

X2 40 km transceiver | 10G ER Ethernet

Datasheet

X2 Optical Transceiver

Product Features

- 10GBASE-ER/EW Ethernet 13.1dB X2
- 40 km ER X2 for SMF @ 10Gbps
- 1550nm EML+PIN Laser 40 km X2
- 0°C 70°C Temperature Extended/Industrial Available
- 2-Wire Interface Digital Diagnostic Monitoring (SFF-8724)
- Hot-swappable for X2 LC ports
- **OptoSpan 1 year standard warranty**
- Use with Finisar, Avago, JDSU & networks not requiring OEM compatibility
- X2 MSA / IEEE 802.3ae/q/k
- RoHS compliant
- * For OEM Compatibility, use Platinum Series Part# PX2T-10GT55K040

Description

OptoSpan X2T-10G-K040T55 is a Duplex 10GBASE-ER/EW Ethernet X2 transceiver designed for long distance optical communications up to 40 km with signaling rates up to 10Gbps.

OptoSpan 10Gb Standard optical transceivers are compatible with many brands such as Finisar, Avago, JDSU and network environments that do not require any special compatibility. For networks that require special OEM compatibility, such as CISCO, BROCADE, JUNIPER, ALCATEL, HP, NORTEL, EMC, QLOGIC and other OEMs, consider OptoSpan Platinum OEM Series transceiver model# PX2T-10GT55K040.

All OptoSpan long-reach X2 s are ROHS compliant, allow for real-time diagnostic monitoring as per SFF-8472 and designed to meet Multi-Source Agreement (MSA) standards for Duplex transceivers with LC interface.

X2T-10G-K040T55	Distance: 40 km			Fiber: 1550nm SMF		
	Tx Min dBm	Tx Max dBm	Rx Min dBm	Rx Max dBm	Link Attenuation dB	Power Budget dB
Product Specifications	-1	2	-14.1	0.5		
Optical Calculation Results			-13.2	-10.2	12.2	13.1

Optical Budget Calculation for 40 km X2 Optical Transceiver

Applications

X2T-10G-K040T55



10 Gigabit Ethernet

Other Optical Links

10GBASE-ER @ 10.31Gbps

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General Specifications

Parameter	Unit	Min.	Тур.	Мах
Absolute Maximum Ratings				
Maximum Supply Voltage	V	-0.3		4.0
Storage Temperature	°C	-40		+85
Case Operating Temperature	°C	-5		+70
Recommended Operating Condition				
Supply Voltage	V	3.13	3.3	3.47
Supply Current	mA			300
Data Rate	Gbps		10.31	

Electrical Characteristics

Parameter	Unit	Min.	Тур.	Мах
Transmitter				
Differential Input Voltage Swing	mVpp	175		2000
Input Differential Impedance	ohm	80	100	120
Transmit Disable Voltage - High	V			
Transmit Disable Voltage - Low	V			
Transmit Fault Voltage - High	V			
Transmit Fault Voltage - Low	V			
Receiver				
Differential Output Voltage Swing	mVpp	800		1600
Differential Output Impedance	ohms	80	100	120
LOS Output Voltage - High	V			
LOS Output Voltage - Low	V			



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Optical Characteristics

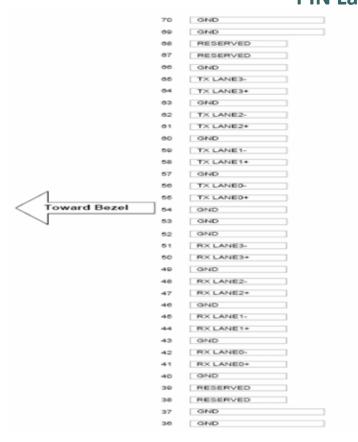
Parameter	Unit	Min.	Тур.	Max
	Transmitt	er		
Output Optical Power	dBm	-1		2
Optical Extinction Ratio	dB		8.2	
Optical Wavelength	nm	1530	1550	1570
Spectral Width	nm		0.6	
Side Mode Suppression Ratio	dB	30		
	Receive	ſ		
Optical Center Wavelength	nm	1260		1600
Receiver Sensitivity @ 10.31Gbp	dBm	-14.1		0.5
LOS DE-Assert	dBm			
LOS Assert	dBm			

Laser Safety

This is a class 1 Laser Product according to IEC 60825-1:1993:+A1:1997+A2:2001. This product complies with 21 CFR 1040.10 and 1040 except for deviations pursuant to Laser Notice No. 50, dated July 26, 2001.

