

**XFP SONET/SDH Single Fiber 10 km transceiver | Cisco Compatible 10G LR SONET OC-192 / STM  
Designed for OEM networks such as Cisco, HP, Juniper, Brocade, Alcatel etc.**

### Datasheet

## SONET/SDH XFP Optical Transceiver Product Features

- Exclusive Japanese OSAs for Ultimate Reliability
- SONET OC-192 / STM-64 w/ CDR 9dB SONET/SDH XFP
- 10 km LR SONET/SDH XFP for SMF @ 10Gbps
- 1270Tx-1330Rx DFB+PIN Laser 10 km SONET/SDH XFP
- 0°C - 70°C Temperature - Extended/Industrial Available
- 2-Wire Interface Digital Diagnostic Monitoring (SFF-8724)
- Hot-swappable for SONET/SDH XFP LC ports
- Extended 2 Years Warranty
- Tested and Certified in Brand Specific Networks and Target Applications
- Assembled Using Highest Quality Raw Components
- XFP MSA, IEEE 802.3ae & ROHS

## PXFS-10GB27K010



### Applications

- SONET OC-192 / SDH STM-64
- 10 Gigabit Fibre Channel OTN
- 10GBASE-LR @ 10.31Gbps
- 10GbE & 10Gb/s FC w/FEC

## Description

Platinum OEM Series PXFS-10GB27K010 is a Cisco Compatible Single Fiber BiDirectional SONET OC-192 / STM-64 w/ CDR SONET/SDH XFP with CDR, FEC & OTN G.709 transceiver designed for long distance optical communications up to 10 km with signaling rates up to 10Gbps.

OptoSpan Platinum OEM Series 10Gbps Single Fiber BiDirectional (BiDi) 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 SONET/SDH XFP s are ROHS compliant, allow for real-time diagnostic monitoring as per SFF-8472 and designed to meet Multi-Source Agreement (MSA) standards for Single Fiber BiDirectional (BiDi) transceivers with LC interface.

### Optical Budget Calculation for 10 km Platinum OEM SONET/SDH XFP Optical Transceiver

| PXFS- 10GB27K010            | Distance: 10 km |            |            |            | Fiber: 1270Tx-1330Rx |                 |
|-----------------------------|-----------------|------------|------------|------------|----------------------|-----------------|
|                             | Tx Min dBm      | Tx Max dBm | Rx Min dBm | Rx Max dBm | Link Attenuation dB  | Power Budget dB |
| Product Specifications      | -5              | 0          | -14        | 0.5        |                      |                 |
| Optical Calculation Results |                 |            | -10.5      | -5.5       | 5.5                  | 9               |

## XFP SONET/SDH Single Fiber 10 km transceiver | Cisco Compatible 10G LR SONET OC-192 / STM General Specifications

| Parameter                              | Unit | Min. | Typ. | Max   |
|--|------|------|------|-------|
| <b>Absolute Maximum Ratings</b>        |      |      |      |       |
| Maximum Supply Voltage                 | V    | -0.5 |      | 4.0   |
| Storage Temperature                    | °C   | -40  |      | +85   |
| Case Operating Temperature             | °C   | 0    |      | +70   |
| <b>Recommended Operating Condition</b> |      |      |      |       |
| Supply Voltage                         | V    | 3.13 |      | 3.45  |
| Supply Current                         | mA   |      |      | 580   |
| Data Rate                              | Gbps | 9.95 |      | 10.52 |

## Electrical Characteristics

| Parameter                         | Unit | Min. | Typ. | Max     |
|-----------------------------------|------|------|------|---------|
| <b>Transmitter</b>                |      |      |      |         |
| Differential Input Voltage Swing  | mVpp | 120  |      | 820     |
| Input Differential Impedance      | ohm  | 90   | 100  | 110     |
| Transmit Disable Voltage - High   | V    | 2.0  |      | Vcc     |
| Transmit Disable Voltage - Low    | V    | GND  |      | GND+0.8 |
| Transmit Fault Voltage - High     | V    |      |      |         |
| Transmit Fault Voltage - Low      | V    |      |      |         |
| <b>Receiver</b>                   |      |      |      |         |
| Differential Output Voltage Swing | mVpp | 340  | 650  | 850     |
| Differential Output Impedance     | ohms |      |      |         |
| LOS Output Voltage - High         | V    | 2.4  |      | Vcc     |
| LOS Output Voltage - Low          | V    | GND  |      | GND+0.5 |

