

**SFP 20 km transceiver | Cisco Compatible 4G LX Fiber Channel**

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

### Datasheet

#### SFP Optical Transceiver Product Features

- Exclusive Japanese OSAs for Ultimate Reliability
- 4GFC Fibre Channel 13dB SFP
- 20 km LX SFP for SMF @ 4.25Gbps
- 1310nm DFB Laser 20 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-41DT31K020



#### Applications

- 1.25Gbps Gigabit Ethernet
- Fibre Channel 4x
- SONET/SDH
- Fibre Channel 2x
- Other Optical Links

#### Description

Platinum OEM Series PSFP-41DT31K020 is a Cisco Compatible Duplex 4GFC Fibre Channel SFP transceiver designed for long distance optical communications up to 20 km with signaling rates up to 4.25Gbps.

OptoSpan Platinum OEM Series 4.25Gbps 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 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 Duplex transceivers with LC interface.

#### Optical Budget Calculation for 20 km Platinum OEM SFP Optical Transceiver

| PSFP-41DT31K020             | Distance: 20 km |               |               |               | Fiber: 1310nm SMF      |                       |
|-----------------------------|-----------------|---------------|---------------|---------------|------------------------|-----------------------|
|                             | Tx Min<br>dBm   | Tx Max<br>dBm | Rx Min<br>dBm | Rx Max<br>dBm | Link Attenuation<br>dB | Power<br>Budget<br>dB |
| Product Specifications      | -5              | 0             | -18           | -3            |                        |                       |
| Optical Calculation Results |                 |               | -15           | -10           | 10                     | 13                    |

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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 |      | 4.25 |      |

## 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    |      | 0.5     |
| <b>Receiver</b>                   |      |      |      |         |
| Differential Output Voltage Swing | mVpp | 400  | 800  | 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     |

