

XFP-ER

10GBASE, XFP, ER, SMF TRANSCEIVER

1550nm, 40km 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 40km with SMF
- 1550nm Cooled EML laser and PIN photodiode
- XFP MSA package with duplex LC connector
- No reference clock required
- Single +3.3V power supply
- Power dissipation <3.5W
- Compatible with RoHS
- Temperature range 0 to +70°C



Applications

- SONET OC-192&SDH STM-64 at 9.953Gbps
- 10GBASE-ER/EW 10G Ethernet
- 10G Fiber 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	%

2. Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	Tc	0		+70	°C
Power Supply Voltage @3.3V	Vcc	3.135	3.30	3.465	V
Power Supply Current	Icc			1000	mA
Data Rate		8.0		11.1	Gbps

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3. Optical and Electrical Characteristics

Parameter		Symbol	Min	Typ	Max	Unit	Notes
Transmitter							
Centre Wavelength		λ_c	1530	1550	1565	nm	
Spectral Width (-20dB)		$\Delta\lambda$			1	nm	
Side-Mode Suppression Ratio		SMSR	30			dB	
Average Output Power		Pout	-1		+2	dBm	1
Extinction Ratio		ER	8.2			dB	3
Data Input Swing Differential		VIN	180		950	mV	2
Input Differential Impedance		ZIN	90	100	110	Ω	
TX Disable	Disable		2.0		Vcc	V	
	Enable		0		0.8	V	
Receiver							
Centre Wavelength		λ_c	1260		1600	nm	
Receiver Sensitivity					-16	dBm	3
Receiver Overload			0.5			dBm	3
LOS De-Assert		LOSD			-17	dBm	
LOS Assert		LOSA	-26			dBm	
LOS Hysteresis			0.5		4	dB	
Data Output Swing Differential		Vout	400	600	800	mV	2
LOS	High		2.0		Vcc	V	
	Low				0.8	V	

Notes:

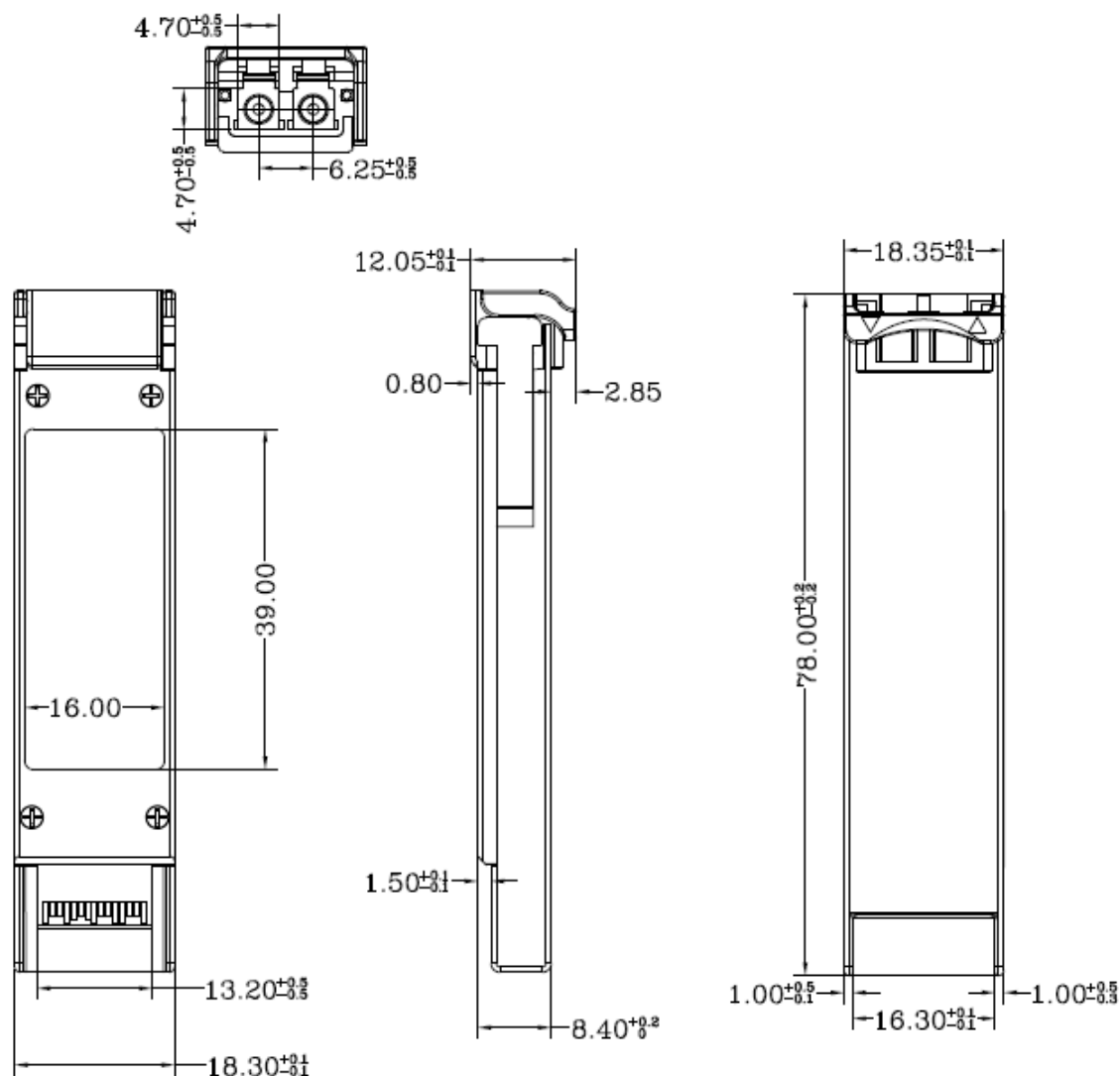
1. The optical power is launched into SMF.
2. Internally AC-coupled.
3. Measured with a PRBS 2³¹-1 test pattern @9953Mbps, BER $\leq 1 \times 10^{-12}$.

