

**XENPAK 10 km transceiver | Cisco Compatible 10G LR Ethernet**

**Designed for OEM networks such as Cisco, HP, Juniper, Brocade, Alcatel etc.**

### Datasheet

## XENPAK Optical Transceiver Product Features

- Exclusive Japanese OSAs for Ultimate Reliability
- 10GBASE-LR/LW Ethernet 8.4dB XENPAK
- 10 km LR XENPAK for SMF @ 10Gbps
- 1310nm DFB+PIN Laser 10 km XENPAK
- 0°C - 70°C Temperature - Extended/Industrial Available
- 2-Wire Interface Digital Diagnostic Monitoring (SFF-8724)
- Hot-swappable for XENPAK LC ports
- Extended 2 Years Warranty
- Tested and Certified in Brand Specific Networks and Target Applications
- Assembled Using Highest Quality Raw Components
- XENPAK MSA / IEEE 802.3ae/q/k & ROHS

## PXEN-10GT31K010



### Applications

- 10 Gigabit Ethernet
- 10GBASE-LR @ 10.31Gbps
- 10GBASE-LW @ 9.95Gbps
- Other Optical Links

## Description

Platinum OEM Series PXEN-10GT31K010 is a Cisco Compatible Duplex 10GBASE-LR/LW Ethernet XENPAK transceiver designed for long distance optical communications up to 10 km with signaling rates up to 10Gbps.

OptoSpan Platinum OEM Series 10Gbps Duplex optical transceivers have undergone rigorous qualification and certification testing to provide End-to-End Compatibility using switching equipment from CISCO, BROCADE, JUNIPER, ALCATEL, HP (select models), NORTEL, EMC, QLOGIC and other OEMs.

All OptoSpan Platinum OEM Series long-reach XENPAK 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 Platinum OEM XENPAK Optical Transceiver

PXEN- 10GT31K010	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

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### General Specifications

Parameter	Unit	Min.	Typ.	Max
<b>Absolute Maximum Ratings</b>				
Maximum Supply Voltage	V	-0.5		3.6
Storage Temperature	°C	-40		+85
Case Operating Temperature	°C	-5		+70
<b>Recommended Operating Condition</b>				
Supply Voltage	V	3.15	3.3	3.45
Supply Current	mA			300
Data Rate	Gbps			10.31

### Electrical Characteristics

Parameter	Unit	Min.	Typ.	Max
<b>Transmitter</b>				
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		0.8
<b>Receiver</b>				
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

