



SFP-25G-SR-E-OPC

Arista Networks® SFP-25G-SR-E Compatible TAA 25GBase-SR SFP28 Transceiver (MMF, 850nm, 40m, LC, DOM, No FEC)

Features

- Up to 25.78Gbps Bi-Directional Data Links
- Built-In CDR with 25.78Gbps Operation
- Electrical Interface Specifications Per SFF-8431
- SFP28 MSA Package with Duplex LC Connector
- Uncooled 850nm VCSEL Laser
- 3.3V Power Supply Lines
- Class 1 Laser Safety Certified
- Metal Enclosure for Lower EMI
- Up to 40M on OM4 MMF with No FEC
- Operating Temperature: 0 to 70 Celsius
- RoHS Compliant and Lead-Free



Applications:

- 25GBase Ethernet
- Access and Enterprise

Product Description

This Arista Networks® SFP-25G-SR-E compatible SFP28 transceiver provides 25GBase-SR throughput up to 40m over multi-mode fiber (MMF) using a wavelength of 850nm via an LC connector. It is capable of withstanding rugged environments and can operate at temperatures between 0 and 70C. Our transceiver is built to meet or exceed OEM specifications and is guaranteed to be 100% compatible with Arista Networks®. It has been programmed, uniquely serialized, and tested for data-traffic and application to ensure that it will initialize and perform identically. All of our transceivers comply with Multi-Source Agreement (MSA) standards to provide seamless network integration. Additional product features include Digital Optical Monitoring (DOM) support which allows 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.

Absolute Maximum Ratings

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|----------------------------|------------------|------|-------|------|------|-------|
| Maximum Supply Voltage | V _{CC} | -0.5 | | 4 | V | 1 |
| Storage Temperature | T _{stg} | -40 | | 85 | °C | |
| Operating Case Temperature | T _c | 0 | 25 | 70 | °C | |
| Relative Humidity | RH | 5 | | 85 | % | |
| Data Rate | DR | | 25.78 | | Gbps | |

Electrical Characteristics

| Parameter | | Symbol | Min. | Typ. | Max. | Unit | Notes |
|--------------------------------|----------------------|---------------------|-------|------|----------------------|-------|-------|
| Module Supply Voltage | | V _{CC} | 3.135 | 3.3 | 3.465 | V | |
| Module Supply Current | | I _{CC} | | | 290 | mA | |
| Power Dissipation | | P _{DISS} | | | 1000 | W | |
| Transmitter | | | | | | | |
| Input Differential Impedance | | Z _{IN} | | 100 | | Ω | |
| Differential Data Input Swing | | V _{IN,pp} | 180 | | 700 | mVp-p | |
| Tx_Fault | Transmitter Fault | VOH | 2 | | V _{CC} | V | |
| | Normal Operation | VOL | 0 | | 0.8 | V | |
| Tx_Disable | Transmitter Disable | VIH | 2 | | V _{CC} | V | |
| | Transmitter Enable | VIL | 0 | | 0.8 | V | |
| Receiver | | | | | | | |
| Output Differential Impedance | | Z _{OUT} | | 100 | | Ω | |
| Differential Data Output Swing | | V _{OUT,pp} | 300 | | 850 | mVp-p | 1 |
| Data Output Rise/Fall Time | | Tr/Tf | | 30 | | ps | 2 |
| Rx_LOS | Loss of Signal (LOS) | VOH | 2.0 | | Host_V _{CC} | V | 3 |
| | Normal Operation | VOL | 0 | | 0.8 | V | 3 |

Notes:

1. Internally AC coupled but requires an external 100Ω differential load termination.
2. 20-80%.
3. LOS is an open collector output and should be pulled up with 4.7kΩ on the host board.

Optical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|--|-----------------|------|------|------|------|-------|
| Transmitter | | | | | | |
| Launch Optical Power | Po | -2.5 | | 2.4 | dBm | 1 |
| Extinction Ratio | ER | 2 | | | dB | |
| Center Wavelength Range | λ_C | 840 | 850 | 860 | nm | |
| Transmitter and Dispersion Eye Closure | TDEC | | | 4.3 | dB | |
| Spectral Width | $\Delta\lambda$ | | | 0.6 | nm | |
| Optical Return Loss Tolerance | ORLT | | | 12 | dB | |
| POUT @Tx_Disable Asserted | Poff | | | -20 | dBm | 1 |
| Receiver | | | | | | |
| Center Wavelength | λ_C | 840 | | 860 | nm | |
| Receiver Sensitivity (Pavg) | RxSens | | | -7 | dBm | 2 |
| Receiver Sensitivity (OMA) | | | | -7 | dBm | 2 |
| Receiver Overload (Pavg) | POL | 2.4 | | | 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 with 1E⁻¹² BER @25.78Gbps.

