

DWDM-SFP25G-55.75-10-I-PRO

Cisco® DWDM-SFP25G-55.75-10-I Compatible TAA Compliant 25GBase-DWDM 100GHz SFP28 Transceiver (SMF, 1555.75nm, 10km, DOM, -40 to 85C, LC)

Features

- SFF-8432 and SFF-8472 Compliance
- Duplex LC Connector
- Industrial Temperature -40 to 85 Celsius
- Single-mode Fiber
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead Free



Applications:

- 25GBase-LR Ethernet
- Access, Metro and Enterprise

Product Description

This Cisco® DWDM-SFP25G-55.75-10-I compatible SFP28 transceiver provides 25GBase-DWDM throughput up to 10km over single-mode fiber (SMF) using a wavelength of 1555.75nm 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. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

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

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S. – made or designated country end products.



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

Wavelength Guide (100GHz ITU Channels)

| Channel | Wavelength(nm) | Frequency(THZ) | Channel | Wavelength(nm) | Frequency(THZ) |
|---------|----------------|----------------|---------|----------------|----------------|
| D21 | 1560.61 | 192.1 | D41 | 1544.53 | 194.1 |
| D22 | 1559.79 | 192.2 | D42 | 1543.73 | 194.2 |
| D23 | 1558.98 | 192.3 | D43 | 1542.94 | 194.3 |
| D24 | 1558.17 | 192.4 | D44 | 1542.14 | 194.4 |
| D25 | 1557.36 | 192.5 | D45 | 1541.35 | 194.5 |
| D26 | 1556.55 | 192.6 | D46 | 1540.56 | 194.6 |
| D27 | 1555.75 | 192.7 | D47 | 1539.77 | 194.7 |
| D28 | 1554.94 | 192.8 | D48 | 1538.98 | 194.8 |
| D29 | 1554.13 | 192.9 | D49 | 1538.19 | 194.9 |
| D30 | 1553.33 | 193.0 | D50 | 1537.4 | 195.0 |
| D31 | 1552.52 | 193.1 | D51 | 1536.61 | 195.1 |
| D32 | 1551.72 | 193.2 | D52 | 1535.82 | 195.2 |
| D33 | 1550.92 | 193.3 | D53 | 1535.04 | 195.3 |
| D34 | 1550.12 | 193.4 | D54 | 1534.25 | 195.4 |
| D35 | 1549.32 | 193.5 | D55 | 1533.47 | 195.5 |
| D36 | 1548.51 | 193.6 | D56 | 1532.68 | 195.6 |
| D37 | 1547.72 | 193.7 | D57 | 1531.9 | 195.7 |
| D38 | 1546.92 | 193.8 | D58 | 1531.12 | 195.8 |
| D39 | 1546.12 | 193.9 | D59 | 1530.33 | 195.9 |
| D40 | 1545.32 | 194.0 | D60 | 1529.55 | 196.0 |

Absolute Maximum Ratings

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|----------------------------|--------|-------|------|-------|------|-------|
| Maximum Supply Voltage | Vcc | -0.3 | | 4.0 | V | |
| Storage Temperature | TS | -40 | | 85 | °C | |
| Operating Case Temperature | Tc | -40 | | 85 | °C | |
| Relative Humidity | RH | 0 | | 85 | % | |
| Data Rate | BR | 24.33 | | 25.78 | Gbps | |

