

### **CWDM-SFP25G-1370-10-OPC**

Cisco® CWDM-SFP25G-1370-10 Compatible TAA 25GBase-CWDM SFP28 Transceiver (SMF, 1370nm, 10km, LC)

#### **Features**

- SFF-8432 and SFF-8472 Compliance
- Duplex LC Connector
- Single-mode Fiber
- Commercial Temperature 0 to 70 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free



#### **Applications:**

- 25x Gigabit Ethernet over CWDM
- Access, Metro and Enterprise
- Mobile Fronthaul CPRI/OBSAI

#### **Product Description**

This Cisco® CWDM-SFP25G-1370-10 compatible SFP28 transceiver provides 25GBase-CWDM throughput up to 10km over single-mode fiber (SMF) using a wavelength of 1370nm via an LC connector. It is guaranteed to be 100% compatible with the equivalent Cisco® transceiver. This easy to install, hot swappable transceiver has been programmed, uniquely serialized and data-traffic and application tested to ensure that it will initialize and perform identically. Digital optical monitoring (DOM) support is also present to allow access to real-time operating parameters. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

OptioConnect's transceivers are RoHS compliant and lead-free.

## Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883E Method 3015.4
- ESD to the LC Receptacle: compatible with IEC 61000-4-3
- EMI/EMC compatible with FCC Part 15 Subpart B Rules, EN55022:2010
- Laser Eye Safety compatible with FDA 21CFR, EN60950-1& EN (IEC) 60825-1,2
- RoHS compliant with EU RoHS 2.0 directive 2015/863/EU

## Absolute Maximum Ratings

| Parameter                  | Symbol | Min. | Typ. | Max.               | Unit | Notes |
|----------------------------|--------|------|------|--------------------|------|-------|
| Maximum Supply Voltage     | Vcc    | -0.5 |      | 4.0                | V    | 1     |
| Storage Temperature        | Tstg   | -40  |      | 85                 | °C   | 2     |
| Operating Case Temperature | Tc     | 0    |      | 70                 | °C   | 3     |
| Data Rate                  | DR     |      | 24.3 | 26.5               | Gb/s | 4     |
| Bit Error Rate             | BER    |      |      | $5 \times 10^{-5}$ |      | 5     |

### Notes:

1. For Electrical power interface.
2. Ambient Temperature.
3. Case Temperature.
4. IEEE 802.3cc.
5. Measured with data rate at 25.78GBps, PRBS  $2^{31} - 1$ .

## Electrical Characteristics

| Parameter                      | Symbol  | Min. | Typ. | Max.     | Unit     | Notes |
|--------------------------------|---------|------|------|----------|----------|-------|
| Power Supply Voltage           | Vcc     | 3.14 | 3.3  | 3.46     | V        |       |
| Module Supply Current          | Icc     |      | 220  | 450      | mA       | 1     |
| Transmitter                    |         |      |      |          |          |       |
| Input Differential Impedance   | RIN     |      | 100  |          | $\Omega$ |       |
| Differential Data Input Swing  | VIN, pp | 250  |      | 900      | mV       |       |
| Transmit Disable Voltage       | Vd      | 2    |      | Vcc      | V        |       |
| Transmit Enable Voltage        | Ven     | Vee  |      | Vee+0.8  | V        |       |
| Receiver                       |         |      |      |          |          |       |
| Differential Data Output Swing | Vout_pp | 300  |      | 850      | mV       |       |
| LOS Assert                     | Vlos_a  | 2    |      | Vcc_host | V        |       |
| LOS De-Assert                  | Vlos_d  | Vee  |      | Vee+0.8  | V        |       |

