LXF-H55-80D(I)

XFP 10Gb/s 1550nm Single-mode 80km DDM

PRODUCT FEATURES

- Compliant with XFP MSA
- Operating Data Rate up to 10.3125Gbps
- 1550nm EML laser
- 80km with 9/125 μm SMF
- Hot-Pluggable XFP Footprint Duplex LC Connector Interface
- Power Dissipation<3.5W
- Class 1 FDA and IEC60825-1 Laser Safety Compliant
- Operating Temperature:

  Standard: 0°C ~+70°C

  Industrial:-40°C -+85°C
- 2-Wire Interface for Integrated Digital Diagnostic Monitoring
- Compliant with SFF-8472
- Fully ROHS 2.0 compliant

APPLICATIONS

- 10GBASE-ZR/ZW 10G Ethernet
- Switch to Switch Infrastructure
- Storage Area Network(SAN)

Ordering information

Part No.	Data Rate	Fiber	Distance	Interface	Temp.	DDMI
LXF-H55-80D	10.3125Gbps	SMF	80km	LC	0°C ~70°C	Yes
LXF-H55-80DI	10.3125Gbps	SMF	80km	LC	-40°C ~85°C	Yes

I. Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	TS	-40	+85	°C
MaximumSupply Voltage1	Vcc3	-0.5	4.0	V
MaximumSupply Voltage2	Vcc5	-0.5	6.0	V
Operating Relative Humidity			95	%

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

II. Recommended Operating Conditions

Parameter	Symbol		Min.	Typ.	Max.	Unit
Operating Case Temperature	Tc	LXF-H55-80D	0		+70	°C
		LXF-H55-80DI	-40		+85	°C
Power Supply Voltage	Vcc3		3.13	3.3	3.45	V
Power Supply Current	Vcc5		3.47	5.0	5.25	V
Data Rate				10.3125		Gbps

III. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Main Supply Voltage	Vcc5	4.75		5.25	V
Supply Voltage#2	Vcc3	3.13		3.45	V
Supply Current-Vcc5	Icc5			370	mA
Supply Current-Vcc3	Icc3			500	mA
Module total power	P			3.5	W
Transmitter					
Input differential impedance	Rin		100		
Differential data input swing*（Note1）	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
Receiver					
Differential data output swing*(Note1)	Vout,pp	340	650	850	mV
RX Rise time (20 – 80%)	tr			38	ps
RX Fall time (20 – 80%)	tf			38	ps
LOS Fault*（Note2）	VLOS fault	Vcc – 0.5		VccHOST	V
LOS Normal*（Note2）	VLOS norm	GND		GND+0.5	V

Note1. After internal AC coupling.

Note2. Loss of signal is open collector to be pulled up with a 4.7k – 10kohm resistor to 3.15 –3.6V. Logic 0 indicates normal operation; logic 1 indicates no signal detected.

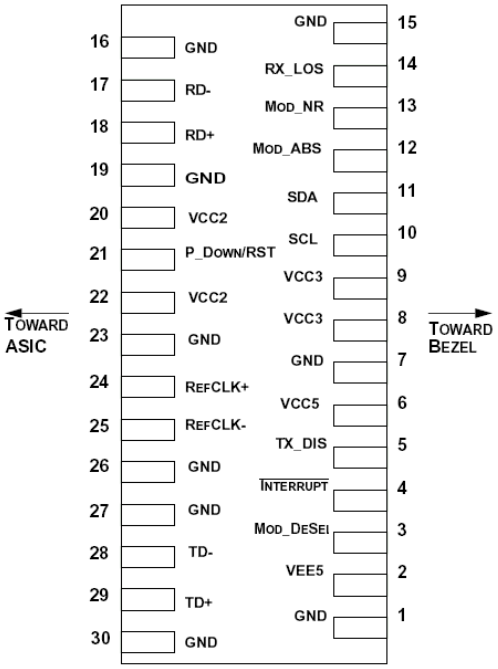
IV. Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
9μm Core Diameter SMF	L		80		km
Data Rate			10.3125		Gbps
Transmitter					
Center Wavelength	λC	1530	1550	1570	nm
Spectral Width (-20dB)	Δλ			1	nm
Side Mode Suppression Ratio	SMSR	30			dB
Average Output Power*(Note3)	Pout	0		5	dBm
Extinction Ratio	ER	8.2			dB
Pout@TX Disable Asserted	Pout			-30	dBm
Receiver					
Center Wavelength	λC	1260		1600	nm
Receiver Sensitivity*(Note4)	Pmin			-23	dBm
Receiver Overload	Pmax	-7			dBm
LOS De-Assert	LOSD			-25	dBm
LOS Assert	LOSA	-38			dBm
LOS Hysteresis		0.5			dB

Note3: Output is coupled into a 9/125um SMF.

Note4: Measured with worst ER, BER less than 1E-12 and PRBS 2^31-1 at 10.3125Gbps.

