

Datasheet

XFP Optical Transceiver Product Features

- 10GBASE-LR/LW Ethernet 12dB XFP
- 20 km LR XFP for SMF @ 10Gbps
- 1270Tx-1330Rx DFB+PIN Laser 20 km XFP
- 0°C - 70°C Temperature - Extended/Industrial Available
- 2-Wire Interface Digital Diagnostic Monitoring (SFF-8724)
- Hot-swappable for XFP LC ports
- OptoSpan 1 year standard warranty
- Use with Finisar, Avago, JDSU & networks not requiring OEM compatibility
- XFP MSA, IEEE 802.3ae
- RoHS compliant

* For OEM Compatibility, use Platinum Series Part# PXP-10GB27K020

XFP-10G-K020B27



Applications

- 10GBASE-LR @ 10.31Gbps
- 10 Gigabit Ethernet
- Fibre Channel 8x
- Fibre Channel 4x

Description

OptoSpan XFP-10G-K020B27 is a Single Fiber BiDirectional 10GBASE-LR/LW Ethernet 10G Ethernet / 8G FC XFP transceiver designed for long distance optical communications up to 20 km with signaling rates up to 10Gbps.

OptoSpan 10Gb Single Fiber 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# PXP-10GB27K020.

All OptoSpan long-reach 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 20 km XFP Optical Transceiver

| XFP- 10G-K020B27 | Distance: 20 km | | | | Fiber: 1270Tx-1330Rx SMF | |
|-----------------------------|-----------------|------------|------------|------------|--------------------------|-----------------|
| | Tx Min dBm | Tx Max dBm | Rx Min dBm | Rx Max dBm | Link Attenuation dB | Power Budget dB |
| Product Specifications | -2 | 3 | -14 | 0.5 | | |
| Optical Calculation Results | | | -12 | -7 | 10 | 12 |



XFP Single Fiber 20 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 | 0 | | +70 |
| Recommended Operating Condition | | | | |
| 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 |
|-----------------------------------|------|------|------|---------|
| Transmitter | | | | |
| 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 | | | |
| Receiver | | | | |
| 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