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## Optical Characteristics

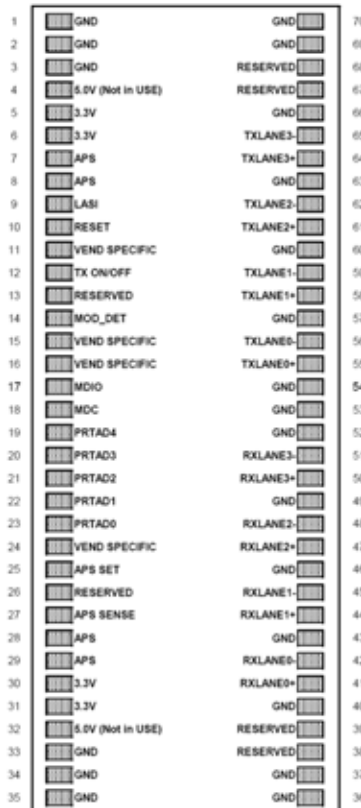
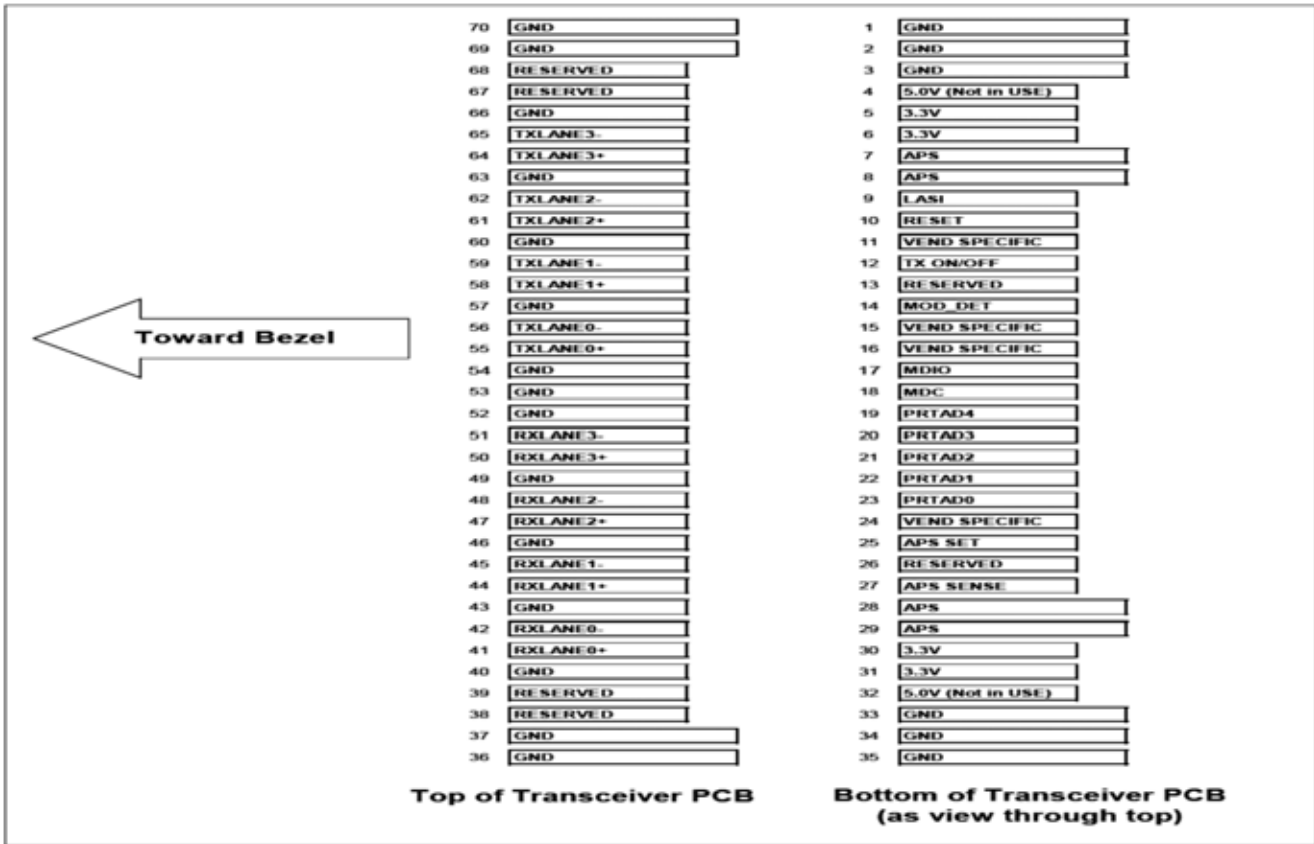
Parameter	Unit	Min.	Typ.	Max
<b>Transmitter</b>				
Output Optical Power	dBm	-6		0
Optical Extinction Ratio	dB	3.5		
Optical Wavelength	nm	1270	1310	1355
Spectral Width	nm			1
Side Mode Suppression Ratio	dB	30		
<b>Receiver</b>				
Optical Center Wavelength	nm	1260		1565
Receiver Sensitivity @ 10.31Gbp	dBm	-14.4		0.5
LOS DE-Assert	dBm			-15
LOS Assert	dBm	-25		

## 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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### PIN Layout



