/s bit rates
- Hot-pluggable XFP footprint, Built-in digital diagnos
- Maximum link length of 20km with SMF
- 1310nm DFB laser and PIN photodiode
- XFP MSA package with duplex LC connector
- No reference clock required
- Single +3.3V power supply
- Power dissipation <1.5W
- Compatible with RoHS
- Commercial Temperature range: 0 to +70°C



Applications

- SONET OC-192&SDH STM-64 at 9.953Gbps
- 10GBASE-LR/LW 10G Ethernet
- 1200-SM-LL-L 10G Fibre Channel
- 10GE over G.709 at 11.09Gbps
- OC192 over FEC at 10.709Gbps
- Other optical links, up to 11.1Gbps

1. Absolute Maximum Ratings

Any stress beyond the maximum ratings can result in permanent damage. The device specifications are guaranteed only under the recommended operating conditions.

Parameter	Symbol	Min	Max	Unit
Supply Voltage	Vcc	-0.5	4.5	V
Storage Temperature	Ts	-40	+85	°C
Operating Humidity	-	5	85	%

XFP-LR

10GBASE, XFP, LR, SMF TRANSCEIVER

1310nm, 10km REACH, DUPLEX LC CONNECTOR

2. Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature (Commercial)	T _c	0		+70	°C
Power Supply Voltage @3.3V	V _{cc}	3.135	3.30	3.465	V
Power Supply Current	I _{cc}			500	mA
Data Rate		8.0		11.1	Gbps

3. Optical and Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Transmitter						
Centre Wavelength	λ_c	127-	1330	1350	nm	
Spectral Width (-20dB)	$\Delta\lambda$			1	nm	
Side-Mode Suppression Ratio	SMSR	30			dB	
Average Output Power	P _{out}	-3		+2	dBm	1
Extinction Ratio	ER	6.0			dB	3
Data Input Swing Differential	V _{IN}	180		950	mV	2
Input Differential Impedance	Z _{IN}	90	100	110	Ω	
TX Disable	Disable		2.0		V _{cc}	V
	Enable		0		0.8	V
Receiver						
Centre Wavelength	λ_c	1260		1600	nm	
Receiver Sensitivity				-15	dBm	3
Receiver Overload		0.5			dBm	3
LOS De-Assert	LOSD			-16	dBm	
LOS Assert	LOSA	-26			dBm	
LOS Hysteresis		0.5		4	dB	
Data Output Swing Differential	V _{out}	400	600	800	mV	2
LOS	High	2.0		V _{cc}	V	
	Low			0.8	V	

Notes:

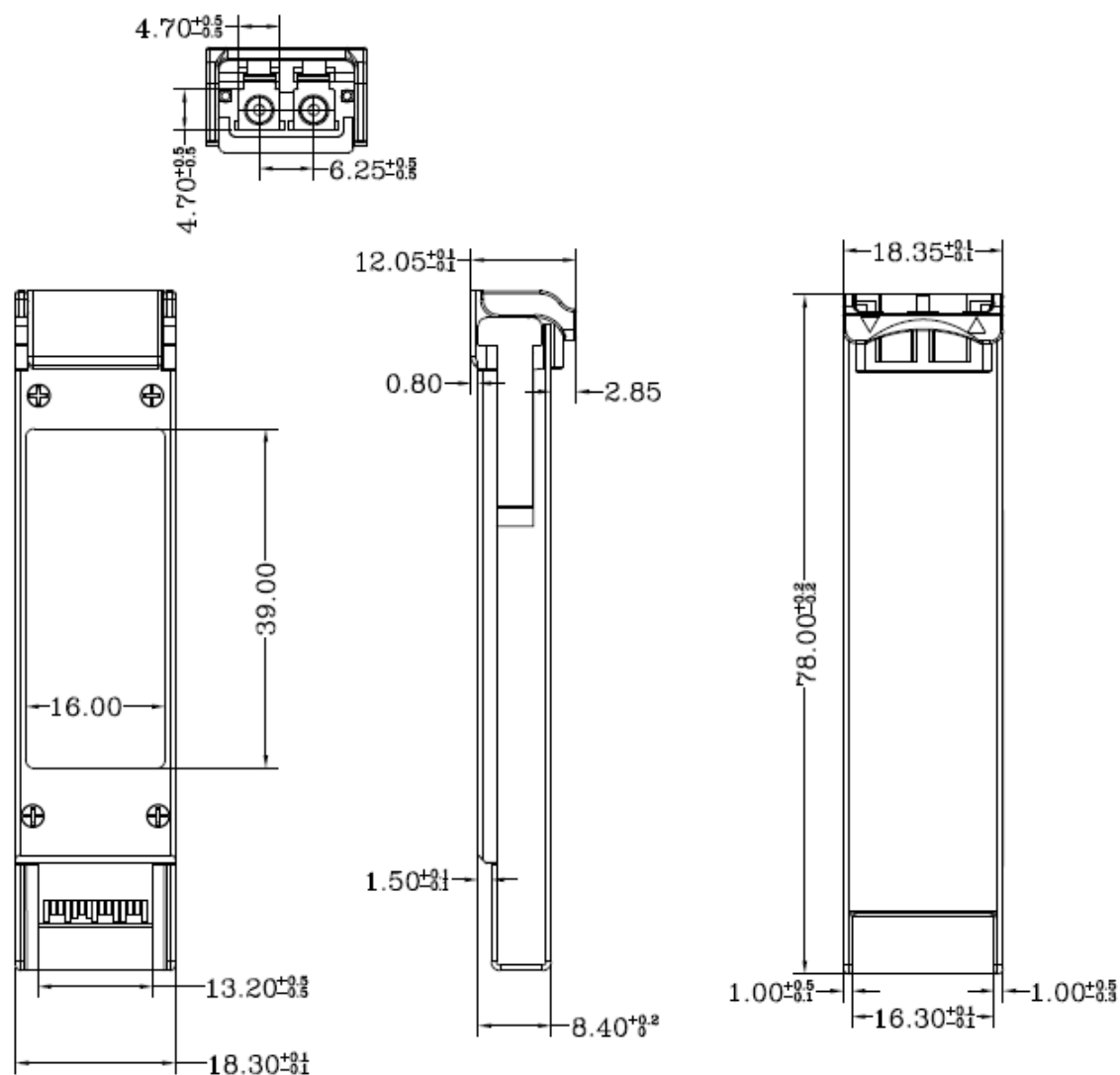
1. The optical power is launched into SMF.
2. Internally AC-coupled.
3. Measured with a PRBS 2³¹-1 test pattern @9953Mbps, BER $\leq 1 \times 10^{-12}$.

