

Datasheet

SFP Optical Transceiver Product Features

- 1000BASE-ZX Ethernet 31dB SFP
- 120 km ZX SFP for SMF @ 1.25Gbps
- 1490Tx-1550Rx DFB+APD Laser 120 km SFP
- 0°C - 70°C Temperature - Extended/Industrial Available
- 2-Wire Interface Digital Diagnostic Monitoring (SFF-8724)
- Hot-swappable for SFP LC ports
- OptoSpan 1 year standard warranty
- Use with Finisar, Avago, JDSU & networks not requiring OEM compatibility
- SFP MSA / IEEE Std 802.3
- RoHS compliant

* For OEM Compatibility, use Platinum Series Part# PSFP-11DB49K120

SFP-11D-K120B49



Applications

- 1.25Gbps Gigabit Ethernet
- Fibre Channel 1x
- Switch to Switch Interface
- Other Optical Links

Description

OptoSpan SFP-11D-K120B49 is a Single Fiber BiDirectional 1000BASE-ZX Ethernet SFP transceiver designed for long distance optical communications up to 120 km with signaling rates up to 1.25Gbps.

OptoSpan 1Gb 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# PSFP-11DB49K120.

All OptoSpan long-reach SFP 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 120 km SFP Optical Transceiver

| SFP-11D-K120B49 | Distance: 120 km | | | | Fiber: 1490Tx-1550Rx SMF | |
|------------------------------------|------------------|------------|------------|------------|--------------------------|-----------------|
| | Tx Min dBm | Tx Max dBm | Rx Min dBm | Rx Max dBm | Link Attenuation dB | Power Budget dB |
| Product Specifications | -1 | 4 | -32 | -7 | | |
| Optical Calculation Results | | | -27.6 | -22.6 | 26.6 | 31 |



SFP Single Fiber 120 km transceiver | 1G ZX Ethernet

General Specifications

| Parameter | Unit | Min. | Typ. | Max |
|--|------|------|------|------|
| Absolute Maximum Ratings | | | | |
| Maximum Supply Voltage | V | 0 | | 4 |
| Storage Temperature | °C | -40 | | +85 |
| Case Operating Temperature | °C | 0 | | +70 |
| Recommended Operating Condition | | | | |
| Supply Voltage | V | 3.13 | | 3.45 |
| Supply Current | mA | | | 500 |
| Data Rate | Gbps | | 1.25 | |

Electrical Characteristics

| Parameter | Unit | Min. | Typ. | Max |
|-----------------------------------|------|------|------|------|
| Transmitter | | | | |
| Differential Input Voltage Swing | mVpp | 400 | | 1800 |
| Input Differential Impedance | ohm | 90 | 100 | 110 |
| Transmit Disable Voltage - High | V | 2.4 | | Vcc |
| Transmit Disable Voltage - Low | V | 0 | | 0.8 |
| Transmit Fault Voltage - High | V | 2.0 | | Vcc |
| Transmit Fault Voltage - Low | V | 0 | | 0.8 |
| Receiver | | | | |
| Differential Output Voltage Swing | mVpp | 400 | | 1800 |
| Differential Output Impedance | ohms | | | |
| LOS Output Voltage - High | V | 2.0 | | Vcc |
| LOS Output Voltage - Low | V | | | 0.8 |