### Notes:

1. For electrical power interface.

## Optical Characteristics

| Parameter                              | Symbol          | Min.              | Typ.        | Max.              | Unit | Notes |
|----------------------------------------|-----------------|-------------------|-------------|-------------------|------|-------|
| <b>Transmitter</b>                     |                 |                   |             |                   |      |       |
| Output Optical Power                   | Ptx             | 2                 | 4.5         | 7                 | dBm  | 1     |
| Optical Center Wavelength              | $\lambda_c$     | $\lambda_c - 6.5$ | $\lambda_c$ | $\lambda_c + 6.5$ | nm   | 2     |
| Transmitter and Dispersion Penalty     | TDP             |                   |             | 2.7               | dB   |       |
| Extinction Ratio                       | ER              | 3.5               |             |                   | dB   |       |
| Spectral Width(-20dB)                  | $\Delta\lambda$ |                   |             | 1                 | nm   |       |
| Side Mode Suppression Ratio            | SMSR            | 30                |             |                   | dB   |       |
| Transmitter Reflectance                |                 |                   |             | 12                | dB   |       |
| Launch Power of OFF Transmitter        | Pout_off        |                   |             | -30               | dBm  | 1     |
| <b>Receiver</b>                        |                 |                   |             |                   |      |       |
| Optical Center Wavelength              | $\lambda_c$     | 1260              |             | 1390              | nm   |       |
| Receive Overload                       | Pol             | 2                 |             |                   | dBm  |       |
| Receiver Sensitivity (OMA)@ 25.78 Gbps | Rx_sen          |                   |             | -13.3             | dBm  | 3     |
| Receiver Reflectance                   | TRrx            |                   |             | -26               | dB   |       |
| LOS Assert                             | LOSA            | -30               |             |                   | dBm  |       |
| LOS De-Assert                          | LOSD            |                   |             | -14               | dBm  |       |
| LOS Hysteresis                         | LOSH            | 0.5               |             |                   | dB   |       |

### Notes:

1. Average.
2.  $\lambda_c = 1271, 1291, 1311, 1331, 1351, 1371$ .
3. Average optical power, measured with data rate at 25.78Gbps, PRBS  $2^{31} - 1$ .

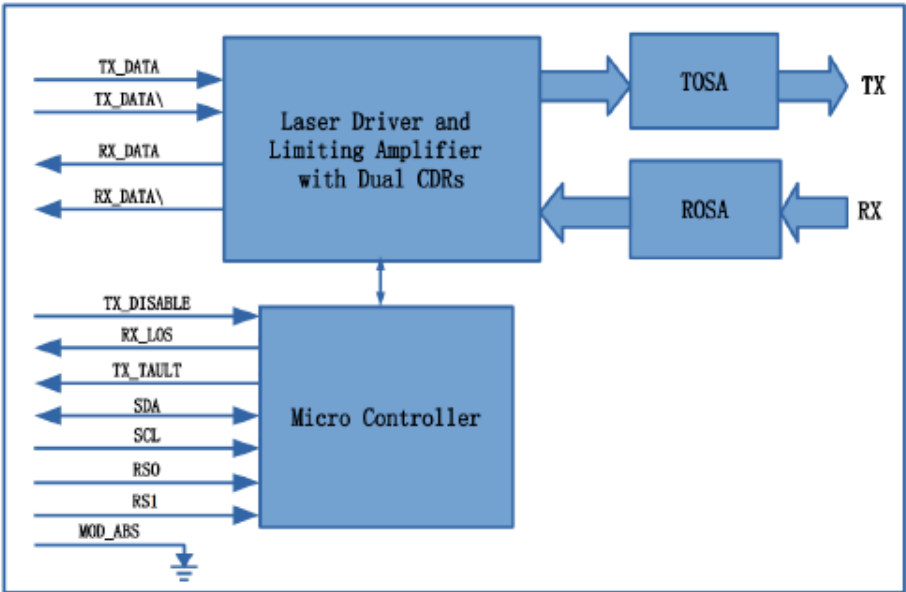
## Pin Descriptions

| Pin | Symbol     | Name/Descriptions                                              | Notes |
|-----|------------|----------------------------------------------------------------|-------|
| 1   | VeeT       | Transmitter Ground. Common with receiver ground.               | 1     |
| 2   | TX_Fault   | Transmitter Fault.                                             | 2     |
| 3   | TX_Disable | Transmitter Disable. Laser output disables on high or open.    | 3     |
| 4   | SDA        | Two wire serial interface Data Line.                           | 4     |
| 5   | SCL        | Two wire serial interface Clock Line.                          | 4     |
| 6   | MOD_ABS    | Module Absent. Grounded within the module.                     | 4     |
| 7   | RS0        | No connection required.                                        |       |
| 8   | LOS        | Loss of signal indication. Logic 0 indicated normal operation. | 5     |
| 9   | RS1        | No connection required.                                        | 1     |
| 10  | VeeR       | Receiver Ground. Common with transmitter ground.               | 1     |
| 11  | VeeR       | Receiver Ground. Common with transmitter ground.               | 1     |
| 12  | RD-        | Receiver Inverted DATA out. AC coupled.                        |       |
| 13  | RD+        | Receiver Non-Inverted DATA out. AC coupled.                    |       |
| 14  | VeeR       | Receiver Ground. Common with transmitter ground.               | 1     |
| 15  | VccR       | Receiver power supply.                                         |       |
| 16  | VccT       | Transmitter power supply.                                      |       |
| 17  | VeeT       | Transmitter ground. Common with receiver ground.               | 1     |
| 18  | TD+        | Transmitter Non-Inverted Data in. AC coupled.                  |       |
| 19  | TD-        | Transmitter Inverted Data in. AC coupled.                      |       |
| 20  | VeeT       | Transmitter Ground. Common with receiver ground.               | 1     |

