

UXFP-80-U / UXFP-80-D XFP 80km 1490/1550nm Bi-directional LC module



1.Feature

- Supports 9.95Gb/s to 11.3Gb/s bit rates
- Hot Pluggable XFP Footprint
- 1490/1550nm EML Laser and APD photo detector
- Up to 80km transmission on SMF
- Simplex LC connector
- Single Power Supply: 3.3V
- Temperature Range: 0~ 70°C
- Compatible with RoHS
- Built-in Digital Diagnostic Functions SFF-8472

2.Application

- 10GBASE-ZR/ZW 10G Ethernet IEEE802.3ae & XFP MSA
- SONET OC-192 / SDH
- SDH STM I-64.1
- 10G Fibre Channel

3.Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Storage Temperature	Tst	-40	+85	°C
Supply Voltage	Vcc	0	+3.6	V
Operating Relative Humidity	RH	0	85	%

4.Operation Environment

Parameter	Symbol	Min	Typical	Max	Units
Supply Voltage	Vcc	3.15		3.45	V

Operating Case Temperature	Commercial	Tc	0		+70	°C
Supply Current		Icc			500	mA
Data Rate			9.95		11.3	Gbps

5.Optical Characteristics

(Ambient Operating Temperature 0°C to +70°C, Vcc =3.3 V)

Parameter		Symbol	Min.	Typ.	Max.	Units
Transmitter Section						
Center Wavelength	UXFP-80-U	λ_o		1490		nm
	UXFP-80-D			1550		
Spectral Width	Tx	$\Delta\lambda$			0.3	nm
Average Output Power	Tx	Po	+2		+5	dBm
Extinction Ratio		Er	3.5			dB
Side-Mode Suppression Ratio		SMSR	35			dB
Total jitter		Tj	IEEE 802.3ae			
Receiver Section						
Center Wavelength	UXFP-80-U	λ_o		1550		nm
	UXFP-80-D			1490		
Receiver Sensitivity		Rsen			-22	dBm
Receiver Overload		Rov	-7			dBm
Return Loss			12			dB
LOS Assert		LOS _A	-34			dBm
LOS Dessert		LOS _D			-24	dBm
LOS Hysteresis			0.5		4	

Note : Measured with a PRBS of 2³¹-1 at 1 x 10⁻¹² BER.

6. Electrical Characteristics

(Ambient Operating Temperature 0°C to +70°C, Vcc = 3.3 V)

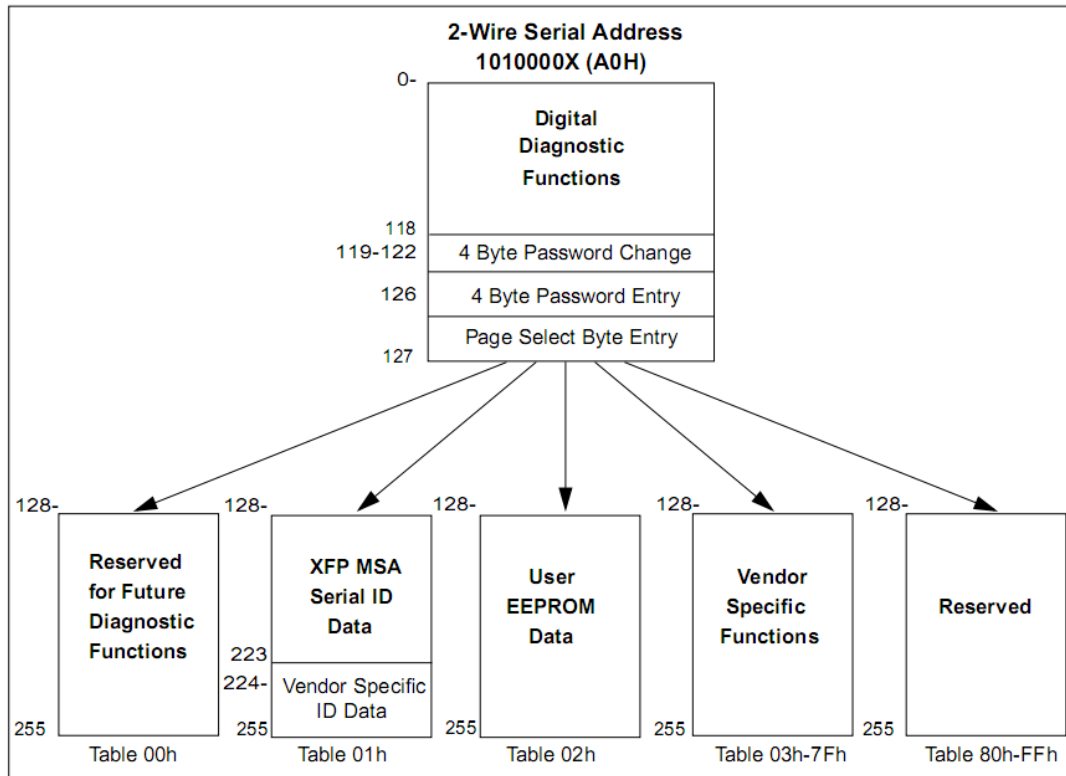
Parameter		Symbol	Min.	Typ.	Max.	unit
Transmitter Section						
Input Differential Impendence		Zin	90	100	110	Ohm
Data Input Swing Differential		Vin	180		700	mV
TX Disable	Disable		2.0		Vcc	V
	Enable		0		0.8	V
TX Fault	Assert		2.0		Vcc	V
	Deassert		0		0.8	V
Receiver Section						
Output differential impendence		Zout		100		Ohm
Data output Swing Differential		Vout	300		850	mV
Rx_LOS	Assert		2.0		Vcc	V
	Deassert		0		0.8	V

