

Datasheet

X2 Optical Transceiver Product Features

- 10GBASE-LR/LW Ethernet 8.4dB X2
- 10 km LR X2 for SMF @ 10Gbps
- 1310nm DFB+PIN Laser 10 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-10GT31K010

X2T-10G-K010T31



Applications

- 10 Gigabit Ethernet
- 10GBASE-LR @ 10.31Gbps
- Other Optical Links

Description

OptoSpan X2T-10G-K010T31 is a Duplex 10GBASE-LR/LW Ethernet X2 transceiver designed for long distance optical communications up to 10 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-10GT31K010.

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.

Optical Budget Calculation for 10 km X2 Optical Transceiver

X2T- 10G- K010T31	Distance: 10 km				Fiber: 1310nm SMF	
	Tx Min dBm	Tx Max dBm	Rx Min dBm	Rx Max dBm	Link Attenuation dB	Power Budget dB
Product Specifications	-6	0	-14.4	0.5		
Optical Calculation Results			-11.5	-5.5	5.5	8.4



X2 10 km transceiver | 10G LR Ethernet

General Specifications

Parameter	Unit	Min.	Typ.	Max
Absolute Maximum Ratings				
Maximum Supply Voltage	V	-0.5		4.0
Storage Temperature	°C	-40		+85
Case Operating Temperature	°C	-5		+70
Recommended Operating Condition				
Supply Voltage	V	3.14	3.0	3.45
Supply Current	mA			300
Data Rate	Gbps			10.31

Electrical Characteristics

Parameter	Unit	Min.	Typ.	Max
Transmitter				
Differential Input Voltage Swing	mVpp	150		1200
Input Differential Impedance	ohm	85	100	115
Transmit Disable Voltage - High	V	2		3.45
Transmit Disable Voltage - Low	V	0		0.8
Transmit Fault Voltage - High	V	2		Vcc+0.3
Transmit Fault Voltage - Low	V	0		0.5
Receiver				
Differential Output Voltage Swing	mVpp	350		700
Differential Output Impedance	ohms	90	100	110
LOS Output Voltage - High	V	2		Vcc+0.3
LOS Output Voltage - Low	V	0		0.8