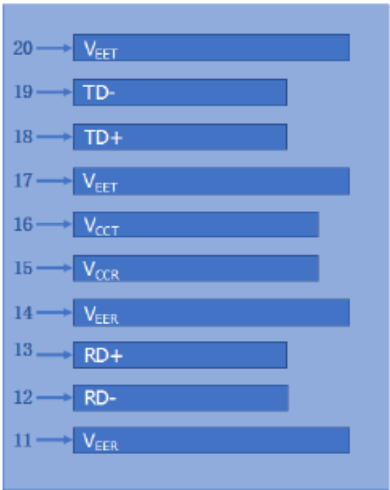
## Notes:

1. Circuit ground is isolated from chassis ground.
2. TX\_Fault is the open collector output and should be pulled up with 4.7k $\Omega$ -10k $\Omega$  on host board to a voltage between 2V and Vcc+0.3V.
3. Disables: T<sub>DIS</sub>>2V or open, Enabled T<sub>DIS</sub><0.8V.
4. Should be pulled up with 4.7k $\Omega$ -10k $\Omega$  on host board to a voltage between 2V and Vcc+0.3V.
5. LOS is open collector output and should be pulled up with 4.7k $\Omega$ -10k $\Omega$  on host board to a voltage between 2V and Vcc+0.3V, the logic "0" indicated normal operation, and the logic "1" indicates that the receiver signal is lost.

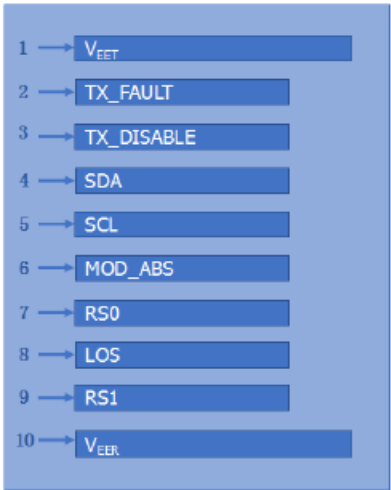
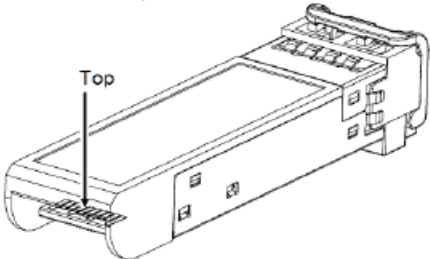
Block Diagram of Transceiver