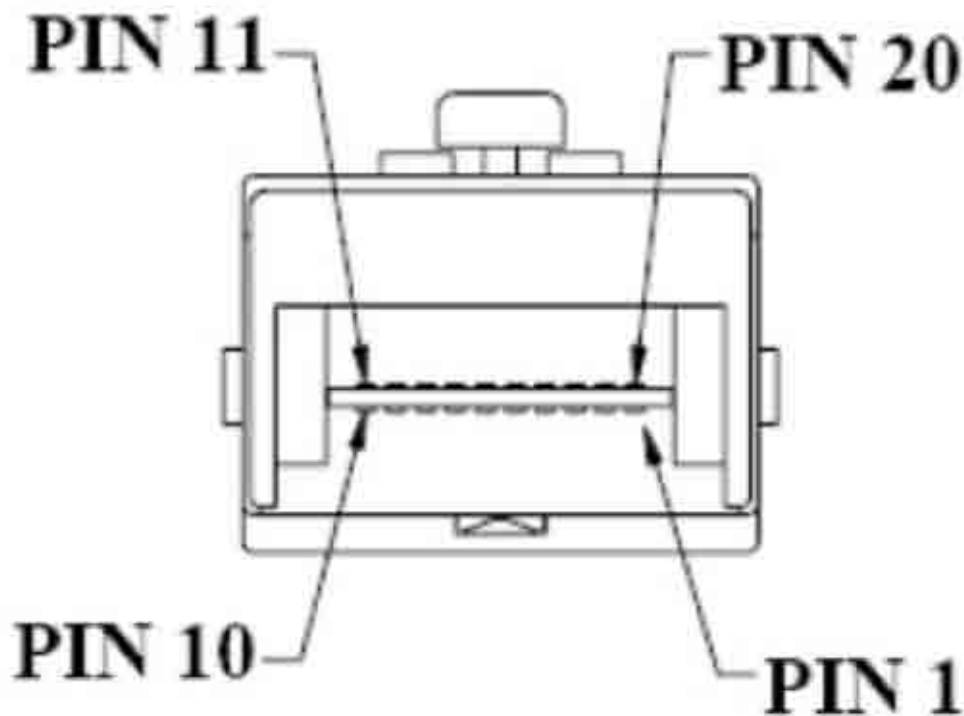
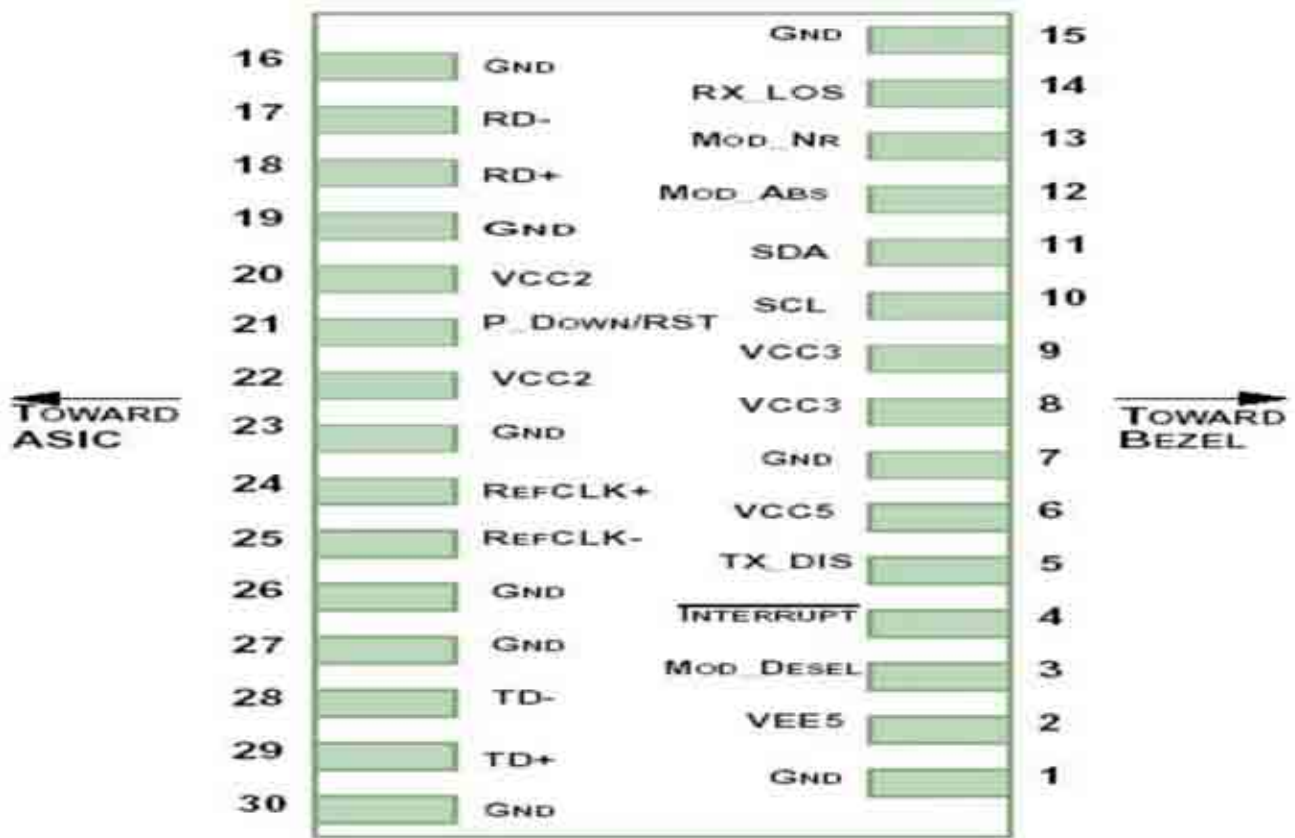
## Optical Characteristics

