**GLC-GE-100FX-C**

Cisco® GLC-GE-100FX Compatible TAA Compliant 100Base-FX SFP Transceiver (MMF, 1310nm, 2km, LC)

**Features:**

- INF-8074 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:**

- 100Base Ethernet
- Access and Enterprise

**Product Description**

This Cisco® GLC-GE-100FX compatible SFP transceiver provides 100Base-FX throughput up to 2km over multi-mode fiber (MMF) using a wavelength of 1310nm 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. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

ProLabs' 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.")

TAA COMPLIANT

**Rev. 012026**

## Absolute Maximum Ratings

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| **Maximum Supply Voltage** | Vcc | -0.5 | | 3.6 | V |
| **Storage Temperature** | Tstg | -40 | | 85 | °C |
| **Operating Case Temperature** | Tc | 0 | | 70 | °C |
| **Operating Humidity** | RH | | | 95 | % |
| **Receiver Power** | $R_{MAX}$ | | | -12 | dBm |
| **Data Rate** | | | 100/155 | | Mbps |
| **50µm Core Diameter MMF** | L | | 2 | | km |

## Electrical Characteristics

| Parameter | | Symbol | Min. | Typ. | Max. | Unit | Notes |
|---|---|---|---|---|---|---|---|
| **Power Supply Voltage** | | Vcc | 3.15 | 3.30 | 3.45 | V | |
| **Power Supply Current** | | Icc | | | 300 | mA | |
| **Transmitter** | | | | | | | |
| **LVPECL Differential Inputs** | | VIN | 400 | | 2000 | mVp-p | 1 |
| **Input Differential Impedance** | | ZIN | 85 | 100 | 120 | Ω | 2 |
| **Tx_Disable** | **Disable** | | 2 | | Vcc | V | |
| | **Enable** | | 0 | | 0.8 | V | |
| **Tx_Fault** | **Fault** | | 2 | | Vcc+0.3 | V | |
| | **Normal** | | 0 | | 0.5 | V | |
| **Receiver** | | | | | | | |
| **LVPECL Differential Outputs** | | VOUT | 400 | | 2000 | mVp-p | 1 |
| **Output Differential Impedance** | | ZIN | 85 | 100 | 120 | Ω | |
| **Tx_Disable Assert Time** | | T_off | | | 10 | us | |
| **Rx_LOS** | **LOS** | | 2 | | Vcc+0.3 | V | |
| | **Normal** | | 0 | | 0.8 | V | |
| **MOD_DEF (0.2)** | | VOH | 2.5 | | | V | 3 |
| | | VOL | 0 | | 0.8 | V | 3 |

**Notes:**

1. AC Coupled.
2. RIN> 100kΩ @ DC.
3. With Serial ID.

**Optical Characteristics**

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|---|---|---|---|---|---|---|
| **Transmitter** | | | | | | |
| **Average Output Power** | POUT | -19 | | -14 | dBm | 1 |
| **Optical Extinction Ratio** | ER | 10 | | | dB | 2 |
| **Optical Wavelength** | Tλ | 1260 | 1310 | 1360 | nm | |
| **Spectral Width (RMS)** | Δλ | | | 4 | nm | |
| **Total Jitter** | TJ | | | 1 | ns | 2 |
| **Tx_Disable Asserted Time** | T_off | | | 10 | us | |
| **POUT @ Tx_Disable Asserted** | POUT | | | -45 | dBm | |
| **Rise/Fall Time (20-80%)** | Tr/Tf | | | 2 | ns | |
| **Output Optical Eye** | | IUT-T G.957 Compliant | | | | |
| **Receiver** | | | | | | |
| **Receiver Sensitivity** | $P_{min}$ | | | -31 | dBm | 3 |
| **Receiver Overload** | $P_{max}$ | -12 | | | dBm | |
| **Optical Center Wavelength** | λC | 1260 | | 1600 | nm | |
| **Return Loss** | | 14 | | | dB | |

