UN-XFP10-2733SL40X

10Gbps XFP Tx1270nm/Rx1330nm BiDi 40km Transceiver

Product Feature

- Supports 9.95Gb/s to 11.3Gb/s bit rates
- 1270nm uncooled DFB laser
- Up to 40km for single mode fiber
- Hot-pluggable XFP footprint
- Metal enclosure, for lower EMI
- RoHS compliant and Lead Free
- +3.3V power supply and power dissipation <2.0W
- XFP MSA INF-8077I Compliant
- Compliant with IEEE 802.3ae
- Case operating temperature

  Commercial: 0°C to +70°C

  Industrial: -40°C to +85°C

Applications

- 10GBASE-ER/EW 10G Ethernet
- 10G Fiber Channel

Product Description

UN-XFP10-2733SL40X is compliant with the IEEE803.3ae 10Gbase-Bx and transmission distance up to 40km on SMF. The transceiver module comprises a transmitter with a 1270/1330nm DFB laser transmitter, an integrated 1330/1270nm detector preamplifier(IDP) mounted in an optical header and a limiting post-amplifier IC. Transmitter and receiver are separate within a wide temperature range and offers optimum heat dissipation and excellent electromagnetic shielding thus enabling high port densities for 10GbE systems..

Product Selection

Part Number	Operating Case temperature	DDMI
UN-XFP10-2733SL40C	Commercial(0~70℃)	Yes
UN-XFP10-2733SL40I	Industrial(-40~85℃)	Yes

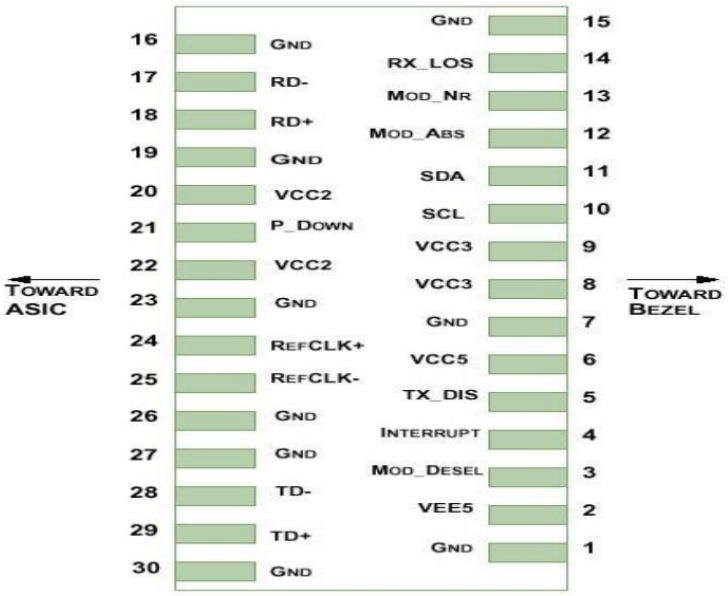
Pin Descriptions

Pin	Symbol	Name/Description	NOTE
1	GND	Module Ground	
2	VEES	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. LVTTL-I	
4	/INTERRUPT	Interrupt; Indicates presence of an important condition which can be read via the 2-wire serial interface. LVTTL-O	2
5	TX_DIS	Transmitter Disable. Logic1 indicates laser output disabled, LVTTL-I	
6	VCCS	+5V Power Supply	
7	GND	Module Ground	1
8	VCC3	+3.3V Power Supply	
9	VCC3	+3.3V Power Supply	
10	SCL	2-Wire Serial Interface Clock. LVTTL-I	2
11	SDA	2-Wire Serial Interface Data Line. LVTTL-I/O	2
12	MOD_ABS	Indicates Module is not present. Grounded in the Module. LVTTL-O	2
13	MOD_NR	Module Not Ready; Indicating Module Operational Fault. Open-collector. LVTTL-O	2
14	RX_LOS	Loss of Signal indication. Logic 1 indicates loss of Signal. Open-collector. LVTTL-O	2
15	GND	Module Ground	1
16	GND	Module Ground	1
17	RD-	Receiver Inverted Data Output. CML-O	
18	RD+	Receiver Non-Inverted Data Output. CML-O	
19	GND	Module Ground	1
20	VCC2	+1.8V Power Supply (Not required).	3
21	P_DOWN/RST	Power down; When high, requires the module to limit power consumption to 1.5W or below. 2-Wire serial interface must be functional in the low power mode. LVTTL-I Reset; The falling edge initiates a complete reset of the module including the 2-wire serial interface, equivalent to a power cycle. LVTTL-I	