| Parameter                   | Unit | Min. | Typ. | Max  |
|-----------------------------|------|------|------|------|
| <b>Transmitter</b>          |      |      |      |      |
| Output Optical Power        | dBm  | -5   |      | 0    |
| Optical Extinction Ratio    | dB   | 3.5  |      |      |
| Optical Wavelength          | nm   | 1260 | 1270 | 1280 |
| Spectral Width              | nm   |      |      | 1    |
| Side Mode Suppression Ratio | dB   | 30   |      |      |
| <b>Receiver</b>             |      |      |      |      |
| Optical Center Wavelength   | nm   | 1320 |      | 1340 |
| Receiver Sensitivity @      | dBm  | -14  |      | 0.5  |
| LOS DE-Assert               | dBm  |      |      | -16  |
| LOS Assert                  | dBm  | -28  |      |      |

## 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.

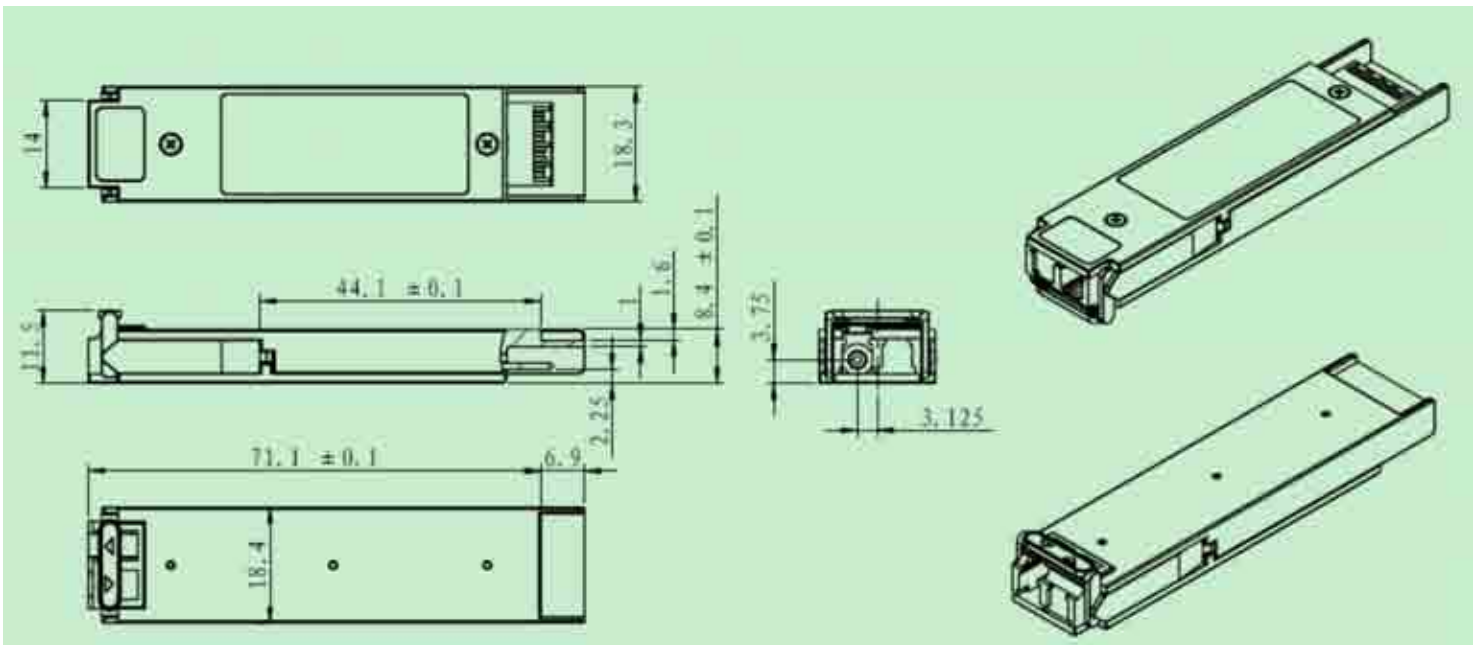
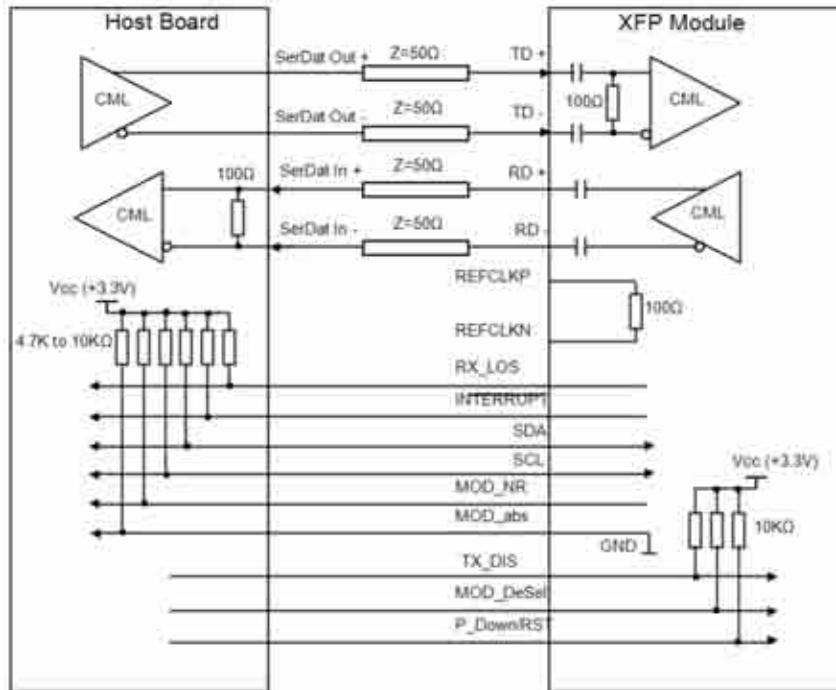
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PIN Layout



**XFP SONET/SDH Single Fiber 10 km transceiver | Cisco Compatible 10G LR SONET OC-192 / STM**  
**PIN Functions**

| Pin # | Name - Description  |
|-------|---|
| 1     | Module Ground   |
| 2     | Optional -5.2 Power Supply – Not required                                     |
| 3     | Module De-select; When held low allows the module to respond to 2-wire serial |