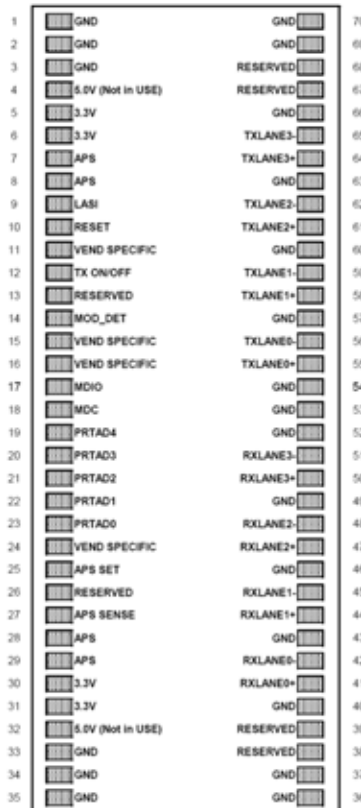
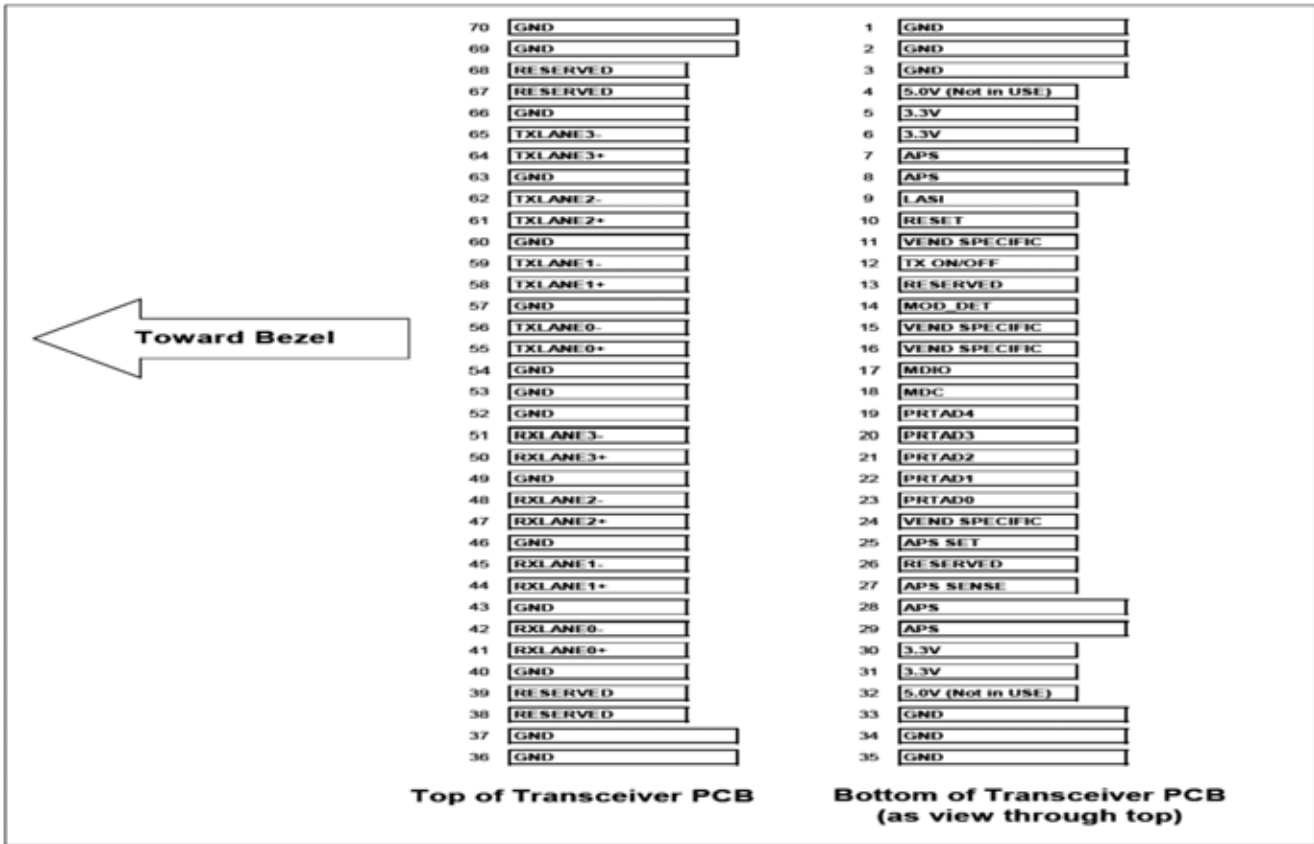
Optical Characteristics

Parameter	Unit	Min.	Typ.	Max
Transmitter				
Output Optical Power	dBm	-6		0
Optical Extinction Ratio	dB	8.2		
Optical Wavelength	nm	1270	1310	1355
Spectral Width	nm		0.6	
Side Mode Suppression Ratio	dB	30		
Receiver				
Optical Center Wavelength	nm	1260		1565
Receiver Sensitivity @ 10.31Gbp	dBm	-14.4		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.