22	VCC2	+1.8V Power Supply (Not required)	3
23	GND	Module Ground	1
24	REFCLK+	Reference Clock (Not required)	
25	REFCLK-	Reference Clock (Not required)	
26	GND	Module Ground	1
27	GND	Module Ground	1
28	TD-	Transmitter Inverted Data Input. CML-I	
29	TD+	Transmitter Non-Inverted Data Input. CML-I	
30	GND	Module Ground	1

Notes:

1. Module ground pins GND are isolated from the module case and chassis ground within the module.
2. Open collector, Should be pulled up with 4.7K-10Kohms to a voltage between 3.15V and 3.6V on the host board.
3. The pins are open within module.



Pin-out of Connector Block on Host Board

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Storage Temperature	Ts	-40		+95	℃	
Relative Humidity	RH	0		85	%	
Power Supply Voltage	VCC	-0.5		+4.0	V	

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Case Operating Temperature	Tc	0		70	℃	Commercial
	TI	-40		85	℃	Industrial
Power Supply Voltage	Vcc	3.13	3.3	3.47	V	
Power Supply Current	Icc			450	mA	
Data Rate	BR		10.3		Gbps	
9/125um G.652 SMF	Lmax			40	KM	

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter						
Differential data input swing	Vin,pp	120		850	mV	
Input differential impedance	Rin		100		Ω	
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 input swing	Vout,pp	500		850	mV	
LOS Fault	$V_{LOS\ fault}$	Vcc-0.5		V_{CCHOST}	V	1
LOS Normal	V_{LOS}	GND		GND+0.5	V	1

Note:

1. 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.