**Notes:**

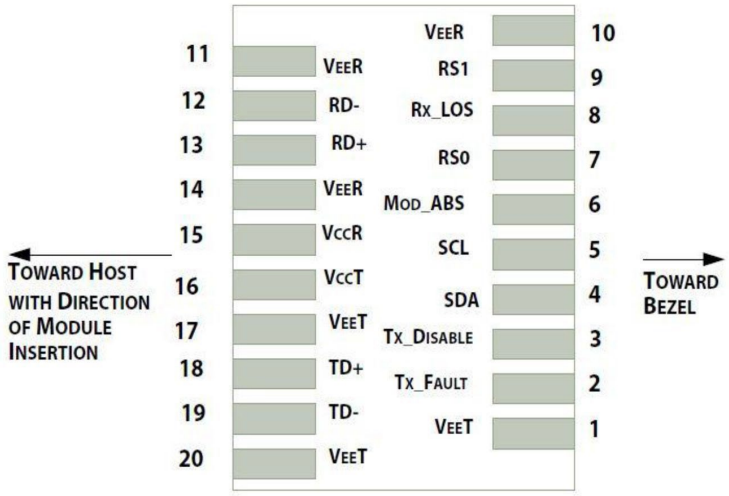
1. Output power is measured by coupling into a 50/125mm multi-mode fiber.
2. Filtered. Measured with a PRBS $2^{23}$-1 test pattern @155Mbps.
3. Minimum average optical power is measured at BER less than $1E^{-12}$ with $2^{23}$-1 PRBS and ER=9dB.

**Pin Descriptions**

| Pin | Symbol | Name/Description | Note |
|---|---|---|---|
| **1** | VeeT | Transmitter Ground. Common with Receiver Ground. | 1 |
| **2** | Tx_Fault | Transmitter Fault. LVTTL-O. | 2 |
| **3** | Tx_Disable | Transmitter Disable. Laser output disabled on "high" or "open." LVTT-I. | 3 |
| **4** | SDA | 2-Wire Serial Interface Data (Same as MOD-DEF2 in INF-8074i). LVTTL-I/O. | |
| **5** | SCL | 2-Wire Serial Interface Clock (Same as MOD-DEF2 in INF-8074i). LVTTL-I. | |
| **6** | MOD_ABS | Module Absent. Connect to VeeT or VeeR in the module. | 4 |
| **7** | RS0 | Rate Select 0. Not Used. | 5 |
| **8** | LOS | Loss of Signal indication. Logic 0 indicates normal operation. LVTTL-O. | 2 |
| **9** | RS1 | Rate Select 1. Not Used. | 5 |
| **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. CML-O. | |
| **13** | RD+ | Receiver Non-Inverted Data Out. AC Coupled. CML-O. | |
| **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. CML-I. | |
| **19** | TD- | Transmitter Inverted Data In. AC Coupled. CML-O. | |
| **20** | VeeT | Transmitter Ground. Common with Receiver Ground. | 1 |

