

SFP28-10/25G-SR-HW2-OPC

Huawei® Compatible TAA 25GBase-SR SFP28 Transceiver Dual Rate 10/25G (MMF, 850nm, 300m, LC, DOM)

Features

- SFF-8402 and SFF-8472 Compliance
- Duplex LC Connector
- Multi-mode Fiber
- Commercial Temperature 0 to 70 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free



Applications:

- 25GBase Ethernet

Product Description

This Huawei® compatible SFP28 dual-rate transceiver provides 25GBase-SR throughput up to 300m over multi-mode fiber (MMF) using a wavelength of 850nm via an LC connector. It is guaranteed to be 100% compatible with the equivalent Huawei® 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. This transceiver is Trade Agreements Act (TAA) compliant. 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 |
|----------------------------|-----------------|------|-------|------|------|
| Maximum Supply Voltage | V _{cc} | -0.5 | | 4.0 | V |
| Storage Temperature | T _S | -40 | | 85 | °C |
| Operating Case Temperature | T _c | 0 | 25 | 70 | °C |
| Relative Humidity | RH | 5 | | 85 | % |
| Data Rate | | 10.3 | 25.78 | | Gb/s |

Electrical Characteristics

| Parameter | | Symbol | Min. | Typ. | Max. | Unit | Notes |
|----------------------------------|----------------------|---------------------------------|-------|------|-----------------|-------|------------|
| Supply Voltage | | V _{cc} | 3.135 | 3.3 | 3.465 | V | |
| Module Supply Current | | I _{cc} | | | 290 | mA | |
| Power Dissipation | | P _D | | | 1000 | mW | |
| Transmitter | | | | | | | |
| Input Differential Impedance | | Z _{IN} | | 100 | | Ω | |
| Differential Data Input Swing | | V _{in,p-p} | 180 | | 700 | mVp-p | |
| TX Fault | Transmitter Fault | VOH | 2.0 | | V _{cc} | V | TX_FAULT |
| | Normal Operation | VOL | 0 | | 0.8 | V | |
| TX Disable | Transmitter Disable | VIH | 2.0 | | V _{cc} | V | TX_DISABLE |
| | Transmitter Enable | VIL | 0 | | 0.8 | V | |
| Receiver | | | | | | | |
| Output Differential Impedance | | Z _o | | 100 | | Ω | |
| Differential Data Output Swing | | V _{out,p-p} | 300 | | 850 | mVp-p | 1 |
| Data Output Rise Time, Fall Time | | t _r , t _f | | 30 | | ps | 2 |
| RX_LOS | Loss of Signal (LOS) | VOH | 2.0 | | V _{cc} | V | RX_LOS |
| | Normal Operation | VOL | 0 | | 0.8 | V | |

Notes:

1. Internally AC coupled, but requires an external 100Ω differential load termination.

2. 20-80%
3. LOS is an open collector output. Should be pulled up with 4.7K Ω on the host board.

Optical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|---|-----------------|------|------|-------|------|-------|
| Transmitter | | | | | | |
| Launch Optical Power | Po | -4.0 | | +2.4 | dBm | 1 |
| Tx Power (OMA) | Poma | -4 | | | dBm | 1 |
| Extinction Ratio | ER | 2 | | | dB | |
| Center Wavelength Range | λ_c | 840 | 850 | 860 | nm | |
| Transmitter Dispersion Penalty @25.78Gb/s | TWDP | | | 4.3 | dB | |
| Spectral Width (RMS) @25.78Gb/s | $\Delta\lambda$ | | | 0.6 | nm | |
| Optical Return Loss Tolerance | ORLT | | | 12 | dB | |
| Pout @TX-Disable Asserted | Poff | | | -30 | dBm | 1 |
| Receiver | | | | | | |
| Center Wavelength | λ_c | 840 | | 860 | nm | |
| Receiver Sensitivity (Pavg) | S | | | -10.3 | dBm | 2 |
| Receiver Sensitivity (Pavg) | S | | | -11.0 | dBm | 3 |
| Receiver Overload (Pavg) | POL | 2.5 | | | dBm | |
| Optical Return Loss | ORL | 12 | | | dB | |
| LOS De-Assert | LOSD | | | -11 | dBm | |
| LOS Assert | LOSA | -30 | | | dBm | |
| LOS Hysteresis | | 0.5 | | | dB | |

Notes:

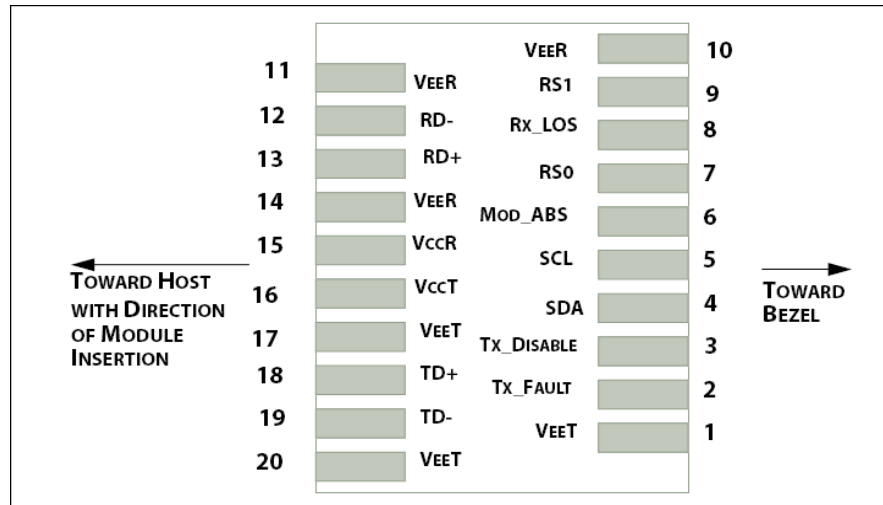
1. 50/125 μ m fiber with NA = 0.2.
2. Measured with PRBS 2³¹-1 at 5e-5 BER @25.78Gb/s.
3. Measured with PRBS 2³¹-1 at 5e-5 BER @10.3Gb/s.

Pin Descriptions

| Pin | Symbol | Name/Descriptions | Ref. |
|-----|------------|---|------|
| 1 | VeeT | Transmitter Ground. | 1 |
| 2 | TX_Fault | Transmitter Fault (LVTTTL-O) – High indicated a fault condition. | 2 |
| 3 | TX_Disable | Transmitter Disable (LVTTTL-I) – High or open disables the transmitter. | 3 |
| 4 | SDA | Two wire serial interface Data Line (LVCMOS-I/O)(MOD-DEF2) | 4 |
| 5 | SCL | Two wire serial interface Clock Line (LVCMOS-I/O)(MOD-DEF1) | 4 |
| 6 | MOD_ABS | Module Absent (Output), connected to VeeT or VeeR in the module. | 5 |
| 7 | RS0 | Rate Select 0 - Not used, Presents high input impedance. | 6 |
| 8 | RX_LOS | Receiver Loss of Signal (LVTTTL-O) | 2 |
| 9 | RS1 | Rate Select 1 - Not used, Presents high input impedance. | 6 |
| 10 | VeeR | Receiver Ground. | 1 |
| 11 | VeeR | Receiver Ground. | 1 |
| 12 | RD- | Inverse Received Data out (CML-O). AC Coupled. | |
| 13 | RD+ | Received Data out (CML-O). AC Coupled. | |
| 14 | VeeR | Receiver Ground. | |
| 15 | VccR | Receiver Power +3.3V | |
| 16 | VccT | Transmitter Power +3.3V | |
| 17 | VeeT | Transmitter Ground. | 1 |
| 18 | TD+ | Transmitter Data In (CML-I). AC Coupled | |
| 19 | TD- | Inverse Transmitter Data In (CML-I). AC Coupled. | |
| 20 | VeeT | Transmitter Ground. | 1 |

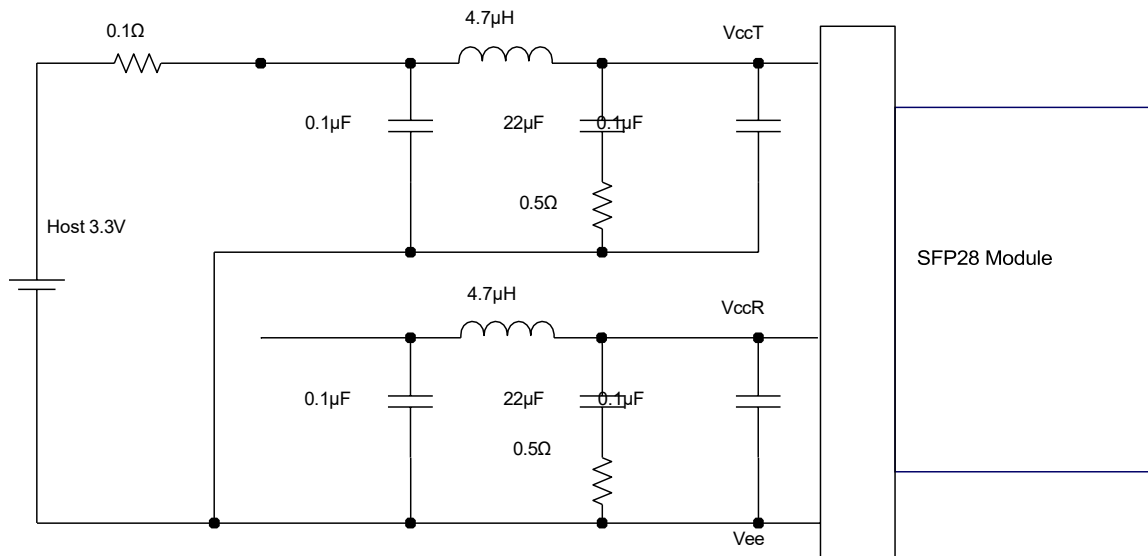
Notes:

1. The module signal grounds are isolated from the module case.
2. This is an open collector/drain output that on the host board requires a 4.7K Ω to 10K Ω pull-up resistor to VccHost.
3. This input is internally biased high with a 4.7K Ω to 10K Ω pull-up resistor to VccT.
4. Two-Wire Serial interface clock and data lines require an external pull-up resistor dependent on the capacitance load.
5. This is a ground return that on the host board requires a 4.7K Ω to 10K Ω pull-up resistor to VccHost.
6. Rate select can also be set through the 2-wire bus in accordance with SFF-8472 v. 10.2, Rx Rate Select is set at Bit 3, Byte 110, Address A2h. Tx Rate Select is set at Bit 3, Byte 118, Address A2h.
Note: writing a “1” selects maximum bandwidth operation. Rate select is the logic OR of the input state of Rate Select Pin and 2-wire bus.



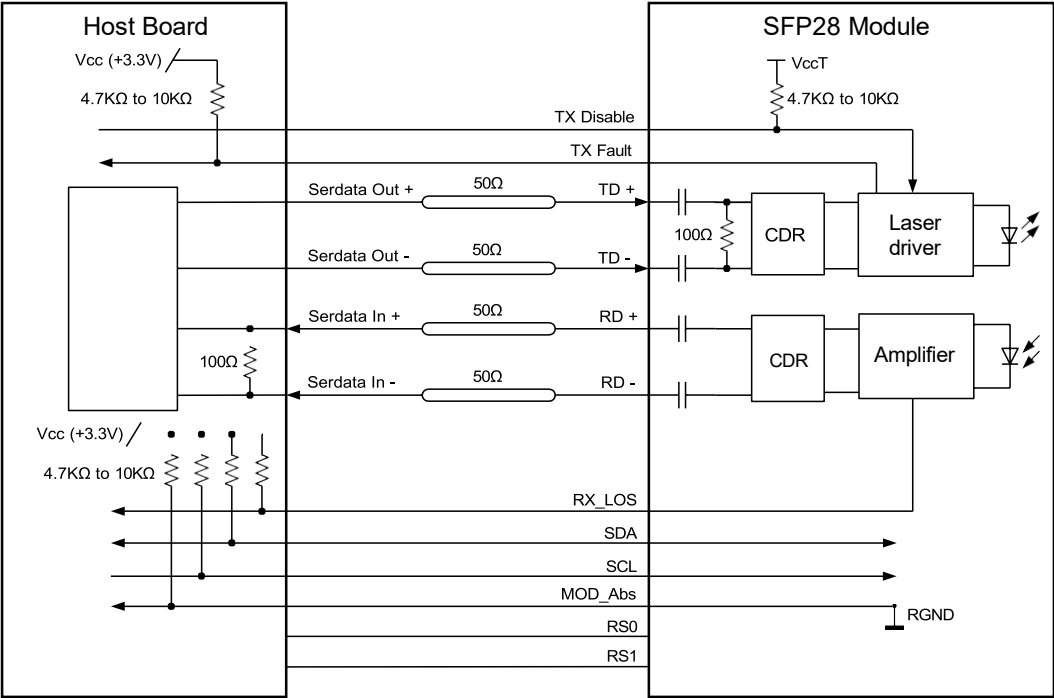
Host PCB SFP+ pad assignment

Recommended Host Board

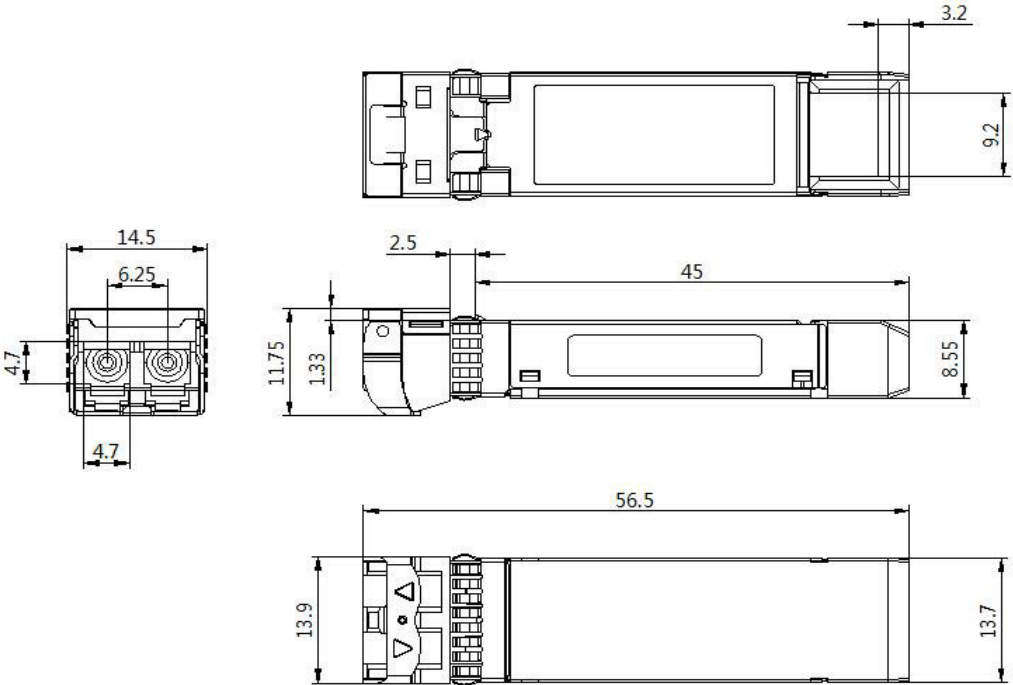


Recommended Host Board Power Supply Filter Network

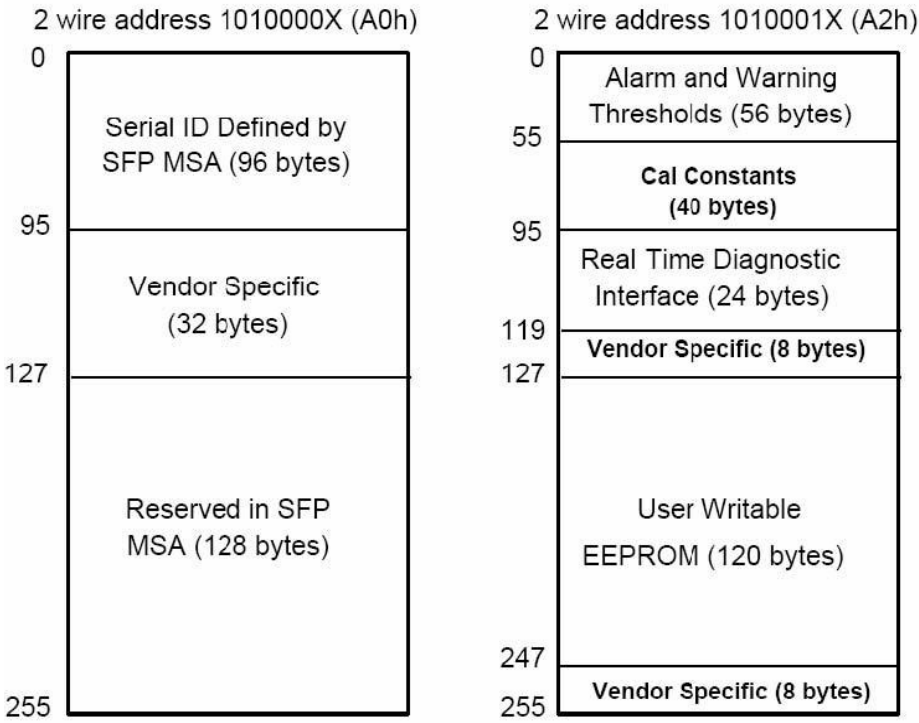
Recommended Application Interface Block Diagram



Mechanical Specifications



EEPROM Information



Digital Diagnostic Memory Map Specific Data Field Descriptions

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.

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