Electrical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|------------------------------------|---------------------------|------|------|----------------------|-------|-------|
| Supply Voltage | V _{CC} | 3.13 | | 3.47 | | |
| Power Dissipation | PD | | | 2.0 | W | |
| Transmitter | | | | | | |
| Data Input Swing Differential | V _{IN} | 190 | | 1000 | mV | |
| Differential line input Impedance | R _{IN} | 80 | 100 | 120 | Ohm | |
| Transmitter Fault Output-High | V _{FaultH} | 2 | | V _{CC} +0.3 | V | |
| Transmitter Fault Output-Low | V _{FaultL} | VEE | | VEE +0.8 | V | |
| Transmitter Disable Voltage-High | V _{DisH} | 2 | | V _{CC} +0.3 | V | |
| Transmitter Disable Voltage- low | V _{DisL} | VEE | | VEE +0.8 | V | |
| Receiver | | | | | | |
| Differential line Output Impedance | R _{OUT} | 80 | 100 | 120 | Ohm | |
| Differential Data Output Voltage | V _{DR} | 350 | | 850 | mVp-p | |
| LOS Output Voltage-High | V _{LOSH} | 2 | | V _{CC} +0.3 | V | |
| LOS Output Voltage-Low | V _{LOSL} | VEE | | VEE +0.8 | V | |
| Others | | | | | | |
| Cold-Start time | T _{start-cooled} | | | 35 | s | |

Optical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|--|-----------------------|---------|------|---------|-------|-------|
| Transmitter | | | | | | |
| Wavelength | λ | 1529.55 | | 1560.61 | nm | |
| Center Wavelength Spacing | | 100 | | | GHz | |
| Average Launched Power | P _O | -1 | | 5 | dBm | |
| Extinction Ratio | ER | 6 | | | dB | |
| Average Launched Power (Laser Off) | P _{off} | | | -30 | dBm | |
| Side-Mode Suppression Ratio | SMSR | 30 | | | dB | |
| Relative Intensity Noise | RIN _{20 OMA} | | | -130 | dB/Hz | |
| Receiver | | | | | | |
| Center Wavelength | λ_{IN} | 1260 | | 1620 | nm | |
| Receiver Overload | P _{overload} | 2 | | | dBm | |
| Receiver Sensitivity @5E-5 BOL | P _{sen BOL} | | | -15 | dBm | |
| Receiver Sensitivity @5E-5 EOL | P _{sen EOL} | | | -14.5 | dBm | 1 |
| Receiver Sensitivity @5E-5 EOL after 10km fiber transmission | P _{sen1 EOL} | | | -9.0 | dBm | 1 |
| Los Of Signal Assert | PA | -30 | | | dBm | |
| Los Of Signal De-assert | PD | | | -16 | dBm | |
| LOS -Hysteresis | P _{Hys} | 0.5 | | 6 | dB | |

Notes:

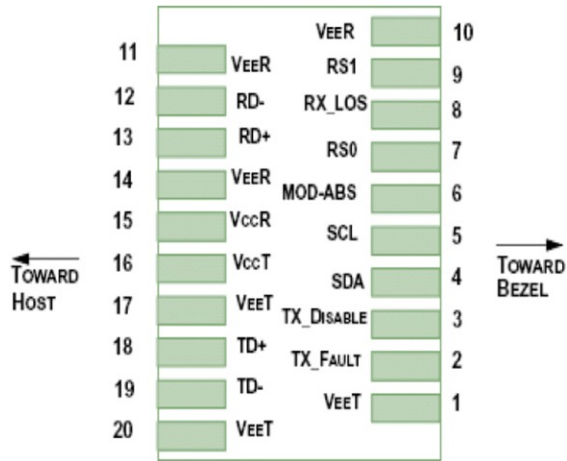
1. Measured at 5E-5, ER>4dB, PRBS 2³¹ -1