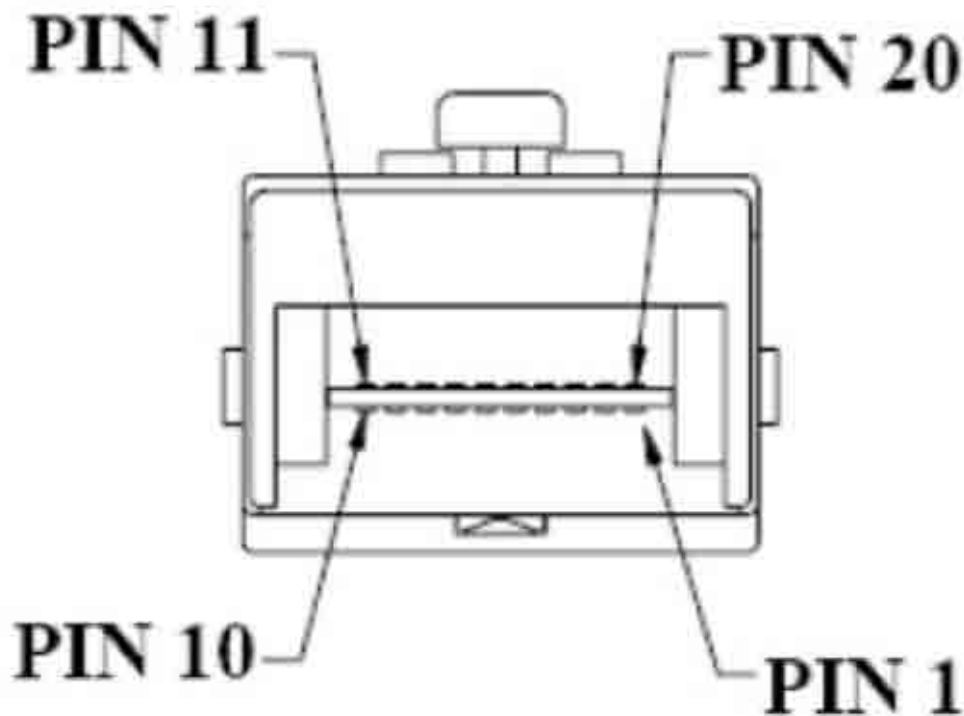
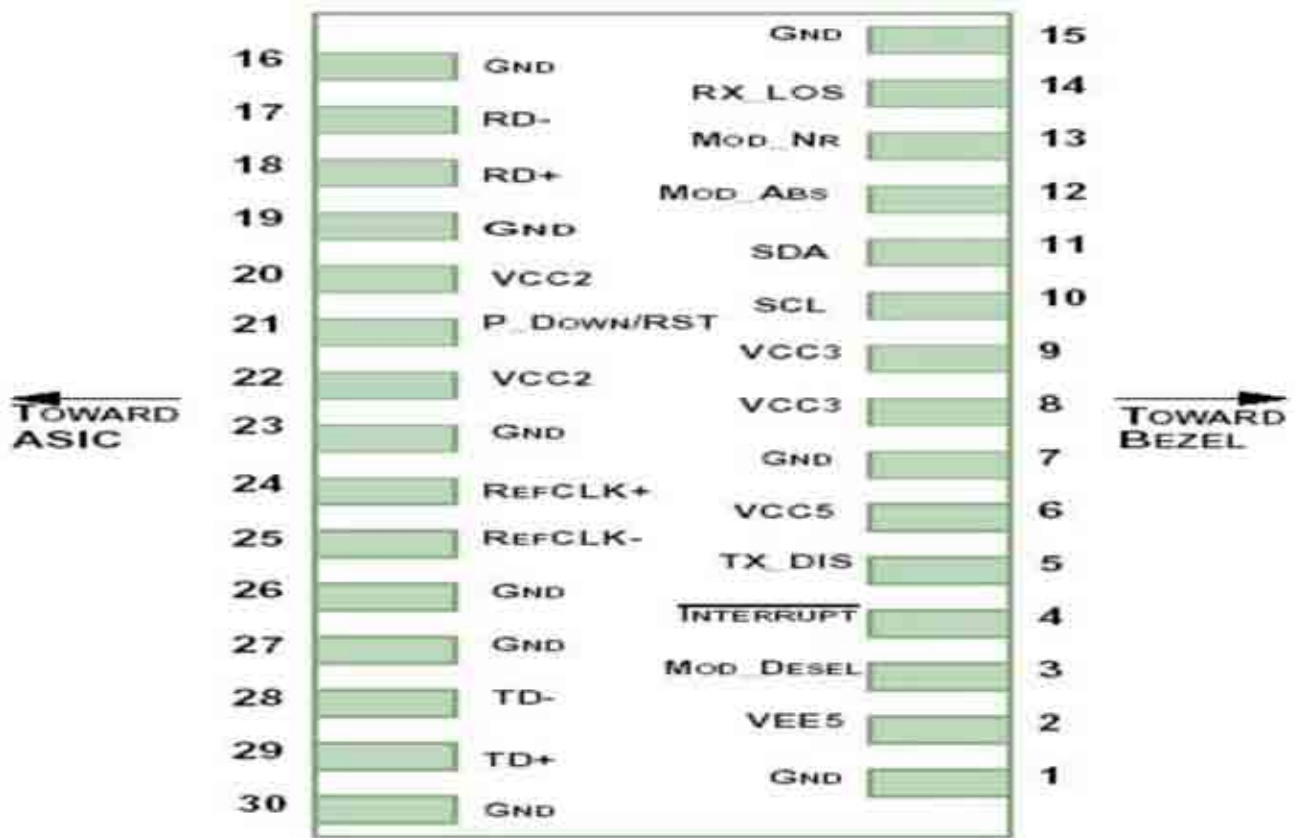
| Parameter | Unit | Min. | Typ. | Max |
|-----------------------------|------|------|------|------|
| Transmitter | | | | |
| Output Optical Power | dBm | -2 | | 3 |
| Optical Extinction Ratio | dB | 3.5 | | |
| Optical Wavelength | nm | 1260 | 1270 | 1280 |
| Spectral Width | nm | | | 1 |
| Side Mode Suppression Ratio | dB | 30 | | |
| Receiver | | | | |
| Optical Center Wavelength | nm | 1320 | | 1340 |
| Receiver Sensitivity @ 10G | 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.

