

**SFP+ SONET/SDH DWDM 80 km transceiver | Cisco Compatible 10G ZR SONET OC-192 / STM-64**  
**Designed for OEM networks such as Cisco, HP, Juniper, Brocade, Alcatel etc.**

### Datasheet

## SONET/SDH SFP+ Optical Transceiver

### Product Features

- Exclusive Japanese OSAs for Ultimate Reliability
- SONET OC-192 / STM-64 w/ CDR 23dB SONET/SDH SFP+
- 80 km ZR SONET/SDH SFP+ for SMF @ 10Gbps
- 100GHz (C-Band) EML+APD Laser 80 km SONET/SDH SFP+
- 0°C - 70°C Temperature - Extended/Industrial Available
- 2-Wire Interface Digital Diagnostic Monitoring (SFF-8724)
- Hot-swappable for SONET/SDH SFP+ LC ports
- Extended 2 Years Warranty
- Tested and Certified in Brand Specific Networks and Target Applications
- Assembled Using Highest Quality Raw Components
- Compliant with SFF-8431, SFF-8432 & ROHS

## PSPS-81DDXXK080



### Applications

- SONET OC-192 / SDH STM-64
- OTN ITU-T G.709
- 10GBASE-ZR @ 10.31Gbps
- 10GbE & 10Gb/s FC w/FEC

## Description

Platinum OEM Series PSPS-81DDXXK080 is a Cisco Compatible DWDM SONET OC-192 / STM-64 w/ CDR SONET/SDH SFP+ with CDR, FEC & OTN G.709 transceiver designed for long distance optical communications up to 80 km with signaling rates up to 10Gbps.

OptoSpan Platinum OEM Series 10Gbps DWDM 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 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 DWDM transceivers with LC interface.

### Optical Budget Calculation for 80 km Platinum OEM SONET/SDH SFP+ Optical Transceiver

| PSPS-81DDXXK080             | Distance: 80 km |            |            |            | Fiber: 100GHz (C-Band) |                 |
|-----------------------------|-----------------|------------|------------|------------|------------------------|-----------------|
|                             | Tx Min dBm      | Tx Max dBm | Rx Min dBm | Rx Max dBm | Link Attenuation dB    | Power Budget dB |
| Product Specifications      | 0               | 5          | -23        | -6         |                        |                 |
| Optical Calculation Results |                 |            | -22.8      | -17.8      | 22.8                   | 23              |

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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  | 430  |
| Data Rate                              | Gbps |      |      | 10.3 |

### Electrical Characteristics

| Parameter                         | Unit | Min. | Typ. | Max     |
|-----------------------------------|------|------|------|---------|
| <b>Transmitter</b>                |      |      |      |         |
| Differential Input Voltage Swing  | mVpp | 250  |      | 1000    |
| 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 | 350  |      | 700     |
| Differential Output Impedance     | ohms | 85   | 100  | 115     |
| LOS Output Voltage - High         | V    | 2    |      | Vcc+0.3 |
| LOS Output Voltage - Low          | V    | 0    |      | 0.8     |