Pin Descriptions

| Pin | Symbol | Name/Descriptions | Ref. |
|-----|---------|--|------|
| 1 | VEET | Transmitter Ground | 1 |
| 2 | TFAULT | Transmitter Fault | 2 |
| 3 | TDIS | Transmitter Disable. Laser output disabled on high or open. | 3 |
| 4 | SDA | 2-wire Serial Interface Data Line | 2 |
| 5 | SCL | 2-wire Serial Interface Clock Line | 2 |
| 6 | MOD_ABS | Module Absent. Grounded within the module | 2 |
| 7 | NA | Not Used | |
| 8 | RX_LOS | Loss of Signal indication. Logic 0 indicates normal operation. | 4 |
| 9 | NA | No Used | |
| 10 | VEER | Receiver Ground | 1 |
| 11 | VEER | Receiver Ground | 1 |
| 12 | RD- | Receiver Inverted DATA out. AC Coupled. | |
| 13 | RD+ | Receiver Non-inverted DATA out. AC Coupled. | |
| 14 | VEER | Receiver Ground | 1 |
| 15 | VCCR | Receiver Power Supply | 5 |
| 16 | VCCT | Transmitter Power Supply | 5 |
| 17 | VEET | Transmitter Ground | 1 |
| 18 | TD+ | Transmitter Non-Inverted DATA in. AC Coupled. | |
| 19 | TD- | Transmitter Inverted DATA in. AC Coupled. | |
| 20 | VEET | Transmitter Ground | 1 |

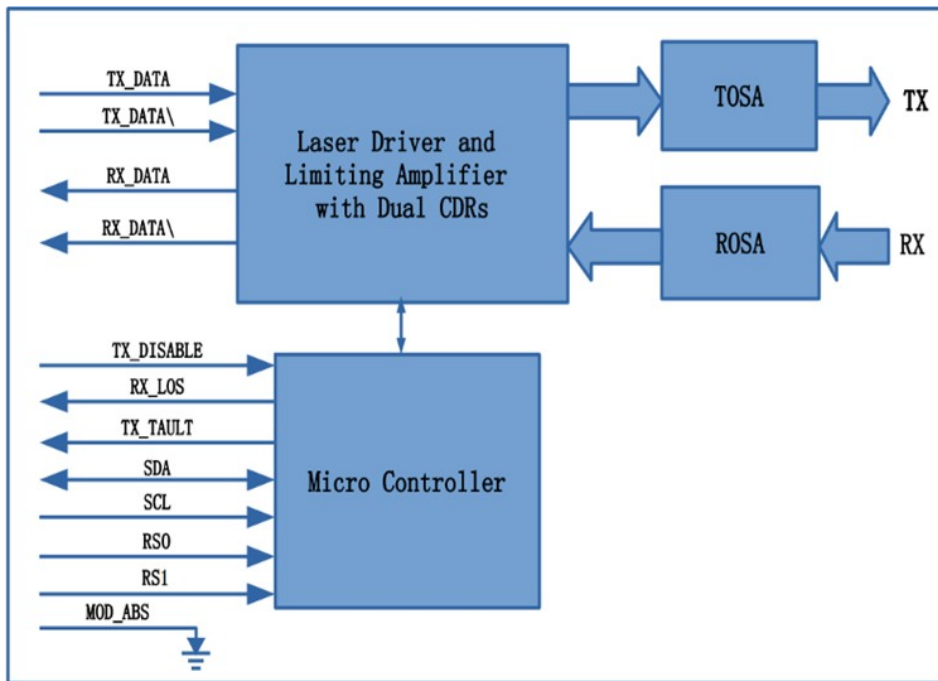
Notes:

1. Circuit ground is internally isolated from chassis ground.
2. T_{FAULT} is an open collector/drain output, which should be pulled up with a 4.7k – 10k Ohms resistor on the host board if intended for use. Pull up voltage should be between 2.0V to V_{cc} + 0.3V. A high output indicates a transmitter fault caused by either the TX bias current or the TX output power exceeding the preset alarm thresholds. A low output indicates normal operation. In the low state, the output is pulled to <0.8V.
3. Laser output disabled on T_{DIS} >2.0V or open, enabled on T_{DIS} <0.8V.
4. LOS is open collector output. Should be pulled up with 4.7k – 10kΩ on host board to a voltage between 2.0V and 3.6V. Logic 0 indicates normal operation; logic 1 indicates loss of signal.
5. Internally connected