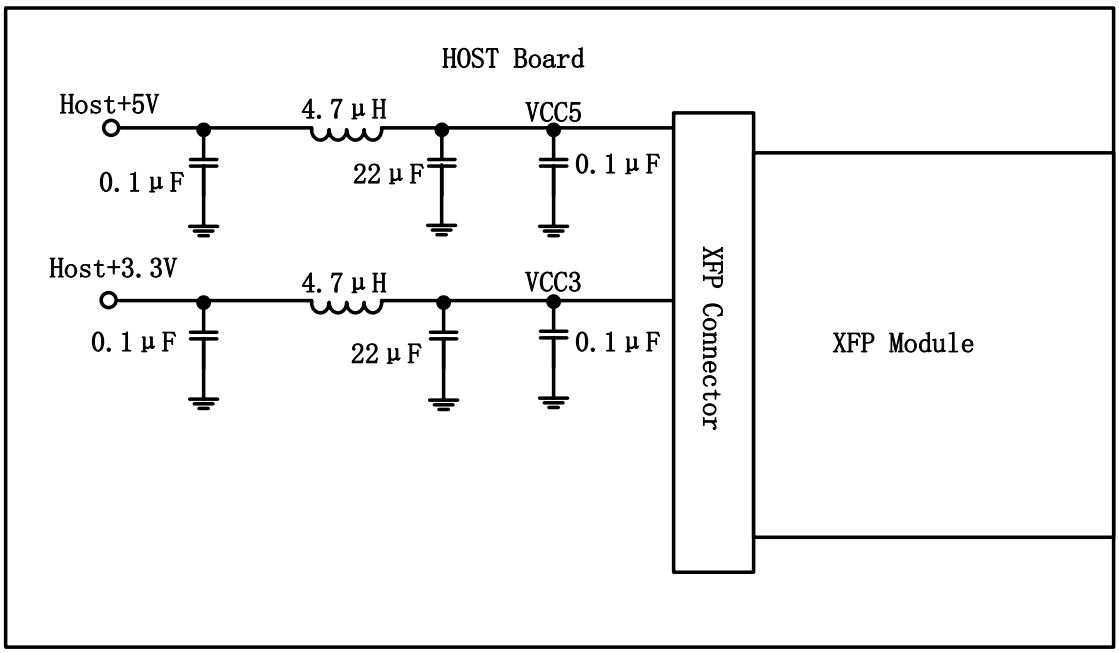
V. Pin Diagram



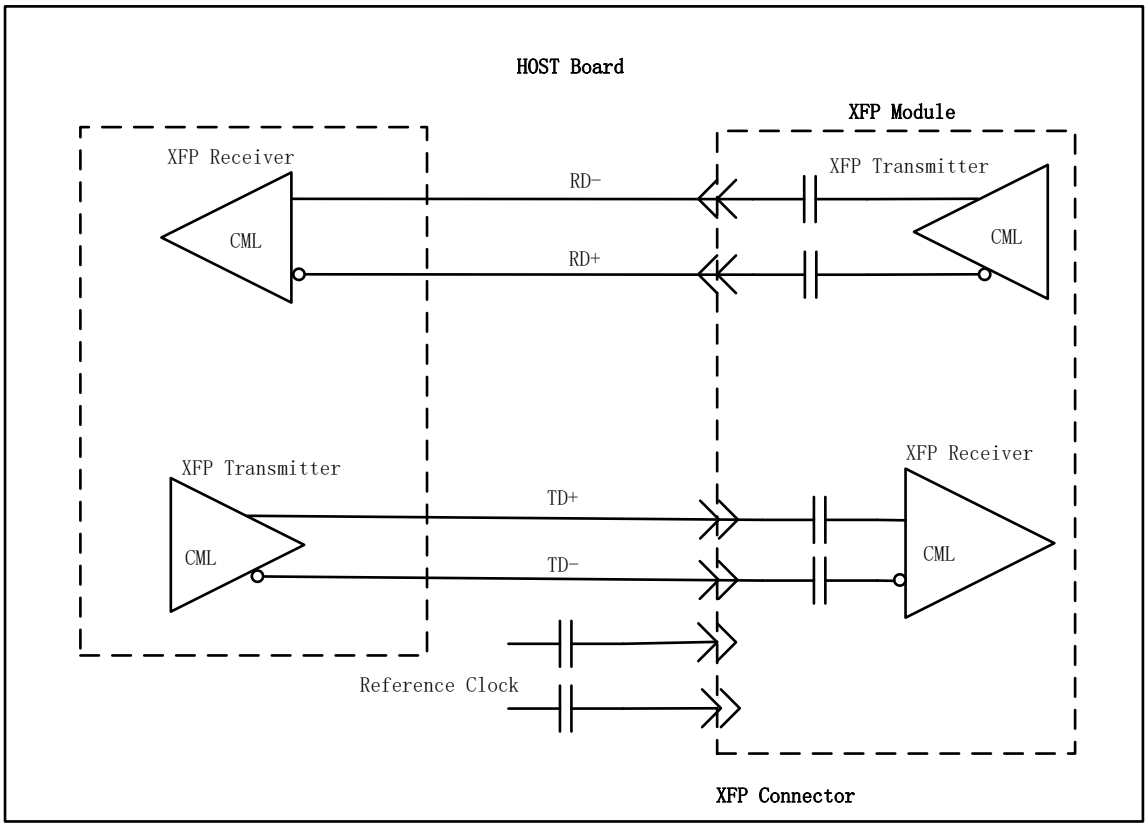
VI. Pin Descriptions

Pin	Symbol	Function
1	GND	Module Ground
2	VEE5	Optional –5.2 Power Supply – Not Required
3	Mod-Desel	Module De-select; When held low allows the module to respond to 2-wire serial interface commands
4	Interrupt	Interrupt; Indicates presence of an importantcondition which can be read over the serial 2-wireinterface
5	TX_DIS	Transmitter Disable; Transmitter laser source turned off
6	VCC5	+5 Power Supply
7	GND	Module Ground
8	VCC3	+3.3V Power Supply
9	VCC3	+3.3V Power Supply
10	SCL	Serial 2-wire interface clock
11	SDA	Serial 2-wire interface data line
12	Mod_Abs	Module Absent; Indicates module is not present.Grounded in the module.
13	Mod_NR	Module Not Ready;
14	RX_LOS	Receiver Loss of Signal indicator