Optospan

XFP Single Fiber 20 km transceiver | 10G LR Ethernet PIN Layout

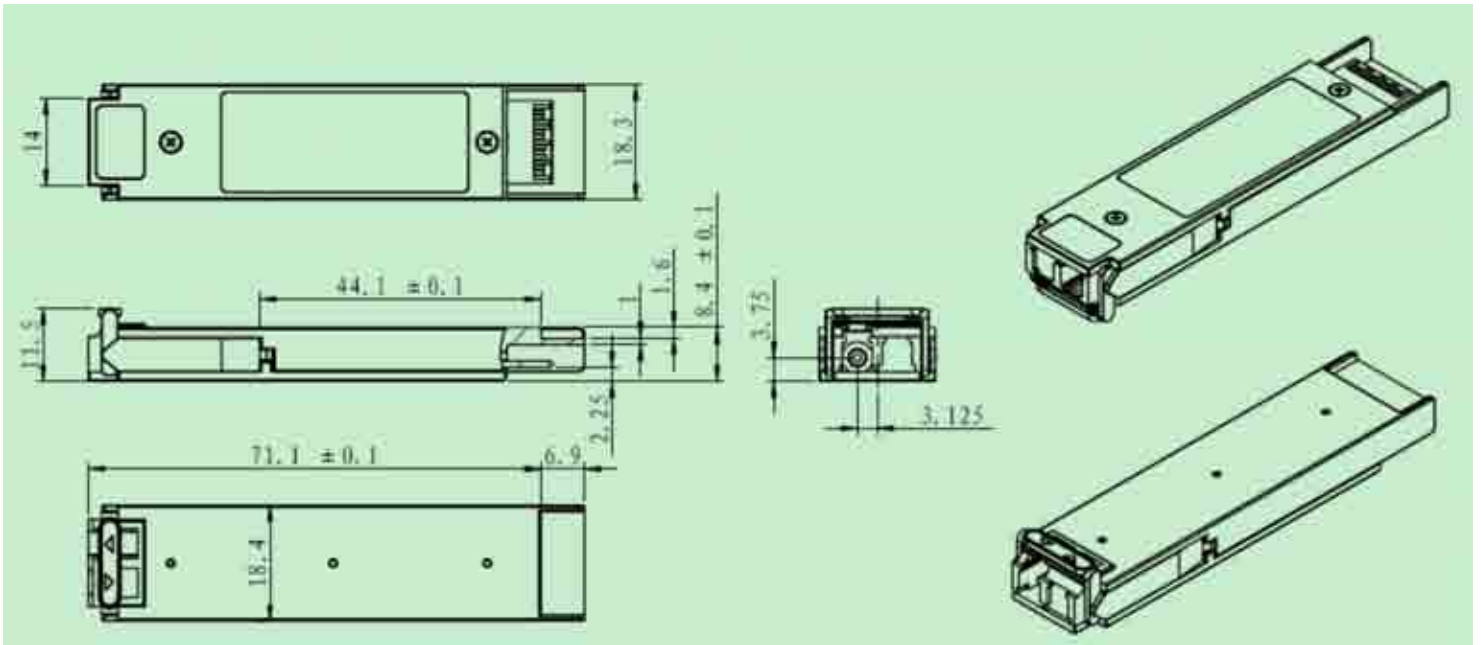
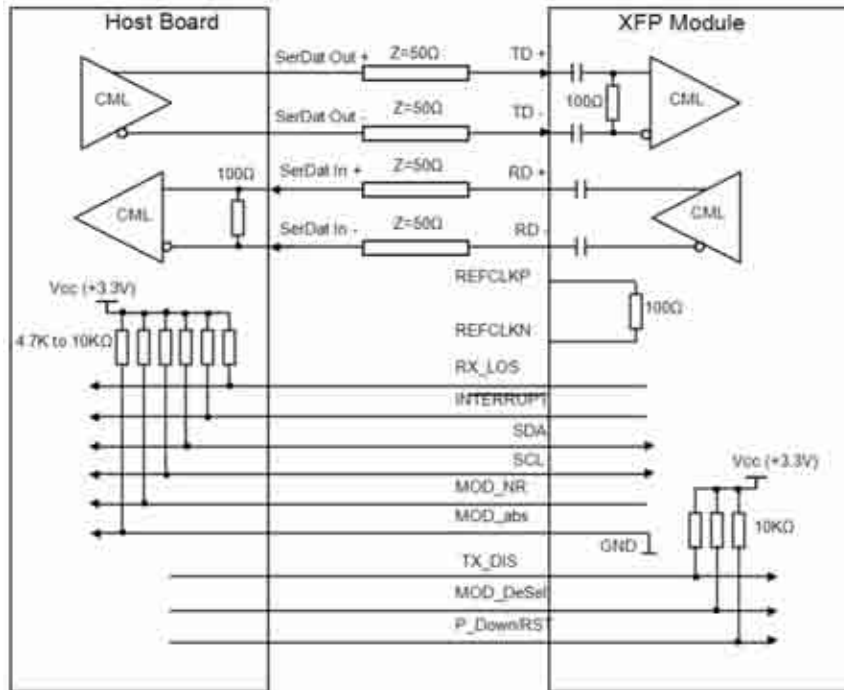




**XFP Single Fiber 20 km transceiver | 10G LR Ethernet
PIN Functions**

| 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 |
| 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 – Not required |
| 21 | Power Down; When high, places the module in the |
| 22 | +1.8V Power Supply – Not required |
| 23 | Module Ground |
| 24 | Reference Clock non-inverted input, AC coupled on |
| 25 | RefCLKReference Clock inverted input, AC coupled on the host board – Not required |
| 26 | Module Ground |
| 27 | Module Ground |
| 28 | Transmitter inverted data input |
| 29 | Transmitter non-inverted data input |
| 30 | Module Ground |

XFP Single Fiber 20 km transceiver | 10G LR Ethernet Mechanical Layouts



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