

**SFP CWDM 120 km transceiver | Cisco Compatible 2G LX SONET OC-48 / STM-16**  
**Designed for OEM networks such as Cisco, HP, Juniper, Brocade, Alcatel etc.**

### Datasheet

#### SFP Optical Transceiver Product Features

- Exclusive Japanese OSAs for Ultimate Reliability
- SONET OC-48 / STM-16 33dB SFP
- 120 km LX SFP for SMF @ 2.67Gbps Multirate
- 1270nm - 1610nm 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
- Extended 2 Years Warranty
- Tested and Certified in Brand Specific Networks and Target Applications
- Assembled Using Highest Quality Raw Components
- SFP MSA / IEEE Std 802.3 & ROHS

#### PSFP-MR2CXXK120



#### Applications

- Optical Gigabit Ethernet
- Fibre Channel 2x
- SONET/SDH
- SONET OC-48
- Fibre Channel 1x
- Other Optical Links

#### Description

Platinum OEM Series PSFP-MR2CXXK120 is a Cisco Compatible CWDM SONET OC-48 / STM-16 SFP transceiver designed for long distance optical communications up to 120 km with signaling rates up to 2.67Gbps.

OptoSpan Platinum OEM Series 2.67Gbps Multirate CWDM 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 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 CWDM transceivers with LC interface.

#### Optical Budget Calculation for 120 km Platinum OEM SFP Optical Transceiver

| PSFP-MR2CXXK120             | Distance: 120 km |            |            |            | Fiber: 1270nm - 1610nm |                 |
|-----------------------------|------------------|------------|------------|------------|------------------------|-----------------|
|                             | Tx Min dBm       | Tx Max dBm | Rx Min dBm | Rx Max dBm | Link Attenuation dB    | Power Budget dB |
| Product Specifications      | 4                | 7          | -29        | -9         |                        |                 |
| Optical Calculation Results |                  |            | -29        | -26        | 33                     | 33              |

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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   | 0    |      | +70  |
| <b>Recommended Operating Condition</b> |      |      |      |      |
| Supply Voltage                         | V    | 3.15 | 3.3  | 3.45 |
| Supply Current                         | mA   |      |      | 300  |
| Data Rate                              | Gbps |      | 2.67 |      |

## Electrical Characteristics

| Parameter                         | Unit | Min. | Typ. | Max     |
|-----------------------------------|------|------|------|---------|
| <b>Transmitter</b>                |      |      |      |         |
| Differential Input Voltage Swing  | mVpp | 400  |      | 1600    |
| Input Differential Impedance      | ohm  | 85   | 100  | 115     |
| Transmit Disable Voltage - High   | V    | 2    |      | Vcc+0.3 |
| 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 | 400  |      | 1200    |
| Differential Output Impedance     | ohms | 85   | 100  | 115     |
| LOS Output Voltage - High         | V    | 2    |      | Vcc+0.3 |
| LOS Output Voltage - Low          | V    | 0    |      | 0.8     |