Optical Characteristics

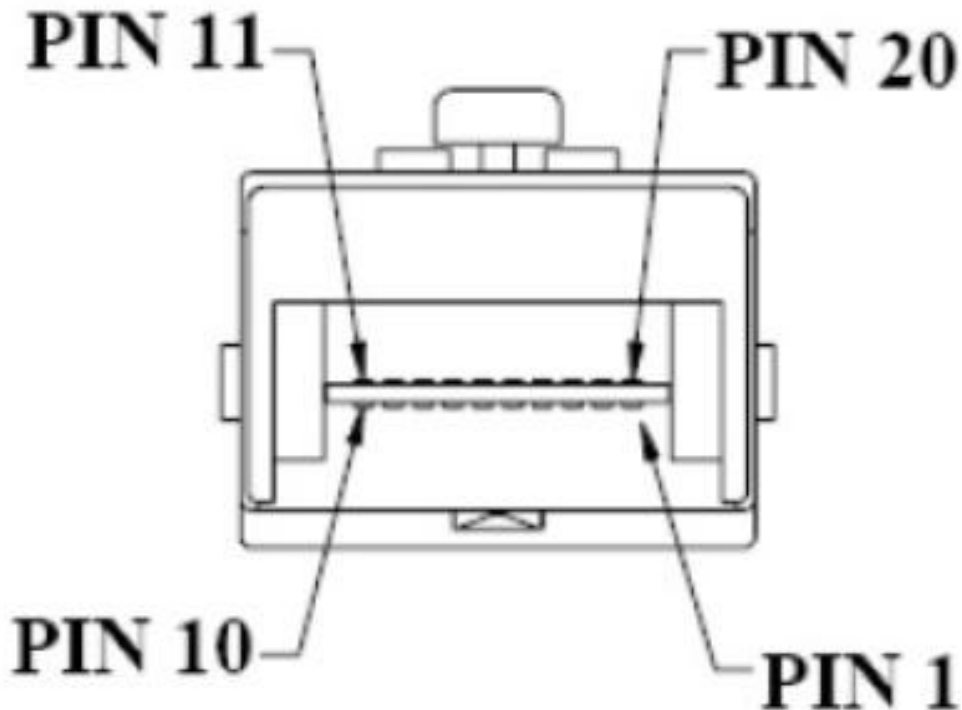
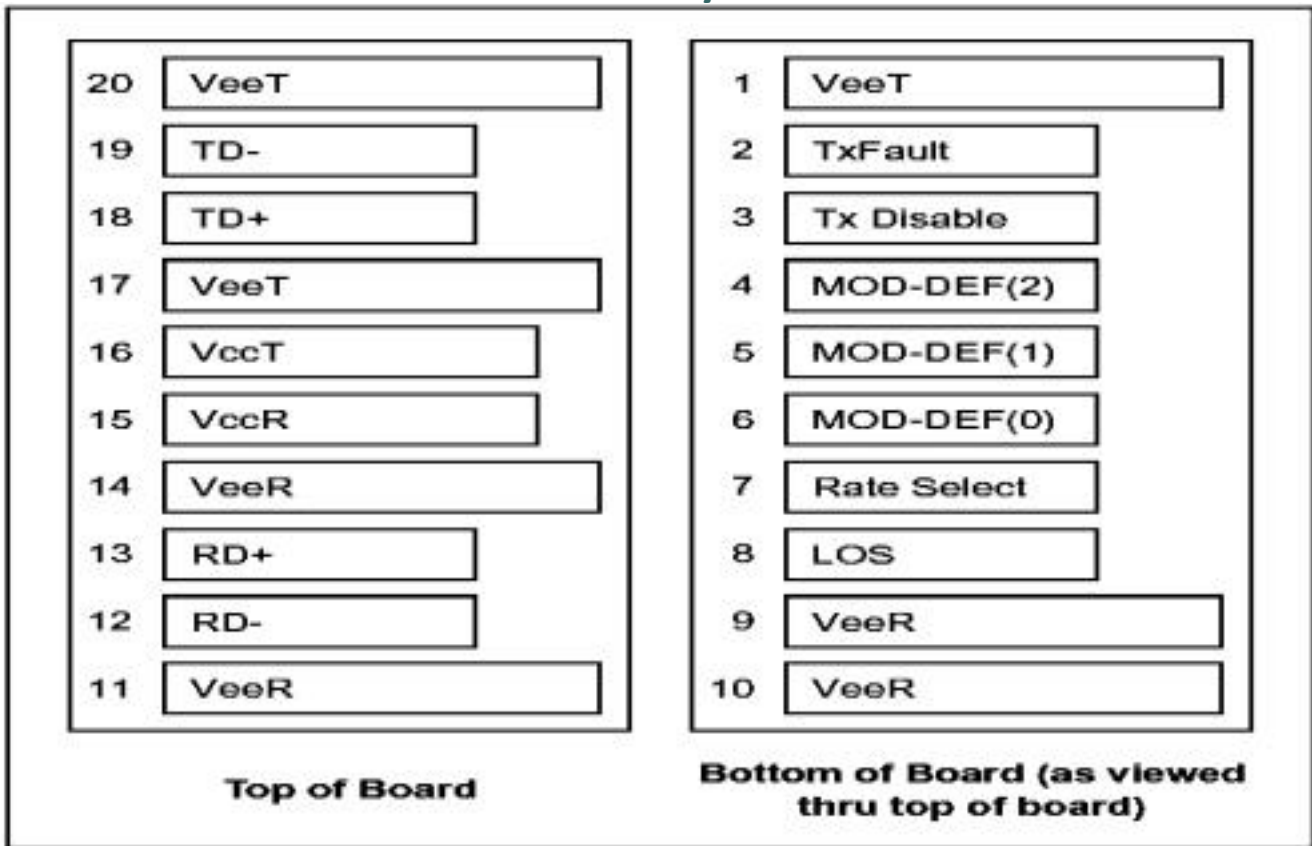
| Parameter | Unit | Min. | Typ. | Max |
|---------------------------------|------|------|------|------|
| Transmitter | | | | |
| Output Optical Power | dBm | -1 | | 4 |
| Optical Extinction Ratio | dB | 9 | | |
| Optical Wavelength | nm | 1460 | 1490 | 1520 |
| Spectral Width | nm | | | .88 |
| Side Mode Suppression Ratio | dB | 30 | | |
| Receiver | | | | |
| Optical Center Wavelength | nm | 1530 | 1550 | 1570 |
| Receiver Sensitivity @ 1.25Gbps | dBm | -32 | | -7 |
| LOS DE-Assert | dBm | | | -32 |
| LOS Assert | dBm | -45 | | |

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

SFP Single Fiber 120 km transceiver | 1G ZX Ethernet
PIN Layout





SFP Single Fiber 120 km transceiver | 1G ZX Ethernet
PIN Functions

| Pin # | Name - Description |
|-------|------------------------------|
| 1 | Transmitter Ground |
| 2 | Transmitter Fault Indication |
| 3 | Transmitter Disable |
| 4 | SDA Serial Data Signal |
| 5 | SCL Serial Clock Signal |
| 6 | TTL Low |
| 7 | Not Connected |
| 8 | Loss of Signal |
| 9 | Receiver ground |
| 10 | Receiver ground |
| 11 | Receiver ground |
| 12 | Inv. Received Data Out |
| 13 | Received Data Out |
| 14 | Receiver ground |
| 15 | Receiver Power Supply |
| 16 | Transmitter Power Supply |
| 17 | Transmitter Ground |
| 18 | Transmit Data In |
| 19 | Inv. Transmit Data In |
| 20 | Transmitter Ground |
| 21 | |
| 22 | |
| 23 | |
| 24 | |
| 25 | |
| 26 | |
| 27 | |
| 28 | |
| 29 | |
| 30 | |