15	GND	Module Ground
16	GND	Module Ground
17	RD-	Receiver inverted data output
18	RD+	Receiver non-inverted data output
19	GND	Module Ground
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
24	RefCLK+	Reference Clock non-inverted input, AC coupled on the host board – Not required
25	RefCLK-	Reference Clock inverted input, AC coupled on the host board – Not required
26	GND	Module Ground
27	GND	Module Ground
28	TD-	Transmitter inverted data input
29	TD+	Transmitter non-inverted data input
30	GND	Module Ground

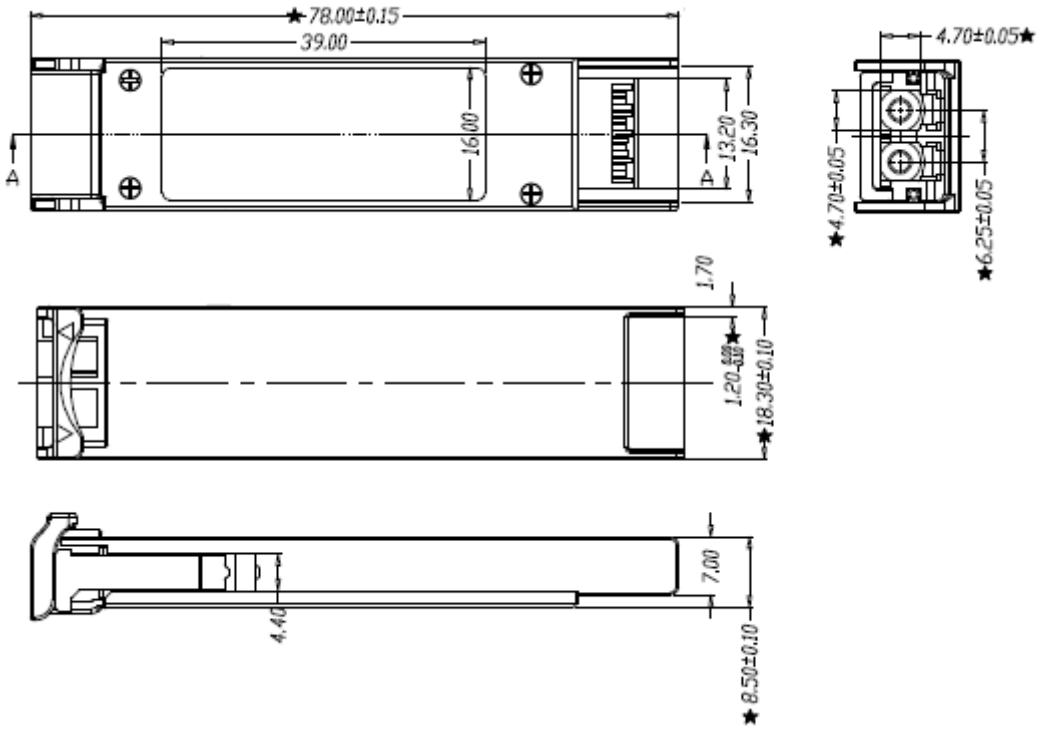
VII. Recommended Host Board Power Supply Circuit



VIII.Recommend High-speed Interface Circuit



IX. Mechanical Specifications(Unit: mm)



Revision History

Version No.	Date	Description
1.0	June 24, 2020	Preliminary datasheet