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## Optical Characteristics

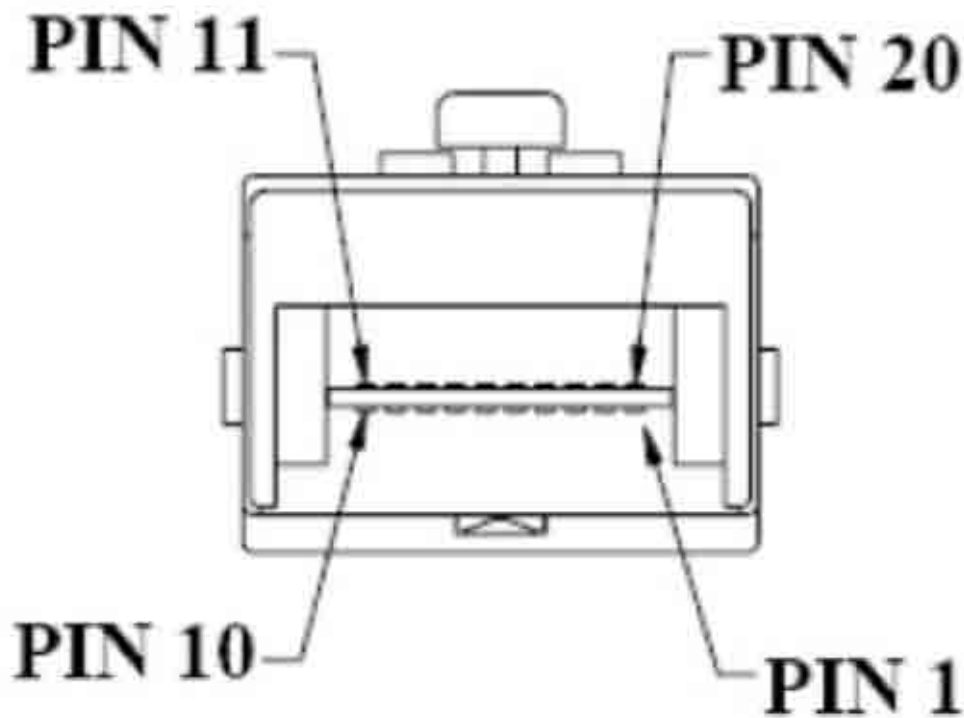
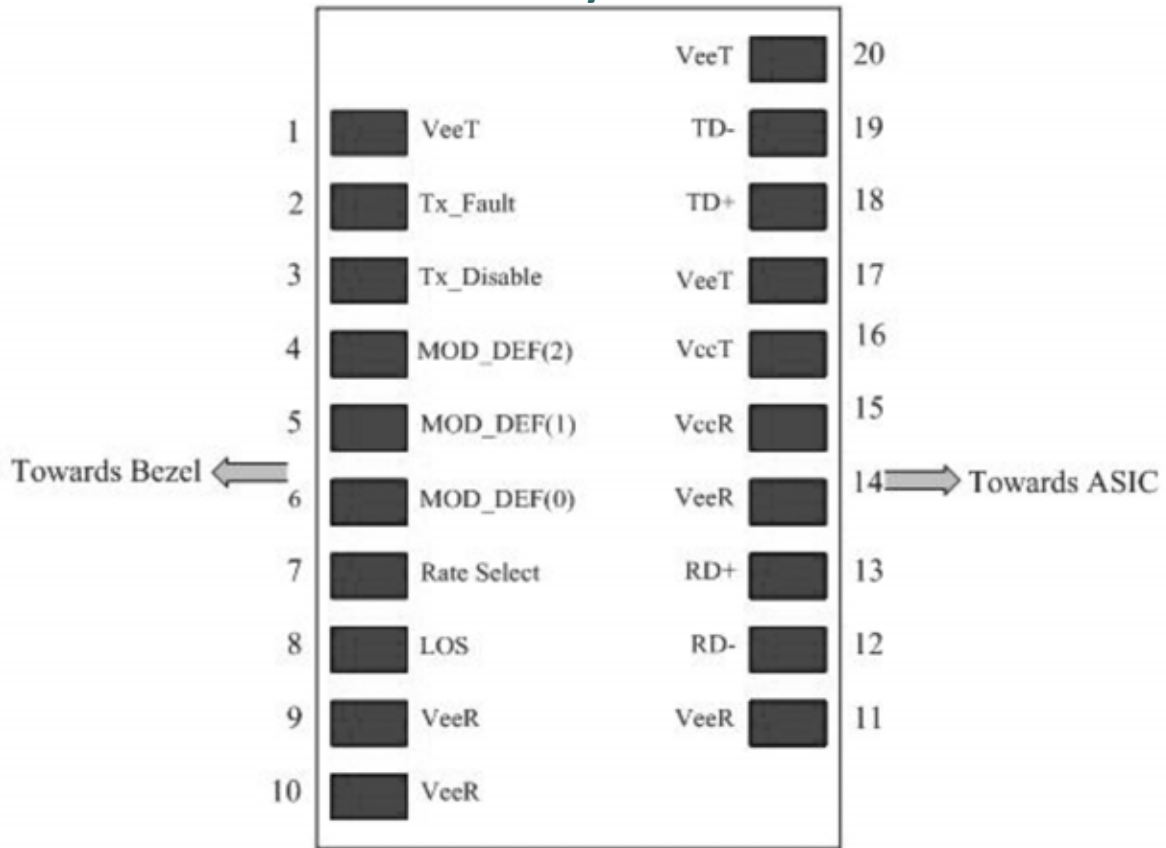
| Parameter                      | Unit | Min.              | Typ.        | Max               |
|--------------------------------|------|-------------------|-------------|-------------------|
| <b>Transmitter</b>             |      |                   |             |                   |
| Output Optical Power           | dBm  | 4                 |             | 7                 |
| Optical Extinction Ratio       | dB   | 8.2               |             |                   |
| Optical Wavelength             | nm   | $\lambda_c - 5.5$ | $\lambda_c$ | $\lambda_c + 7.5$ |
| Spectral Width                 | nm   |                   |             | 1                 |
| Side Mode Suppression Ratio    | dB   | 30                |             |                   |
| <b>Receiver</b>                |      |                   |             |                   |
| Optical Center Wavelength      | nm   | 1260              |             | 1600              |
| Receiver Sensitivity @ 2.5Gbps | dBm  | -29               |             | -9                |
| LOS DE-Assert                  | dBm  |                   |             | -31               |
| LOS Assert                     | dBm  | -43               |             |                   |