XFP-LR

10GBASE, XFP, LR, SMF TRANSCEIVER

1310nm, 10km REACH, DUPLEX LC CONNECTOR

4. Mechanical Diagram



Note: 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.

XFP-LR

10GBASE, XFP, LR, SMF TRANSCEIVER

1310nm, 10km REACH, DUPLEX LC CONNECTOR

5. Ordering Information

OEM	Part Number	OEM	Part Number
3Com	3CXFP92-L	Extreme	10122-L
Adtran	1442910G1C-L	F5 Networks	F5UPGXFPLROPR-L
Adtran	1442921F1-L	Finisar	FTRX1411M3-L
Adtran	1442911F1-L	Finisar	FTLX1411D3-L
Adtran	1442910G1-L	Finisar	FTLX1411M3-L
ADVA	0061701811-03-L	Finisar	FTLX1413D3BCL-L
Alcatel	109537902-L	Fortinet	FG-TRAN-XFPLR-L
Alcatel	10G-XFP-LR-ALCATEL-A-L	Fujitsu	FC9573E410-L
Alcatel	3FE50712BA-L	Fujitsu	FC95731410-L
Alcatel	3HE00564AA-L	Fujitsu	FC9573E410-I04-L
Alcatel	3HE00564CA-L	Fujitsu	FIM31121-L
Alcatel	3HE05831CA-L	Fujitsu	FC9685TC13-L
Alcatel-Lucent	XFP-10G-LR-ALCATEL-L	HP	JD108B-L
Allied Telesis	AT-XPLR-L	Huawei	XFP-STM64-LX-SM1310-L
Aruba	XFP-LR-L	IBM	45W2811-L
Brocade	10G-XFP-LR-L	Infinera	TOM-10G-SR1-L
Brocade	10G-XFP-LR-4-L	Infinera	TRX100044-L
Brocade-Foundry	OC192-XFP-SR1-L	Intel	TXN181072013X5C-L
BTI	BP3AM4MS-L	JDSU	JXP-01LEAB1-L
Calix	100-01509-L	JDSU	JXP-01LGAB1-L
Calix	100-01508-L	JDSU	JXP-01LMAB1-L
Ciena	XCVR-A10V31-L	JDSU	JXP-01LMAC1-L
Ciena	NTTP84BA-L	Juniper	EX-XFP-10GE-LR-L
Cisco	ONS-XC-10G-S1-L	Juniper	SRX-XFP-10GE-LR-L
Cisco	XFP-10GLR-192SR-L-L	Juniper	XFP-10GE-LR-L
Cisco	XFP10GLR-192SR-L-L	Juniper	XFP-10G-L-OC192-SR1-L
Cisco	XFP-10GLR-OC192SR-L	Marconi	SU69CA-L
Cisco	XFP10GLR192SR-RGD-L	MRV	XFP-10GD-LR-L
Citrix	EW3D0000714-L	MRV	XFP-10GED-LR-L
Citrix	EW3E0000714-L	MRV	XFP-10GED-LRTH-L
Citrix	EW3F0000714-L	Netgear	AXM752-L
Citrix	EW3P0000561-L	Nortel	AA1403001-E5-L
Citrix	EW3X0000714-L	Nortel	NTTP80BA-L
Citrix	EW3Z0000589-L	Occam	105164-L
Cyan	280-0014-00-L	Optelion	1003-4753-L
D-Link	DEM-422XT-L	OnePort	OP-XFP-LR-OC192

XFP-LR

10GBASE, XFP, LR, SMF TRANSCEIVER

1310nm, 10km REACH, DUPLEX LC CONNECTOR

MSA	L-XFP-LR-OC192	Palo Alto	PAN-XFP-LR-L
MSA	L-XFP-LR-OC192-I	Tellabs	81.XO192SR1131S-L
Dell	409-10007-L	Transition Networks	TN-XFP-LR1-L
Delta	TSP-10G3B1QER-L	Zhone	MXK-10GE-XFP-LR-L
Edgecore	ET5302-LR-L	ZTE	XFP-10GE-S10K-L
Enterasys	10GBASE-LR-XFP-L		