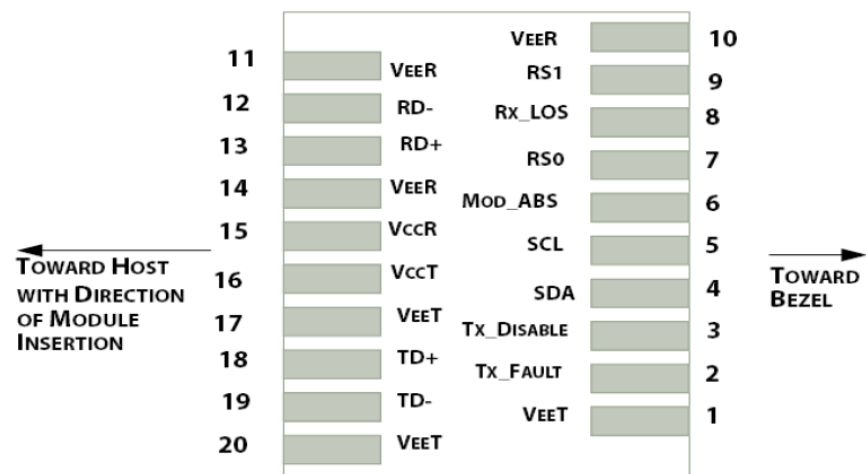
Pin Descriptions

| Pin | Symbol | Name/Description | Notes |
|-----|------------|---|-------|
| 1 | VeeT | Transmitter Ground. | 1 |
| 2 | Tx_Fault | Transmitter Fault. LVTTTL-O. "High" indicates a fault condition. | 2 |
| 3 | Tx_Disable | Transmitter Disable. LVTTTL-I. "High" or "open" disables the transmitter. | 3 |
| 4 | SDA | 2-Wire Serial Interface Data. LVCMOS-I/O. MOD-DEF2. | 4 |
| 5 | SCL | 2-Wire Serial Interface Clock. LVCMOS-I/O. MOD-DEF1. | 4 |
| 6 | MOD_ABS | Module Absent (Output). Connected to the VeeT or VeeR in the module. | 5 |
| 7 | RS0 | Rate Select 0. Not Used. Presents high input impedance. | |
| 8 | Rx_LOS | Receiver Loss of Signal. LVTTTL-O. | 2 |
| 9 | RS1 | Rate Select 1. Not Used. Presents high input impedance. | |
| 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 | +3.3V Receiver Power. | |
| 16 | VccT | +3.3V Transmitter Power. | |
| 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 |

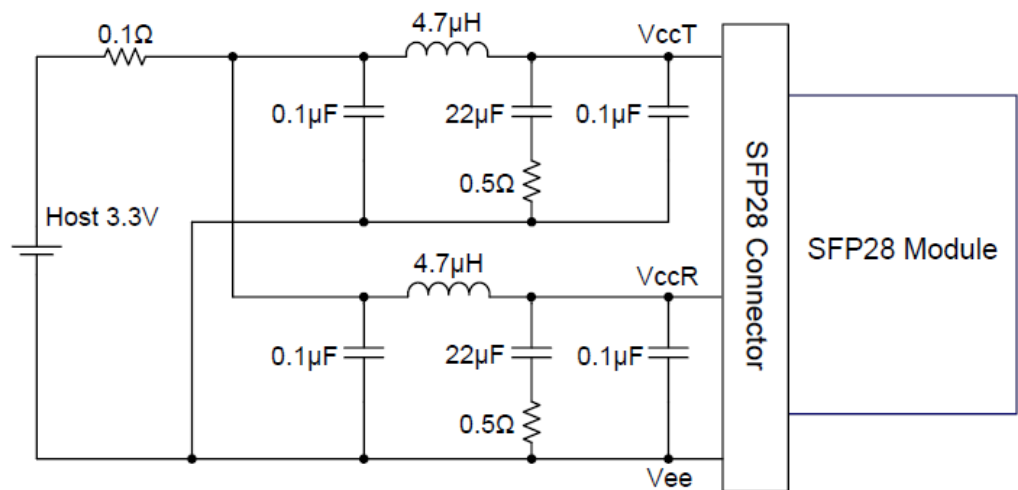
Notes:

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 the Host_Vcc.
3. This input is internally biased "high" with a 4.7k Ω to 10k Ω pull-up resistor to the VccT.
4. 2-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 the Host_Vcc.