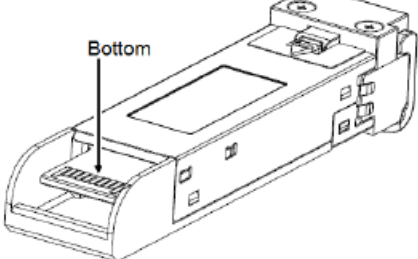
Electrical Pad Layout



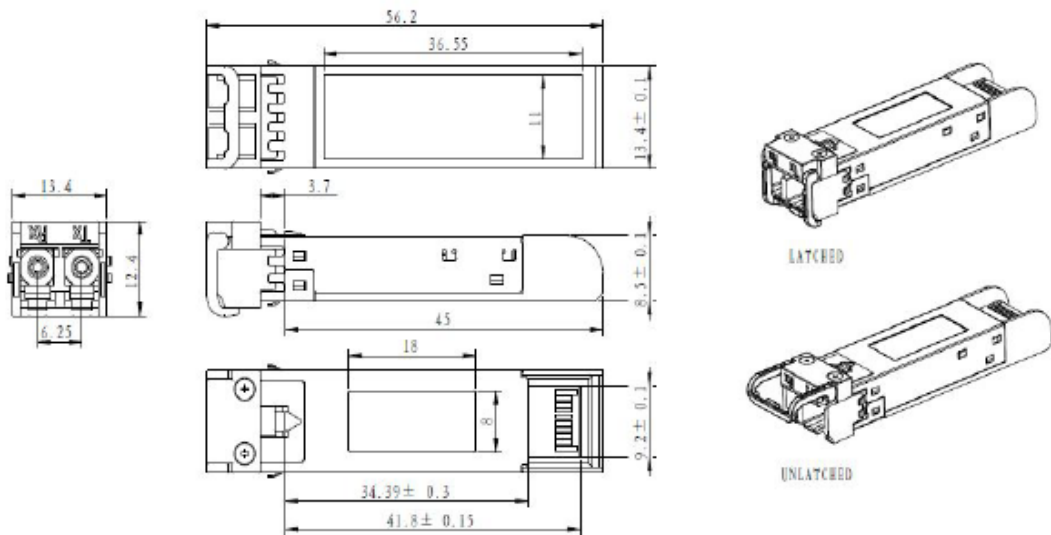
Top of Board



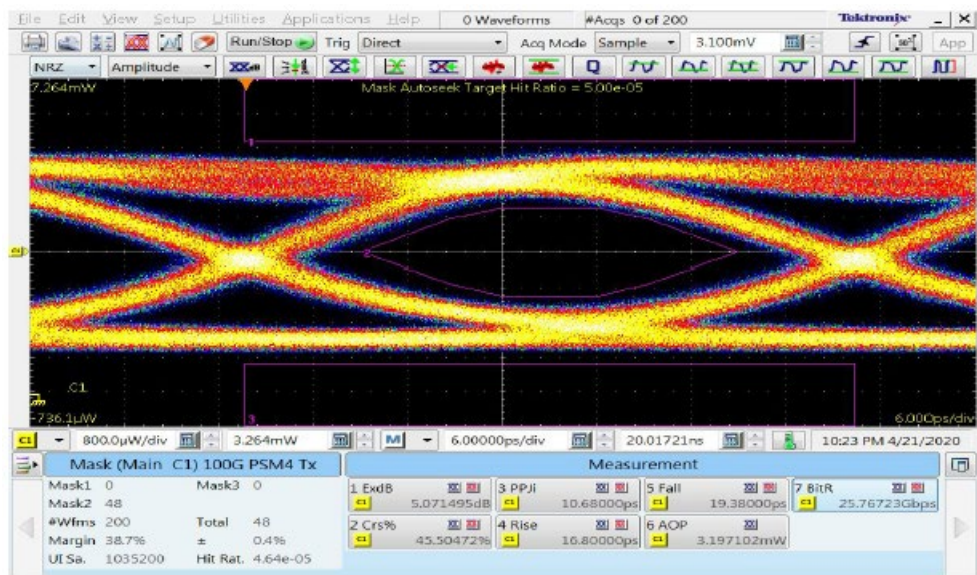
Bottom of Board



Mechanical Specifications



Typical Eye Diagram



## **OptioConnect**

### **Innovation for the Future of High-Speed Networking**

#### **Who We Are**

OptioConnect is reshaping the landscape of communication and high-speed networking through intelligent technology. With a core focus on cutting edge technology, we deliver smarter fiber optic solutions for enterprise networks, data centers, and next-gen telecom infrastructures.

#### **What We Do**

At OptioConnect, we fuse advanced engineering with intelligent automation to drive the future of networking. Our AI-integrated solutions are designed to optimize performance and streamline operations with:

- Superior Performance
- Network and traffic optimization
- Intelligent energy management
- Seamless OEM compatibility
- Scalable cost-efficiency

#### **Smarter Networks by Design**

Innovation isn't just a goal—it's our process. We embed AI and machine learning across our R&D and product lines, enabling adaptive performance, automated tuning, and faster deployment cycles. The result? Networks that don't just work—they learn, evolve, and outperform.

#### **Our Team**

Our engineers, data scientists, and network architects bring decades of experience and a future-focused mindset. We provide hands-on support with intelligent insights that turn complex challenges into simple solutions.

#### **Our Mission**

To deliver AI-enhanced connectivity that reduces cost, increases speed, and maximizes efficiency—empowering our partners to operate at the forefront of a rapidly evolving digital world.

#### **Let's Connect**

Discover how OptioConnect's intelligent infrastructure solutions can power your network's next leap forward.

[www.optioconnect.com](http://www.optioconnect.com) | [info@optioconnect.com](mailto:info@optioconnect.com)