## 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



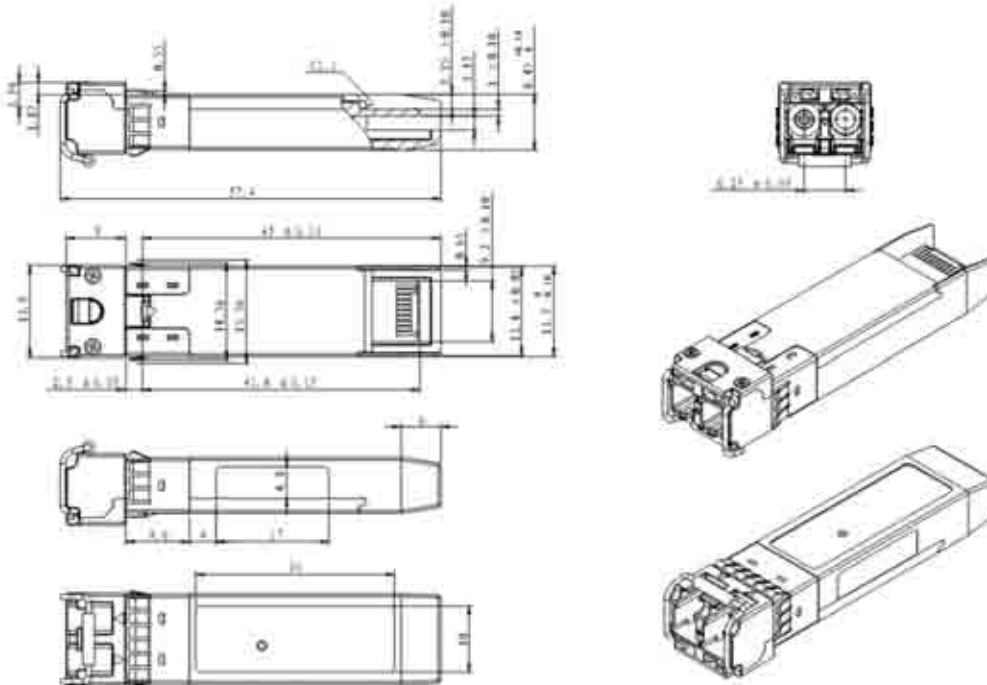
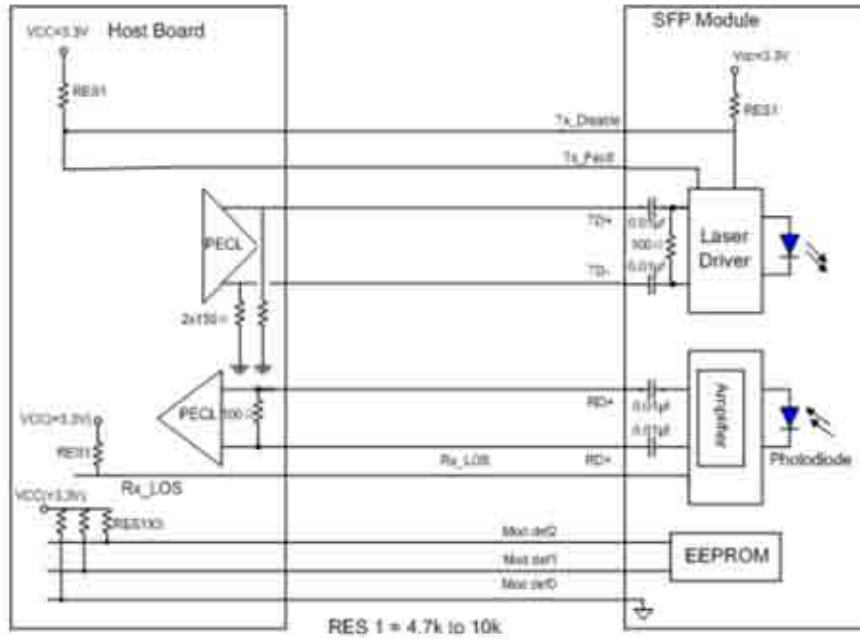
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### PIN Functions

| Pin # | Name - Description           |
|-------|------------------------------|
| 1     | Transmitter Ground           |
| 2     | Transmitter Fault Indication |
| 3     | Transmitter Disable          |
| 4     | Module Definition 2          |
| 5     | Module Definition 1          |
| 6     | Module Definition 0          |
| 7     | Not Connect                  |
| 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               |
| 16    | Transmitter Power            |
| 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    |                              |

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### Mechanical Layouts



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