### Optical Characteristics

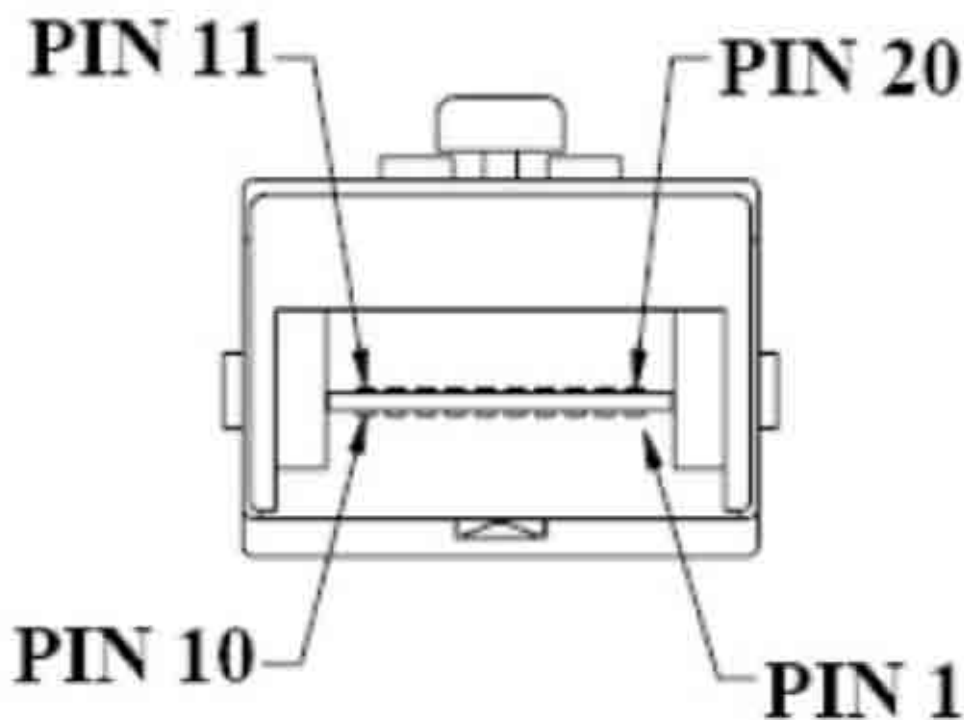
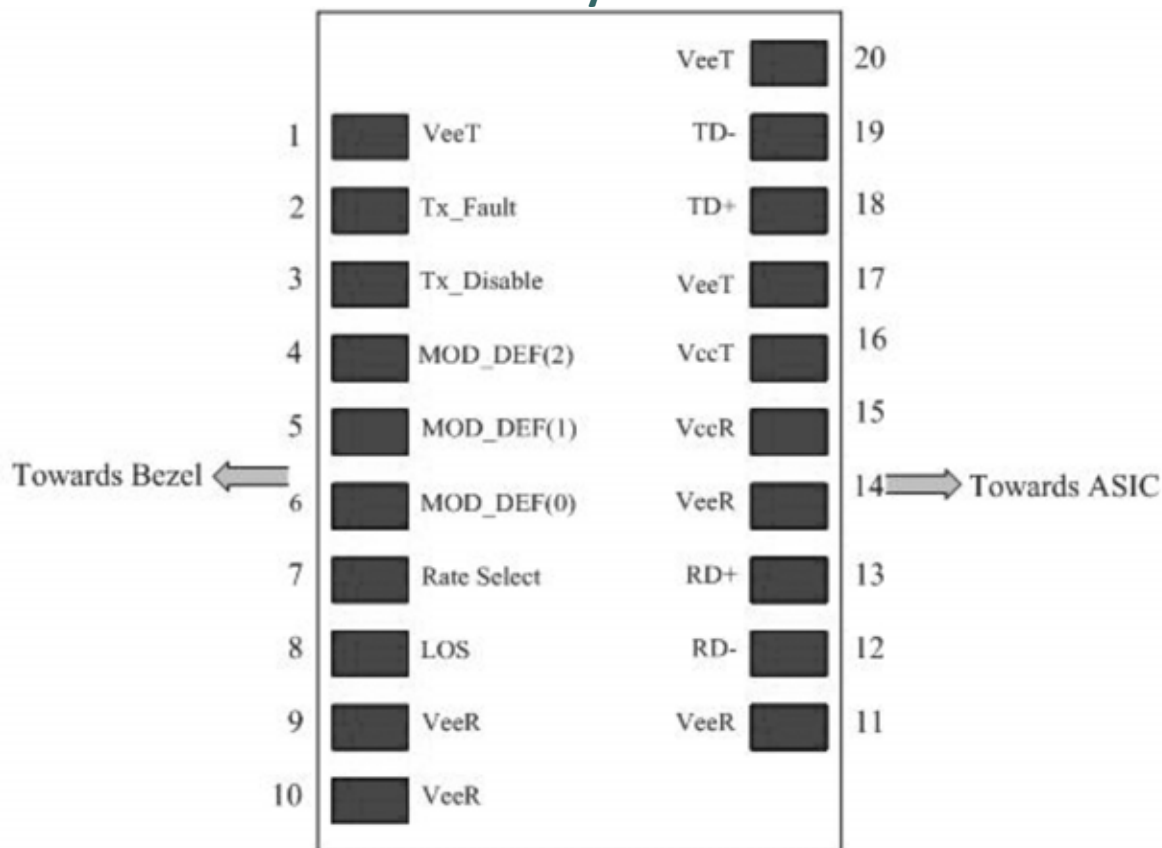
| Parameter                       | Unit | Min. | Typ. | Max  |
|---------------------------------|------|------|------|------|
| <b>Transmitter</b>              |      |      |      |      |
| Output Optical Power            | dBm  | -5   |      | 0    |
| Optical Extinction Ratio        | dB   |      |      |      |
| Optical Wavelength              | nm   | 1260 | 1310 | 1360 |
| Spectral Width                  | nm   |      |      | 1    |
| Side Mode Suppression Ratio     | dB   | 30   |      |      |
| <b>Receiver</b>                 |      |      |      |      |
| Optical Center Wavelength       | nm   | 1260 |      | 1600 |
| Receiver Sensitivity @ 4.25Gbps | dBm  | -18  |      | -3   |
| Receiver Sensitivity @ 2.125Gbp | dBm  | -21  |      | -3   |
| Receiver Sensitivity @ 1.063Gbp | dBm  | -22  |      | -3   |
| LOS DE-Assert                   | dBm  |      |      | -19  |
| LOS Assert                      | dBm  | -35  |      |      |