Optical Characteristics

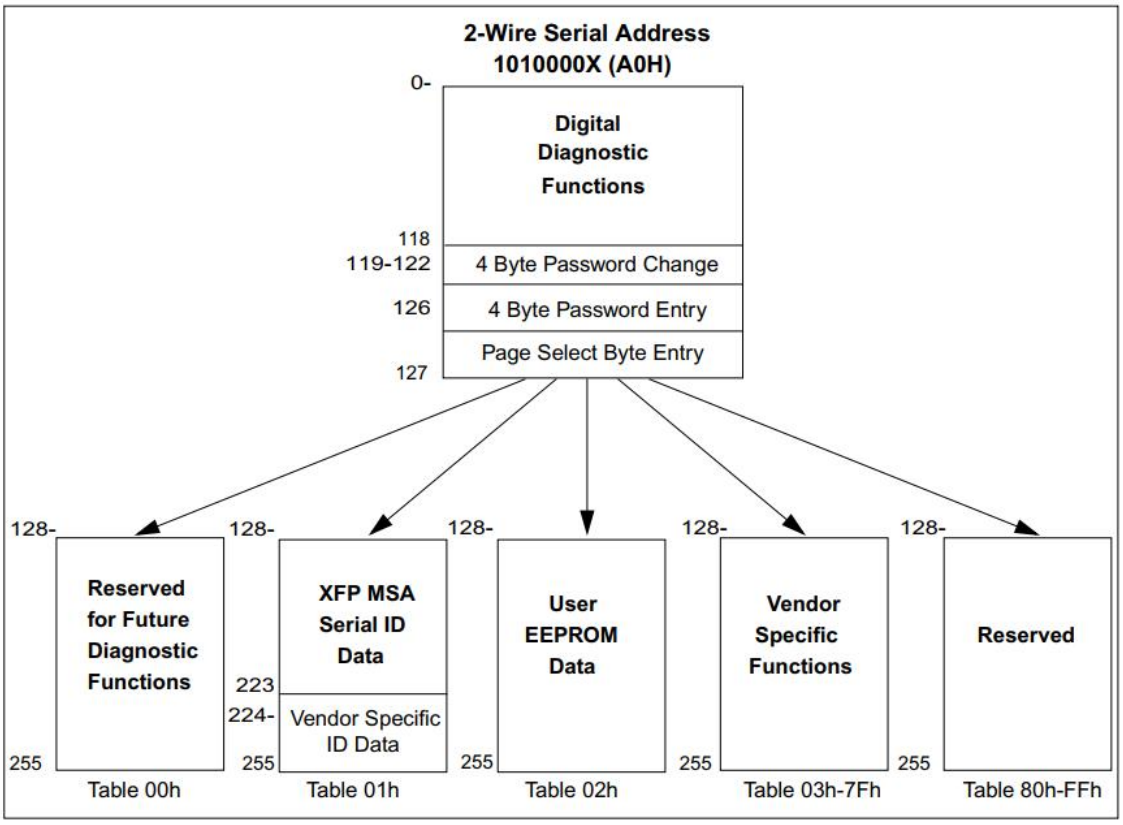
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter						
Average Output Power	POUT	0		5	dBm	
Extinction Ratio	ER	3.5			dB	1
Center Wavelength	λc	1260	1270	1280	nm	DFB Laser
Side Mode Suppression Ratio	SMSR	30			dB	
Transmitter OFF Output Power	Poff			-30	dBm	
Receiver						
Receiver Sensitivity	SENS			-15.8	dBm	2
Maximum Input Power	RX-overload	0.5			dBm	
Input Optical Wavelength	λC	1320	1330	1340	nm	
LOS De-assert	LOSD			-16	dBm	
LOS Assert	LOSA	-30			dBm	
LOS Hysteresis		0.5	2	6	dB	

Note:

1. PRBS $2^{\wedge 31}$ -1 test pattern@10.3125Gbps.
2. PRBS $2^{\wedge 31}$ -1 test pattern@10.3125Gbps, BER≤$10^{\wedge -12}$.

EEPROM Information

EEPROM memory map specific data field description is as below:

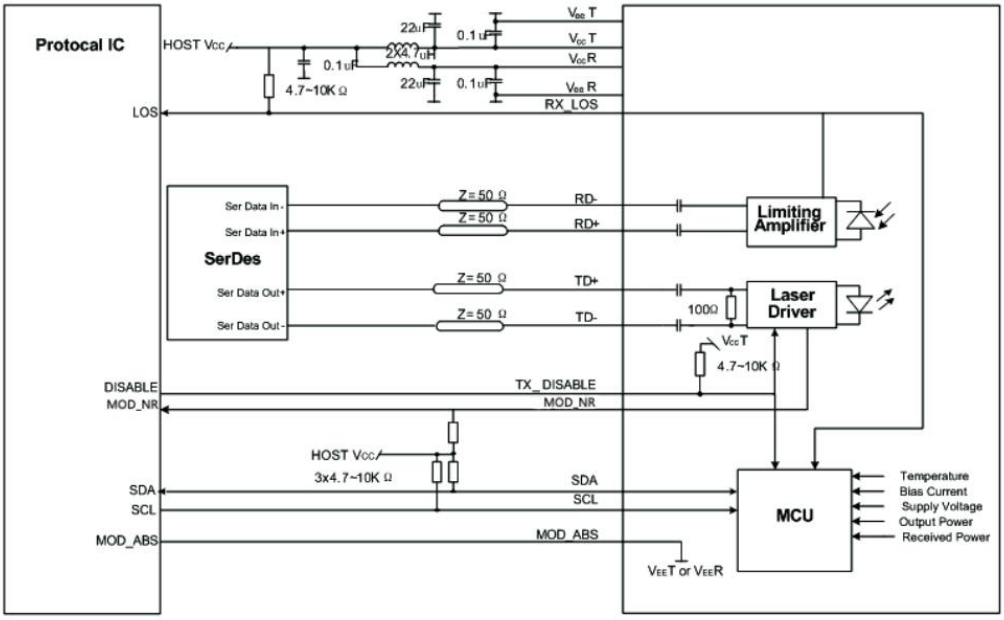


Digital Diagnostic Monitoring Interface

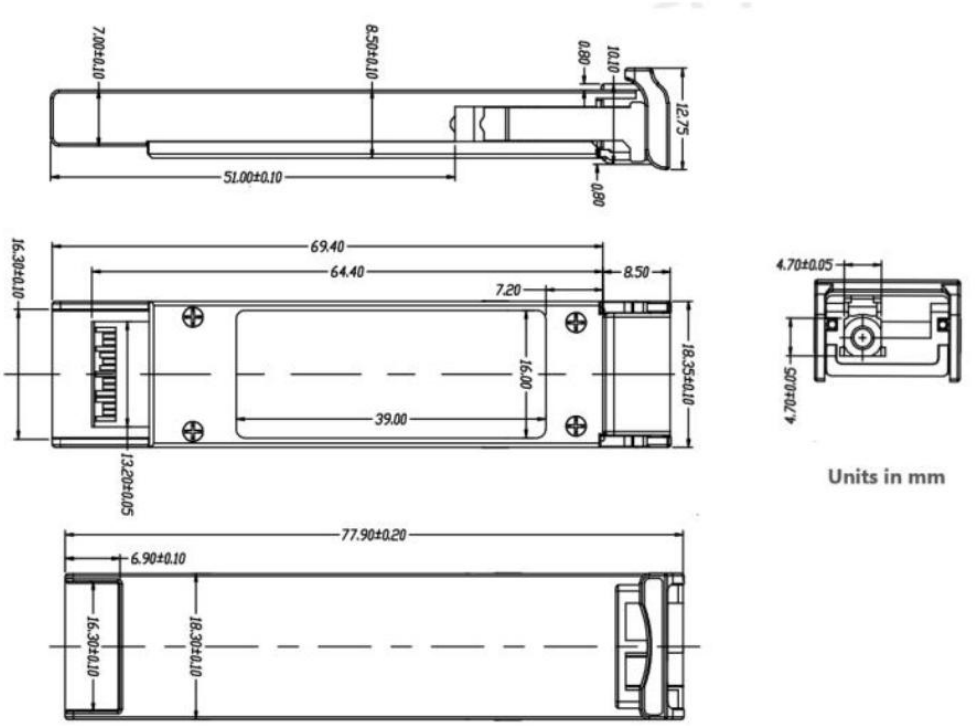
Five transceiver parameter values are monitored. The following table defines the monitored parameter's accuracy.

Parameter	Range	Accuracy	Calibration
Temperature	0 to +70°C (C)	±3°C	Internal
	-40 to +85°C (I)		
Voltage	2.97 to 3.63V	±3%	Internal
Bias Current	0 to 100mA	±10%	Internal
TX Power	-1 to 6dBm	±3dB	Internal
RX Power	-16 to 1dBm	±3dB	Internal

Recommend Circuit Schematic



Mechanical Specifications



Revision History

Revision	Initiated	Reviewed	Approved	DCN	Release Date
Version1.0	Zhangchengxing	Pengyanhui	Liubin	New Released.	July 28, 2017
Version1.1	Pengyanhui	Zhangchengxing	Liubin	Updated document structure	Dec 10,2020