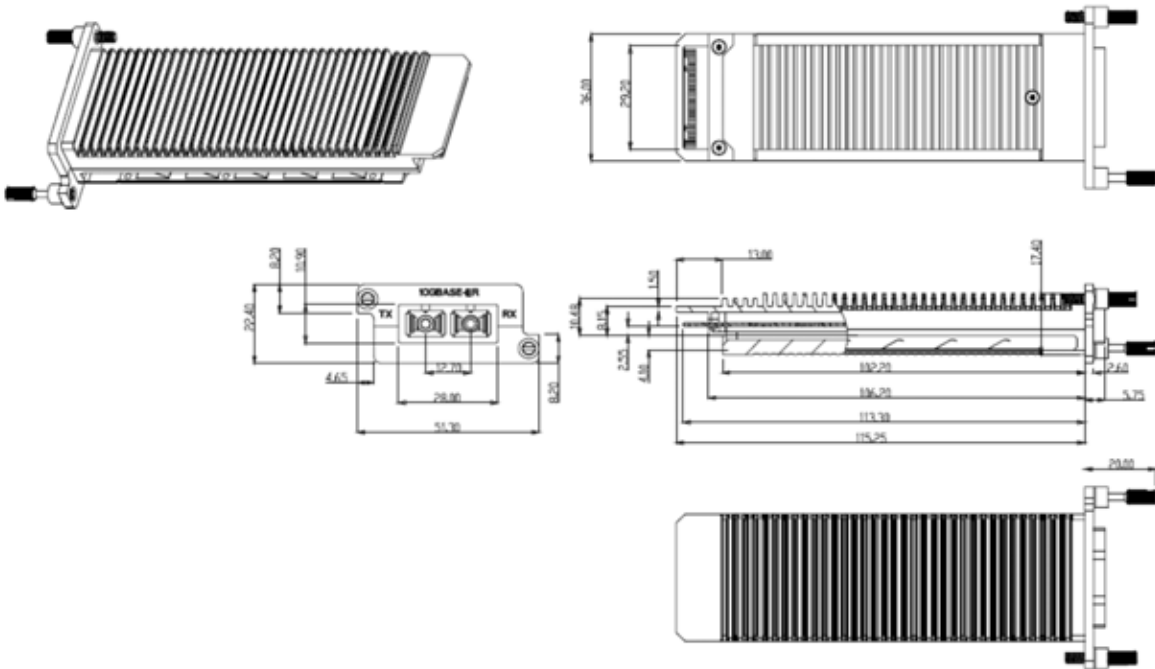
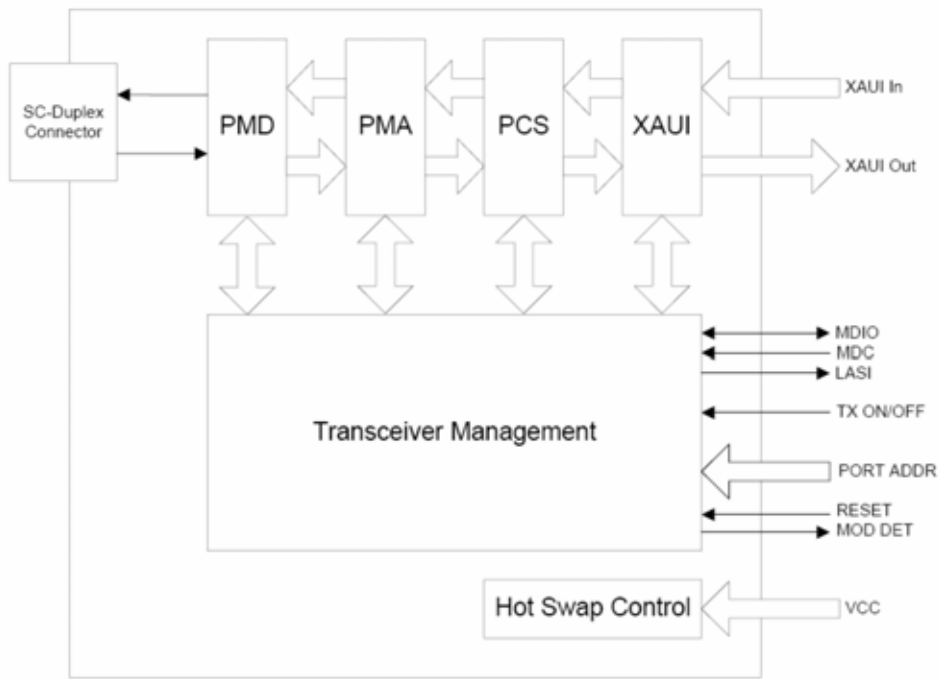
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## PIN Functions

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 1 (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

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### Mechanical Layouts



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