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1	GND	
2	GND	
э	GND	
-4	5.0V	
6	3.3V	
0	3.3V	
7	APS	
	APS	
•	LASI	
10	RESET	
11	VEND SPECIFIC	
12	TX ON/OFF	
13	RESERVED	
14	MOD DETECT	
15	VEND SPECIFIC	
10	VEND SPECIFIC	
17	MDIO	
10	MDC	
19	PRTAD4	
20	PRTAD3	
21	PRTAD2	
22	PRTAD1	
23	PRTADO	
24	VEND SPECIFIC	
26	APS SET	
28	RESERVED	
27	APS SENSE	
28	APS	
29	APS	
30	3.3V	
31	3.3V	
32	5.0V	
33	GND	
34	GND	
35	GND	

1	GND	GND	70
2	GND	GND	69
3	GND	RESERVED	68
4	6.0V (Not in USE)	RESERVED	67
5	3.3V	GND	66
6	3.3V	TXLANE3-	65
7	APS	TXLANE3+	64
8	APS	GND	63
9	LASI	TXLANE2-	62
10	RESET	TXLANE2+	61
11	VEND SPECIFIC	GND	60
12	TX ON/OFF	TXLANE1-	59
13	RESERVED	TXLANE1+	58
14	MOD_DET	GND	57
15	VEND SPECIFIC	TXLANED-	56
16	VEND SPECIFIC	TXLANE0+	55
17	MDIO	GND	54
18	MOC	GND	53
19	PRTAD4	GND	52
20	PRTAD3	RXLANE3	51
21	PRTAD2	RXLANE3+	50
22	PRTAD1	GND	49
23	PRTADO	RXLANE2-	48
24	VEND SPECIFIC	RXLANE2*	-47
25	APS SET	GND	46
26	RESERVED	RXLANE1-	45
27	APS SENSE	RXLANE1+	-44
28	APS	GND	43
29	APS	RXLANED-	-42
30	3.3V	RXLANE0+	-41
31	3.3V	GND	-40
32	6.0V (Not in USE)	RESERVED	39
33	GND	RESERVED	38
34	GND	GND	37
35	GND	GND	36

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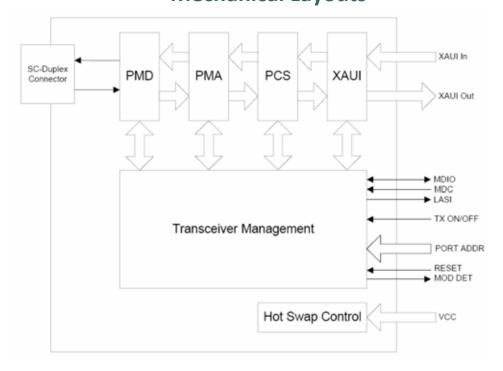
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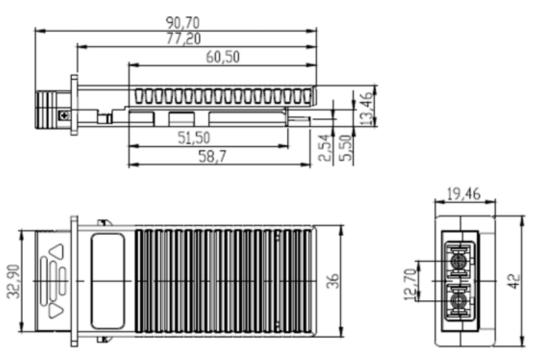
PIN Functions

Pin #	Name - Description
1	Electrical Ground
2	Electrical Ground
3	Electrical Ground
4	Power
5	Power
6	Power
7	Adaptive Power Supply
8	Adaptive Power Supply
9	Open Drain Compatible 10K-22K pull up on host
10	Open Drain compatible.10-22K pull-up on transceiver
11	Vendor Specific Pin. Leave unconnected when not in use
12	Open Drain compatible. 10-22K pull-up on transceiver
13	Reserved
14	Pulled low inside module through 1k
15	Vendor Specific Pin.Leave unconnected when not in use
16	Vendor Specific Pin.Leave unconnected when not in use
17	Management Data IO
18	Management Data Clock
19	Port Address Bit 4 (Low = 0)
20	Port Address Bit 3 (Low = 0)
21	Port Address Bit 2(Low = 0)
22	Port Address Bit 3(Low = 0)
23	Port Address Bit 0 (Low = 0)
24	Vendor Specific Pin.Leave unconnected when not in use
25	Feedback input for APS
26	Reserved for Avalanche Photodiode use
27	APS Sense Connection
28	Adaptive Power Supply
29	Adaptive Power Supply
30	Power



X2 40 km transceiver | 10G ER Ethernet Mechanical Layouts





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