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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.

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5. Ordering Information

OEM	Part Number	OEM	Part Number
3Com	3CXFP96-L	Extreme	10124-L
Adtran	1442940G1C-L	F5 Networks	F5UPGXFPEROPR-L
Adtran	1442940G1-L	Finisar	FTLX1611M3-L
Adtran	1442941F1-L	Finisar	FTRX-1611-3-L
Alcatel-Lucent	3HE00876CA-L	Force	GP-XFP-1E-L
Alcatel-Lucent	3HE00876AA-L	Fujitsu	FC9573E420-I02-L
Alcatel-Lucent	3FE50712CA-L	Fujitsu	FIM31112-100-L
Alcatel-Lucent	3HE06589CA-L	Fujitsu	FIM31112-110-L
Alcatel-Lucent	1AB217280001-L	Fujitsu	FIM31112-120-L
Alcatel-Lucent	109537563-L	Fujitsu	FIM31112-L
Alcatel-Lucent	3HE05832CA-L	H3C	0231A72X-L
Allied Telesis	AT-XPER40-L	IBM	45W2812-L
Blade Networks	ET5302-ER-L	Infinera	TOM-10G-IR2-L
Brocade-Foundry	10G-XFP-ER-L	JDSU	JXP-01EEAB1-L
Brocade-Foundry	OC192-XFP-IR2-L	JDSU	JXP-01EGAB1-L
BTI	BP3AM4LI-L	JDSU	JXP-01EMAB1-L
Calix	100-02595-L	JDSU	JXP-01EMAC1-L
Calix	100-01426-L	Juniper	EX-XFP-10GE-ER-L
Calix	100-01425-L	Juniper	SRX-XFP-10GE-ER-L
Ciena	NTTP84AA-E6-L	Juniper	XFP-10G-E-OC192-IR2-L
Ciena	XCVR-A40V55-L	Marconi	SU69CC-L
Ciena	NTTP80DA-L	MRV	XFP-10GD-IR2-L
Cisco	ONS-XC-10G-I2-L	MRV	XFP-10GED-IR2-L
Cisco	XFP-10GER-OC192-IR-L-L	Nortel	AA1403003-E5-L
Cisco	XFP-10GER-OC192IR+-L	Omnitron	7427-2-L
Cisco	XFP10GER-192IR-L-L	OnePort	OP-XFP-ER-OC192
Cisco	XFP-10GER-OC192IR-L	Redback	XFP-10GE-ER-L
Cisco	XFP-10GER-192IR+-L	Telco	10GERTDDXFP-L
Cisco	XFP10GER192IR-RGD-L	Transition Networks	TN-XFP-10GER-OC192IR-L
Cyan	280-0015-00-L	Transition Networks	TN-XFP-ER-L
Cyan	280-0121-00-L	Zhone	MXK-10GE-XFP-40KM-1550-L
Data Center Optics	L-XFP-ER-OC192	ZTE	XFP-10GE-S40K-L
Enterasys	10GBASE-ER-XFP-L		