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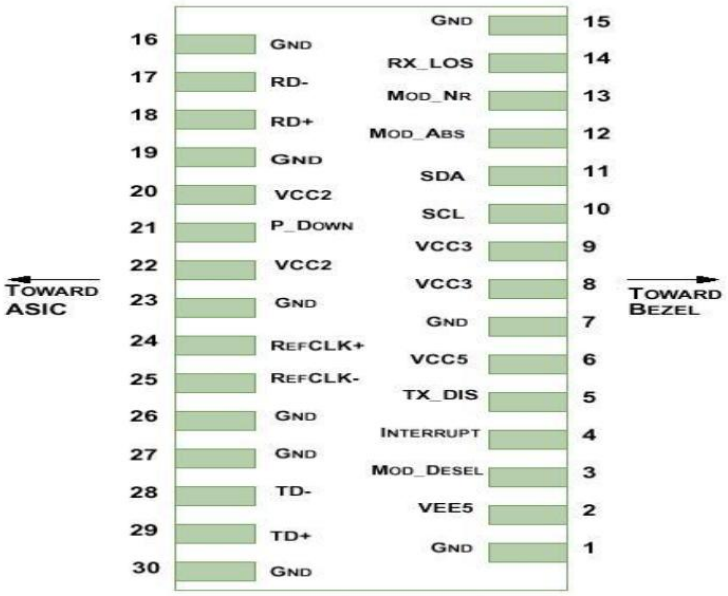

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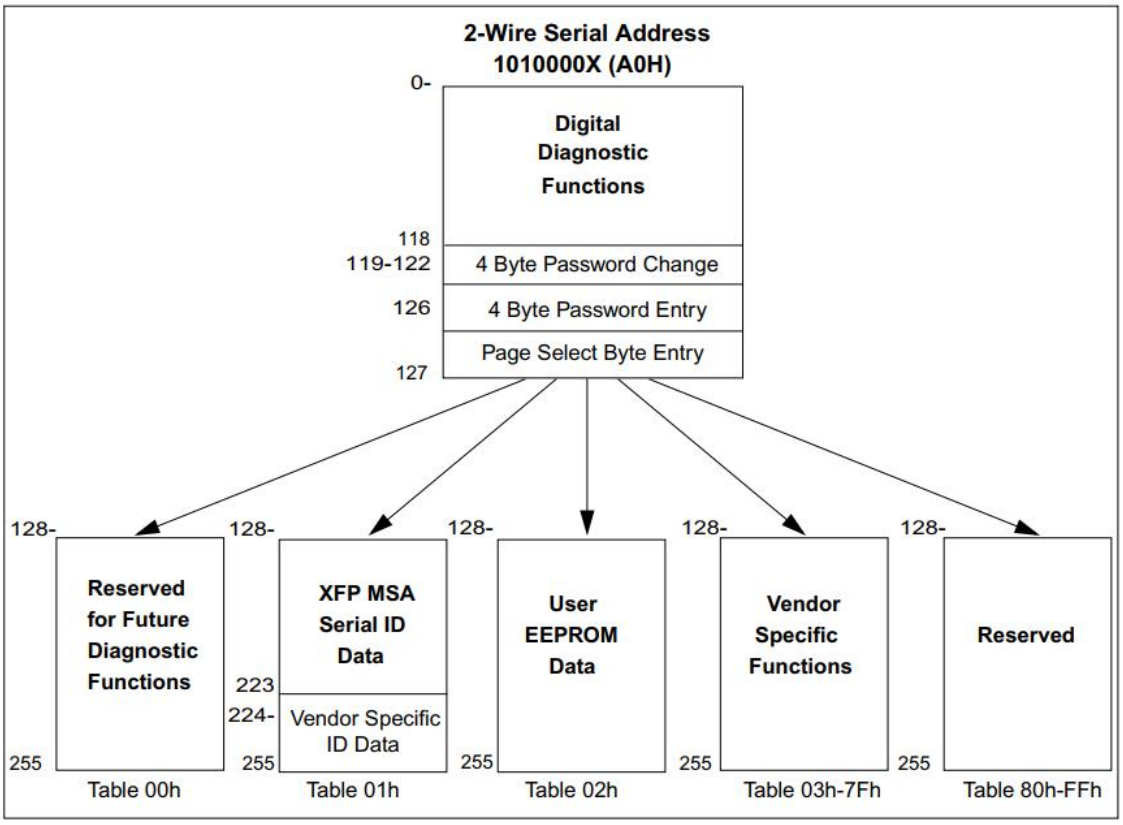