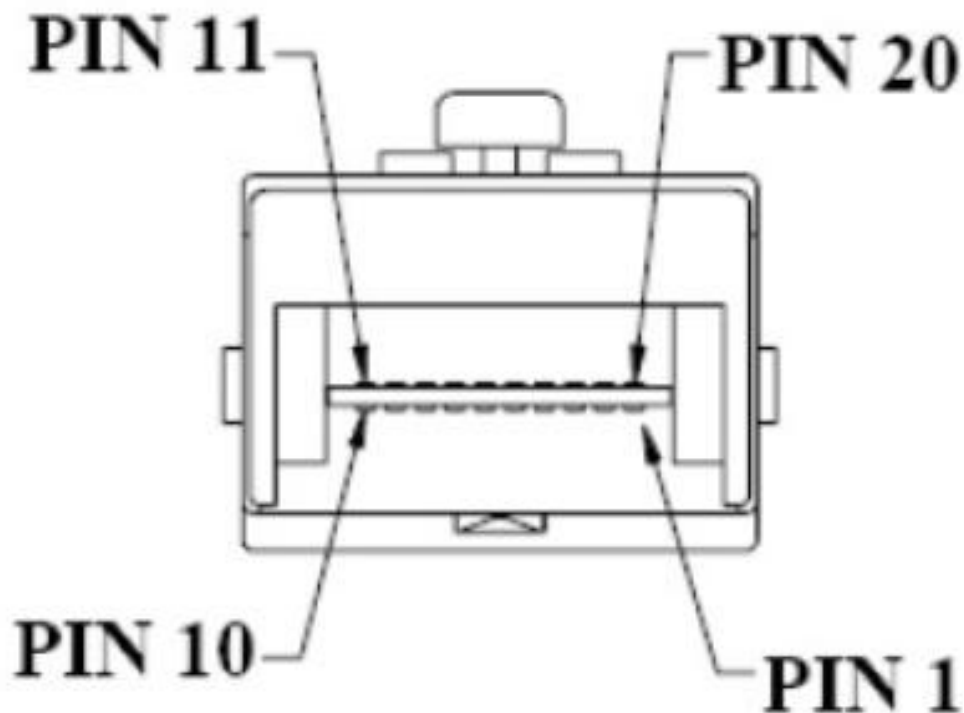
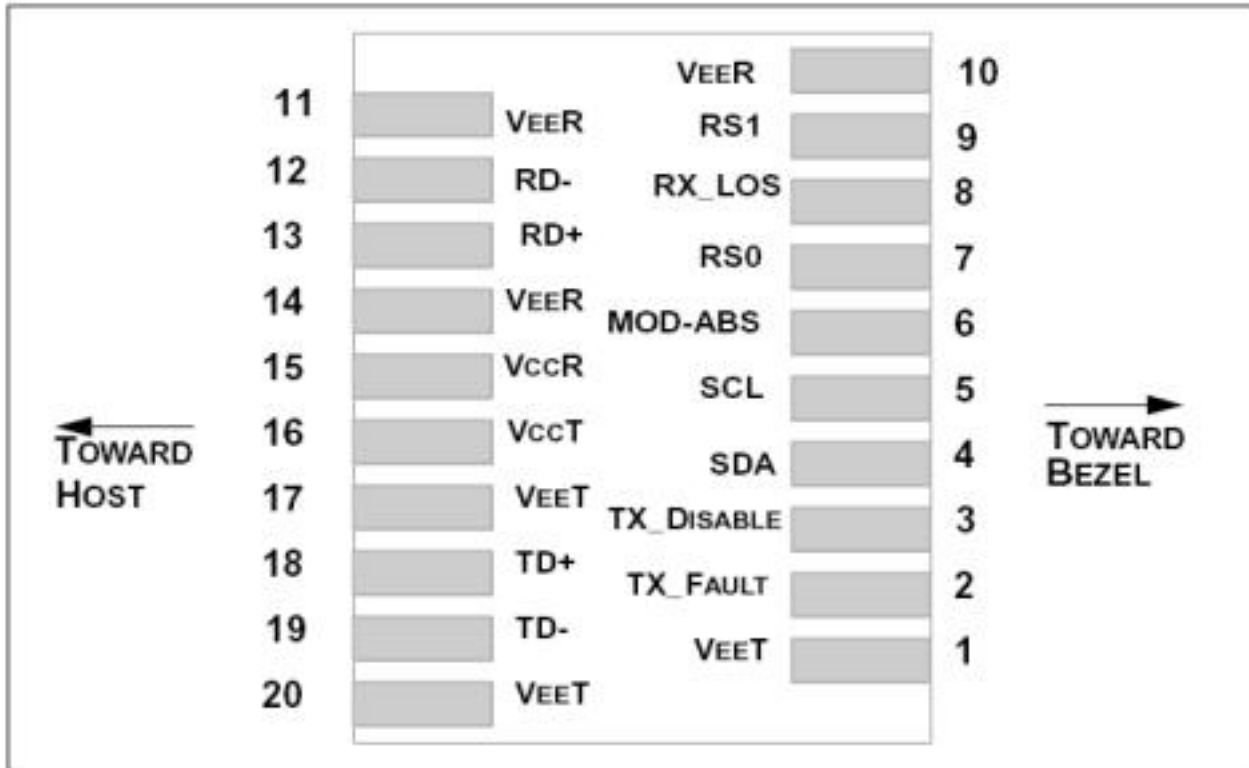
### Optical Characteristics

| Parameter                   | Unit | Min. | Typ. | Max |
|-----------------------------|------|------|------|-----|
| <b>Transmitter</b>          |      |      |      |     |
| Output Optical Power        | dBm  | 0    |      | 5   |
| Optical Extinction Ratio    | dB   | 3.5  |      |     |
| Optical Wavelength          | nm   |      |      |     |
| Spectral Width              | nm   |      |      |     |
| Side Mode Suppression Ratio | dB   | 30   |      |     |
| <b>Receiver</b>             |      |      |      |     |
| Optical Center Wavelength   | nm   |      |      |     |
| Receiver Sensitivity @      | dBm  | -23  |      | -6  |
| LOS DE-Assert               | dBm  |      |      | -24 |
| LOS Assert                  | dBm  | -40  |      |     |