7. Diagnostics

Parameter	Range	Accuracy	Unit	Calibration
Temperature	-10 ~ 75	±3	°C	Internal
Bias Current	0 ~ 100	0.5	mA	Internal
Tx Power	-5 ~ +5	±1	dBm	Internal
Rx Power	-18 ~ 0	±1	dBm	Internal

For more detailed information including memory map, please see XFP MSA Specification

8.EEPROM INFORMATION (A0) :



9.Pin Description:

Pin	Logic	Symbol	Name/Description	Ref.
1		GND	Module Ground	1
2		VEE5	Optional -5.2 Power Supply – Not required	
3	LVTTL-I	Mod-Desel	Module De-select; When held low allows the module to respond to 2-wire serial interface commands	
4	LVTTL-O	Interrupt	Interrupt (bar); Indicates presence of an important condition which can be read over the serial 2-wire interface	2
5	LVTTL-I	TX_DIS	Transmitter Disable; Transmitter laser source turned off	
6		VCC5	+5 Power Supply– Not required	
7		GND	Module Ground	1
8		VCC3	+3.3V Power Supply	
9		VCC3	+3.3V Power Supply	
10	LVTTL-I	SCL	Serial 2-wire interface clock	2
11	LVTTL-I/O	SDA	Serial 2-wire interface data line	2
12	LVTTL-O	Mod_Abs	Module Absent; Indicates module is not present. Grounded in the module.	2
13	LVTTL-O	Mod_NR	Module Not Ready; Finisar defines it as a logical OR between RX_LOS and Loss of Lock in TX/RX.	2
14	LVTTL-O	RX_LOS	Receiver Loss of Signal indicator	2
15		GND	Module Ground	1
16		GND	Module Ground	1
17	CML-O	RD-	Receiver inverted data output	
18	CML-O	RD+	Receiver non-inverted data output	
19		GND	Module Ground	1
20		VCC2	+1.8V Power Supply – Not required	
21	LVTTL-I	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	PECL-I	RefCLK+	Reference Clock non-inverted input, AC coupled on the host board – Not required	3
25	PECL-I	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	CML-I	TD-	Transmitter inverted data input	
29	CML-I	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 – 10kohms on host board to a voltage between 15V and 3.6V
3. A Reference Clock input is not required. If present, it will be ignored.

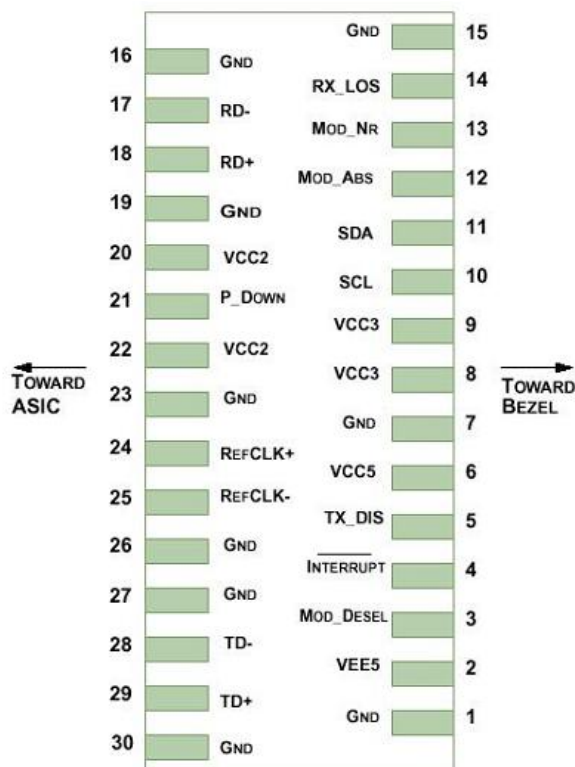


Diagram of Host Board Connector Block Pin Numbers and Name

10.Outline drawing (mm):