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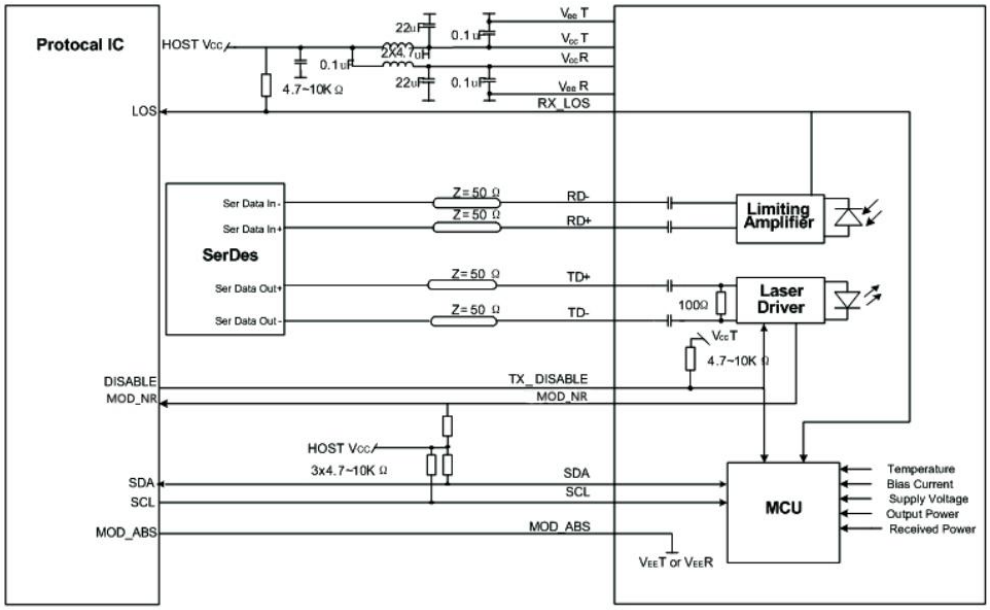

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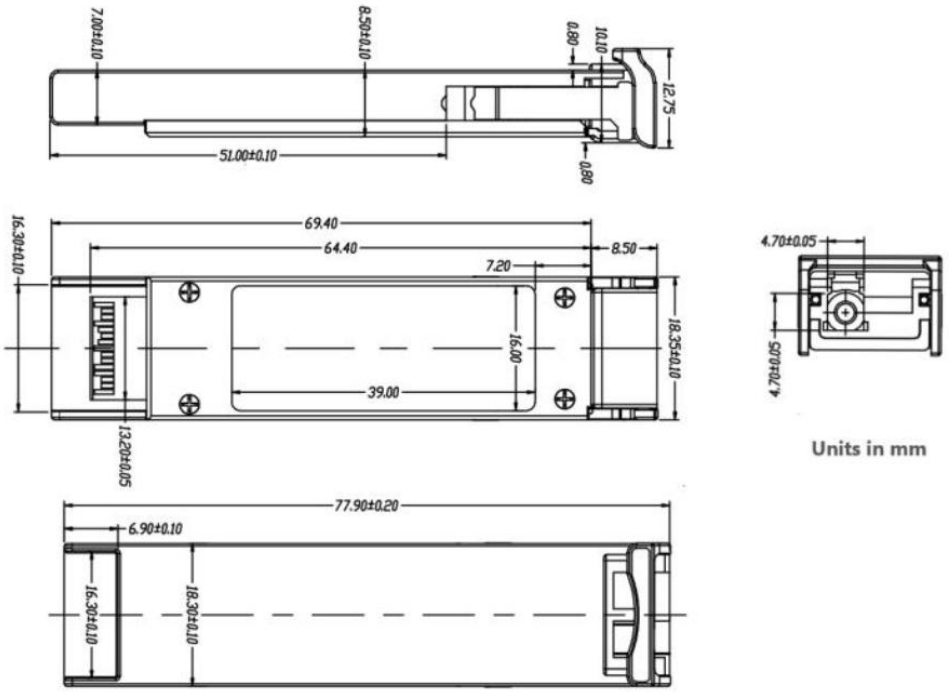

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