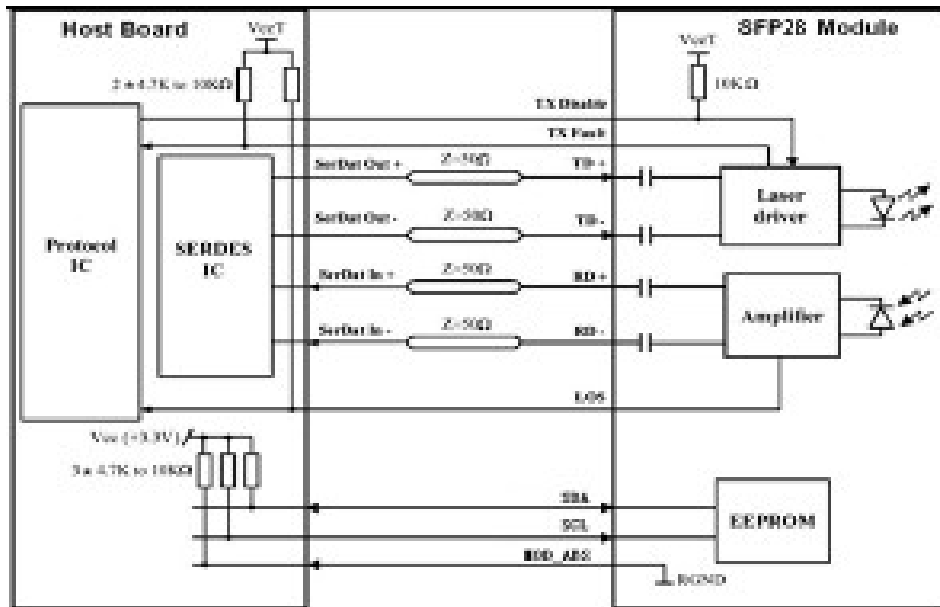


Pin-out of connector Block on Host board

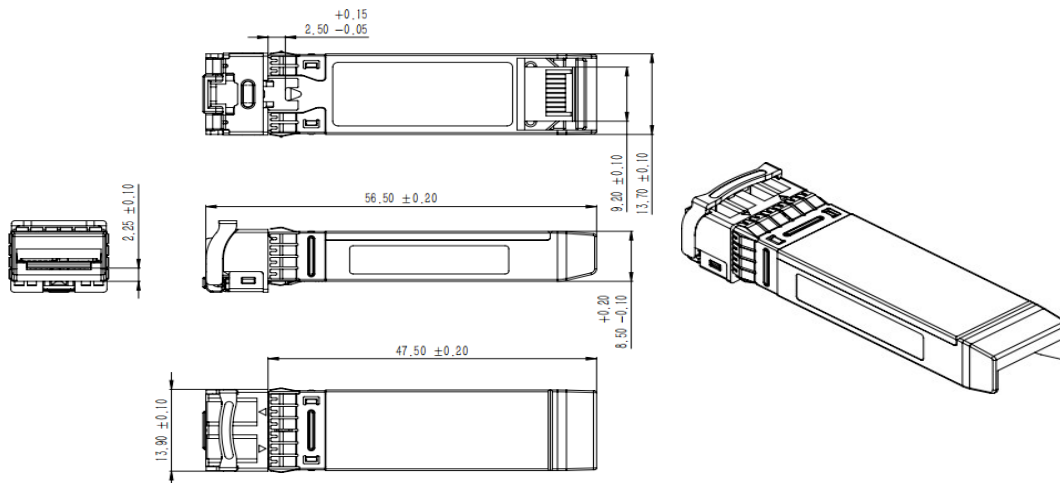
Block Diagram of Transceiver



Recommended Interface Circuit



Mechanical Specifications



About Us:

Proline Options is one of North America's leading providers of transceivers and high speed cabling. With a reputation for quality, tested products that cover the connectivity spectrum, Proline Options has a solution for you regardless of the specification.

At Proline Options, every product is tested in its intended application - never batch or spec tested only. We run bandwidth, distance and IOS network tests. We have documented an impressive 0.03% failure rate over the last 10 years. To continue this rate of success we invest millions annually in our own on-site testing lab.



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