PIN Layout



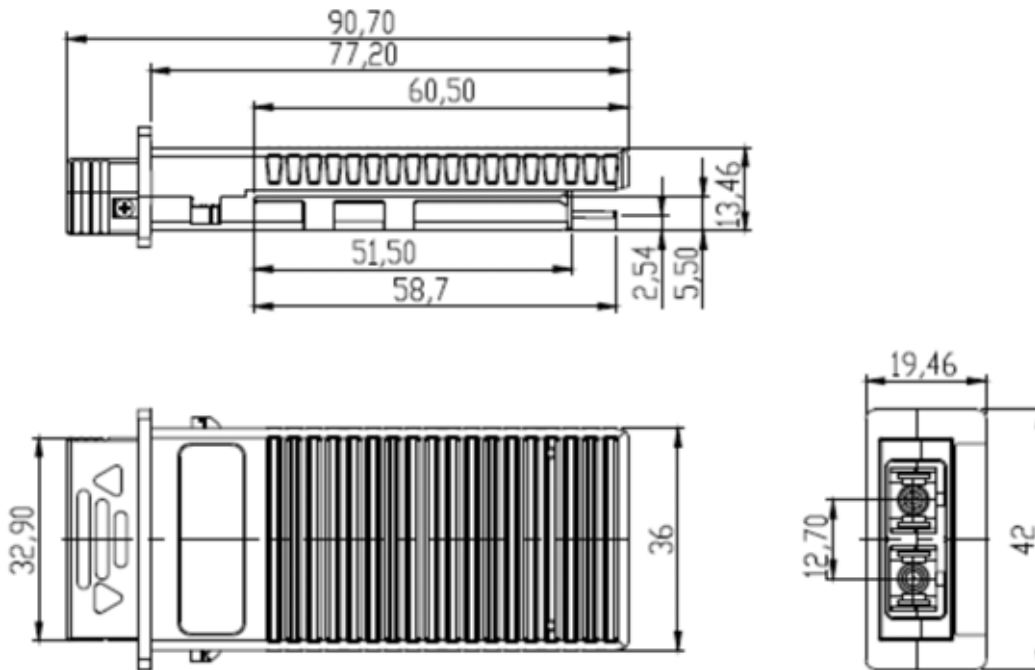
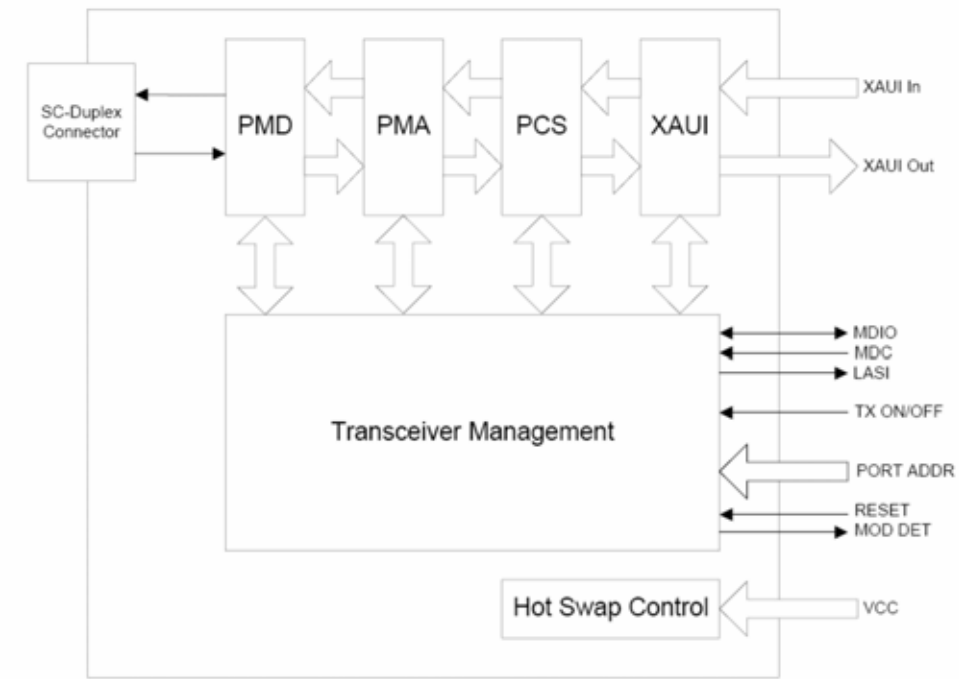


X2 10 km transceiver | 10G LR Ethernet

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	Link Alarm Status Interrupt, low active, Open drain output A pull-up resistor with 10
10	Low active Reset Input 10K Ω pull-up on Transceiver
11	Vendor Specific Pin,. leave unconnected
12	High active Transmitter Enable Input 10K Ω pull-up on Transceiver
13	RESERVED
14	1k Ω to Ground On Transceiver
15	Vendor Specific Pin,. leave unconnected
16	Vendor Specific Pin,. leave unconnected
17	Management Data I/O. Requires external 10-22 k Ω pull upto 1.2V on host
18	Management Clock Input
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 1(LOW=0)
23	Port Address Bit 0(LOW=0)
24	Vendor Specific Pin,. leave unconnected
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

Mechanical Layouts



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