### 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

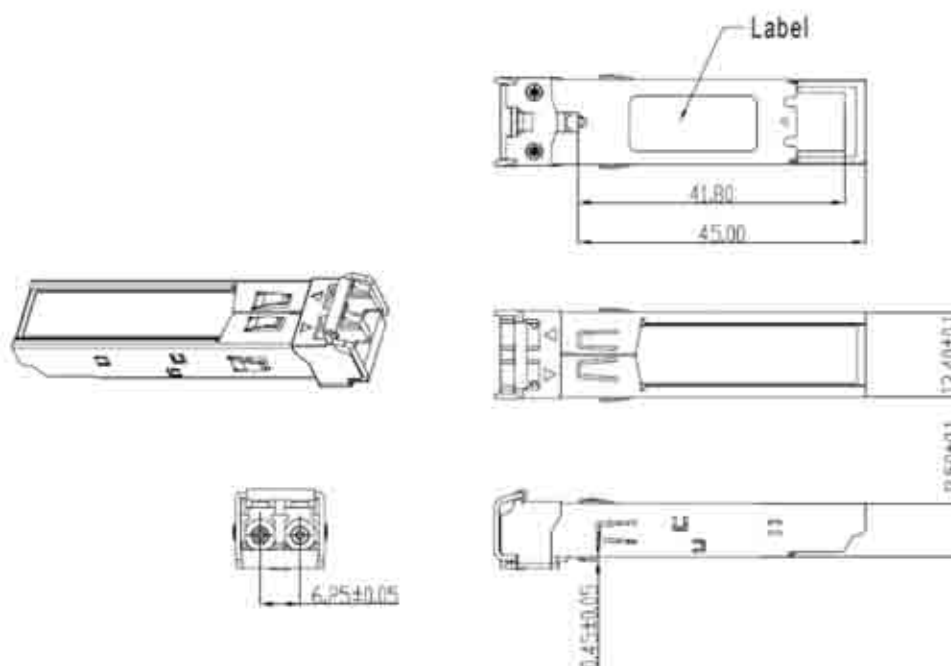
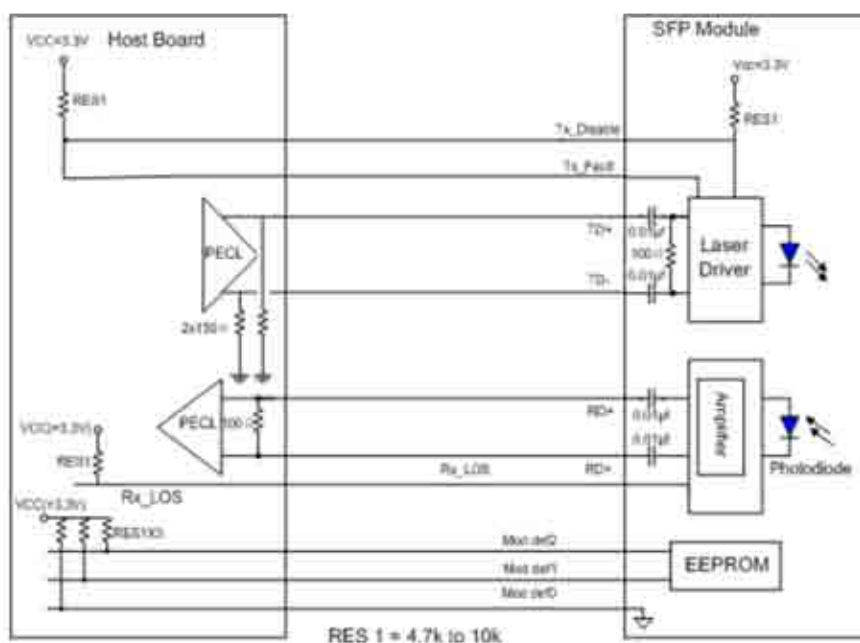


## PIN Functions

| 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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