### 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.

### PIN Layout

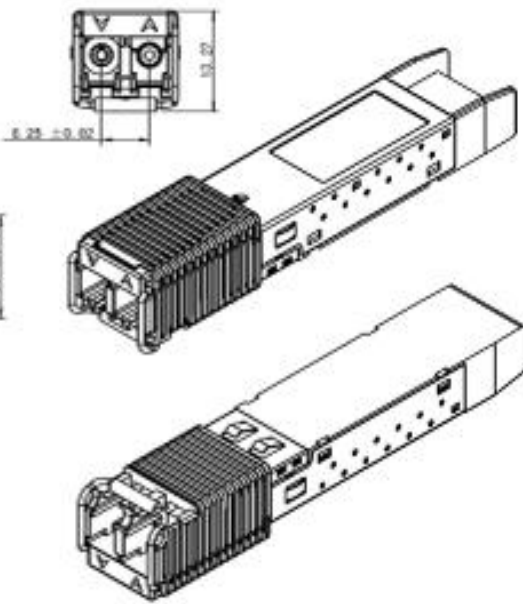
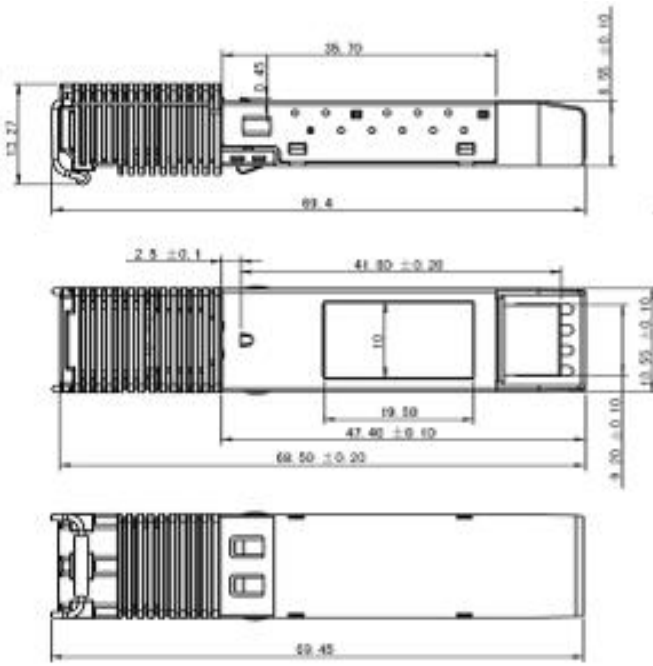
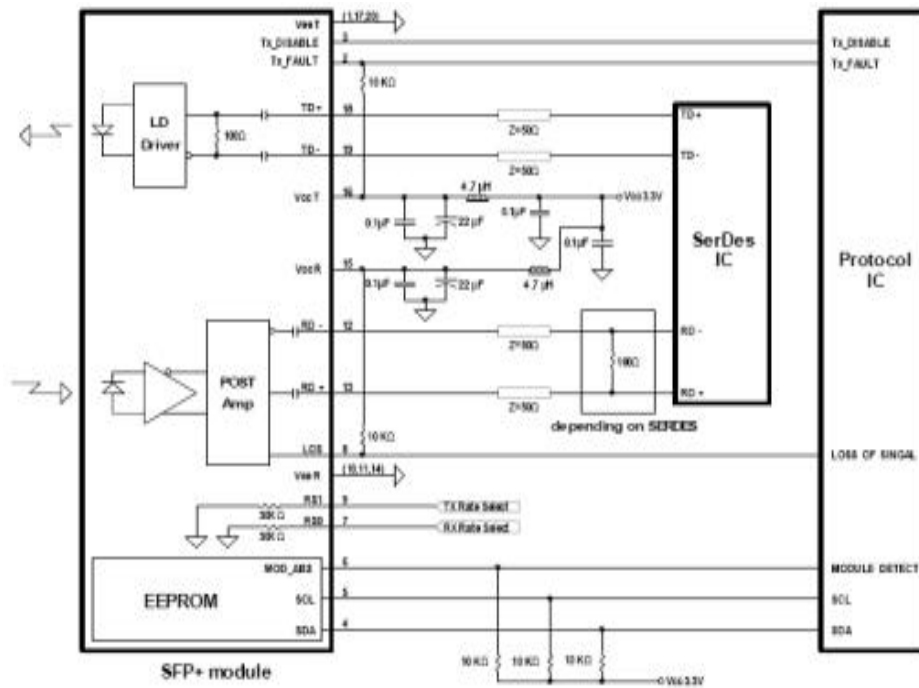


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**PIN Functions**

| 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     | RX Rate Select (LVTTL)       |
| 8     | Loss of Signal               |
| 9     | TX Rate Select (LVTTL)       |
| 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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