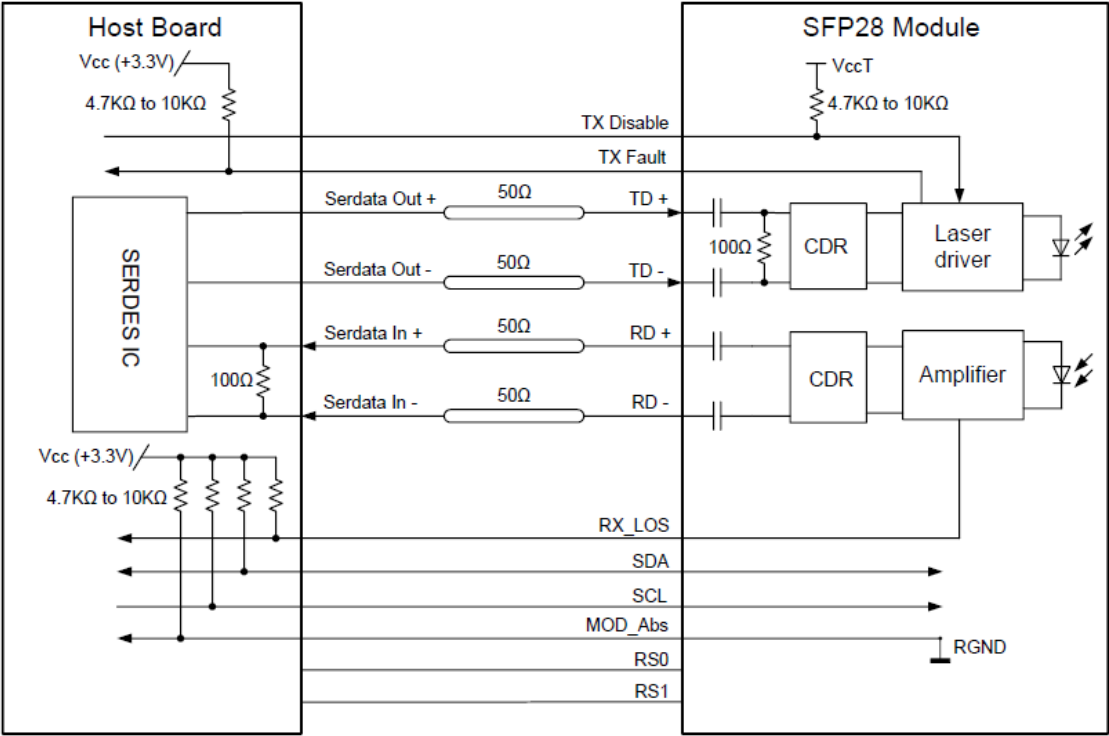
Electrical Pin-Out Details



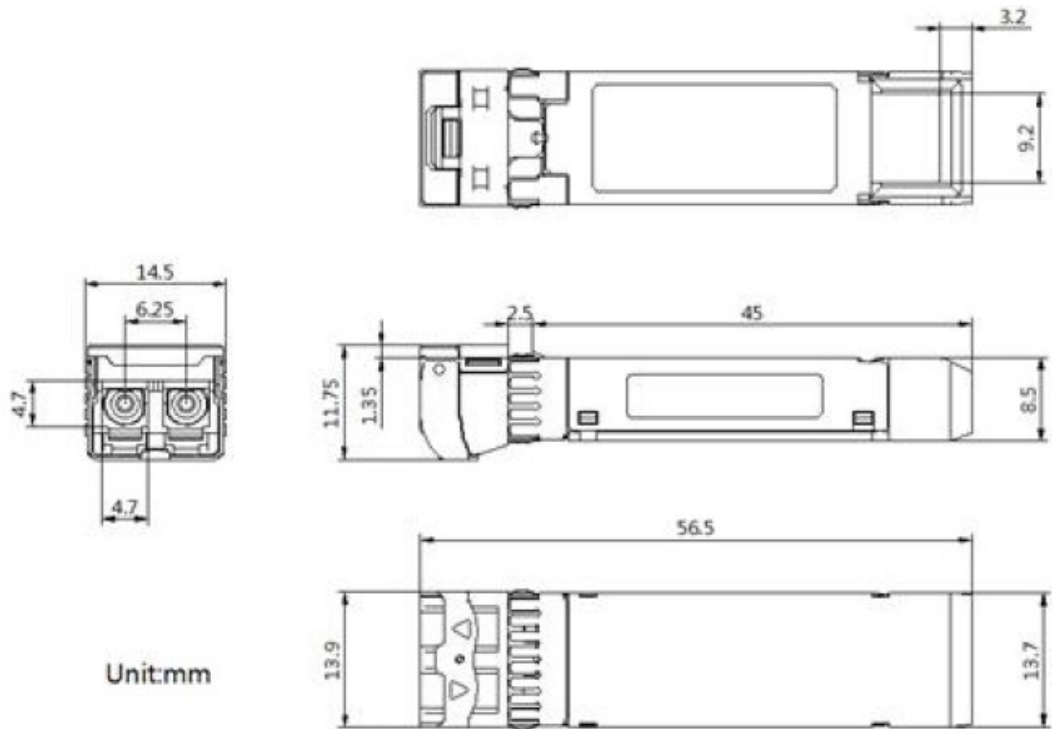
Host Board Power Supply Filter Network



Block Diagram



Mechanical Specifications



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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