| 4     | Interrupt (bar); Indicates presence of an important condition                 |
| 5     | Transmitter Disable; Transmitter laser source turned off                      |
| 6     | +5 Power Supply– Not required   |
| 7     | Module Ground   |
| 8     | +3.3V Power Supply  |
| 9     | +3.3V Power Supply  |
| 10    | Serial 2-wire interface clock   |
| 11    | Serial 2-wire interface data line   |
| 12    | Module Absent; Indicates module is not present. Grounded in the module        |
| 13    | Module Not Ready  |
| 14    | Receiver Loss of Signal indicator   |
| 15    | Module Ground   |
| 16    | Module Ground   |
| 17    | Receiver inverted data output   |
| 18    | Receiver non-inverted data output   |
| 19    | Module Ground   |
| 20    | +1.8V Power Supply  |
| 21    | Power Down; When high   |
| 22    | +1.8V Power Supply  |
| 23    | Module Ground   |
| 24    | Reference Clock non-inverted input  |
| 25    | Reference Clock inverted input  |
| 26    | Module Ground   |
| 27    | Module Ground   |
| 28    | Transmitter inverted data input   |
| 29    | Transmitter non-inverted data input   |
| 30    | Module Ground   |

### XFP SONET/SDH Single Fiber 10 km transceiver | Cisco Compatible 10G LR SONET OC-192 / STM Mechanical Layouts



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