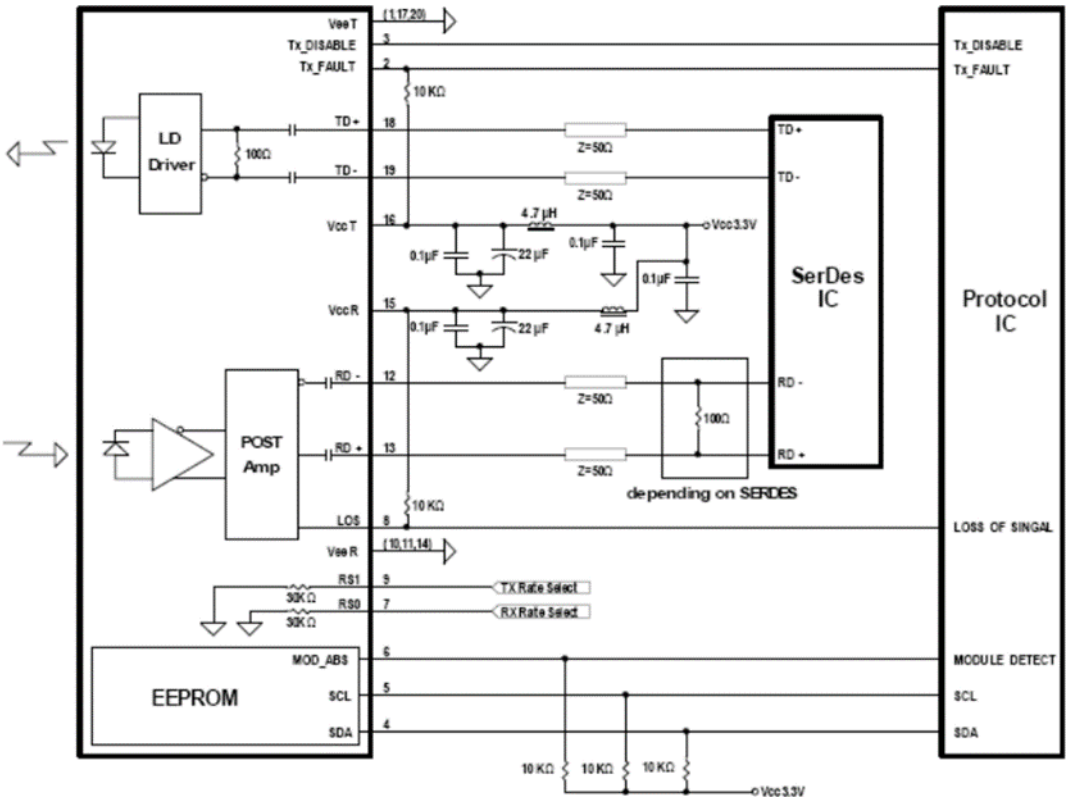
**Notes:**

1. The module signal ground contacts, VeeR and VeeT, should be isolated from the module case.
2. This contact is an open collector/drain output and should be pulled up to the Host_Vcc with a resistor in the range 4.7kΩ-10kΩ. Pull-ups can be connected to one or several power supplies; however, the host board design shall ensure that no module contact has a voltage exceeding the module VccT/R+0.5V.
3. Tx_Disable is an input contact with a 4.7kΩ-10kΩ pull-up resistor to the VccT inside the module.
4. MOD_ABS is connected to the VeeT or VeeR in the SFP+ module. The host may pull the contact up to the Host_Vcc with a resistor in the range from 4.7kΩ-10kΩ. MOD_ABS is asserted “high” when the SFP+ module is physically absent from a host slot.
5. Internally pulled down per SFF-8431.



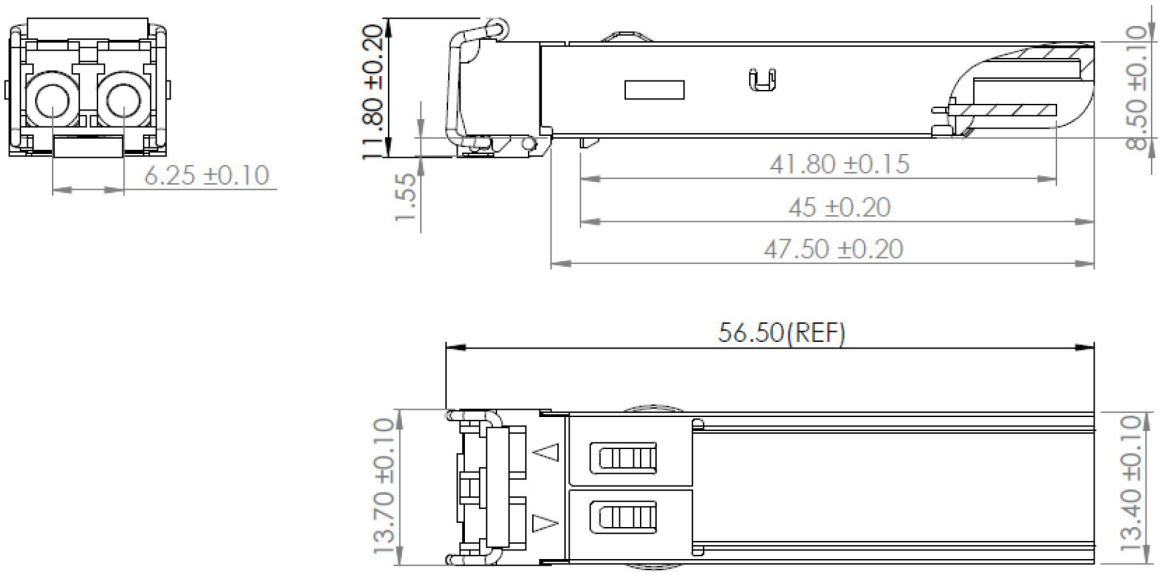

Pin-Out of Connector Block on the Host Board

**Recommended Circuit Schematic**



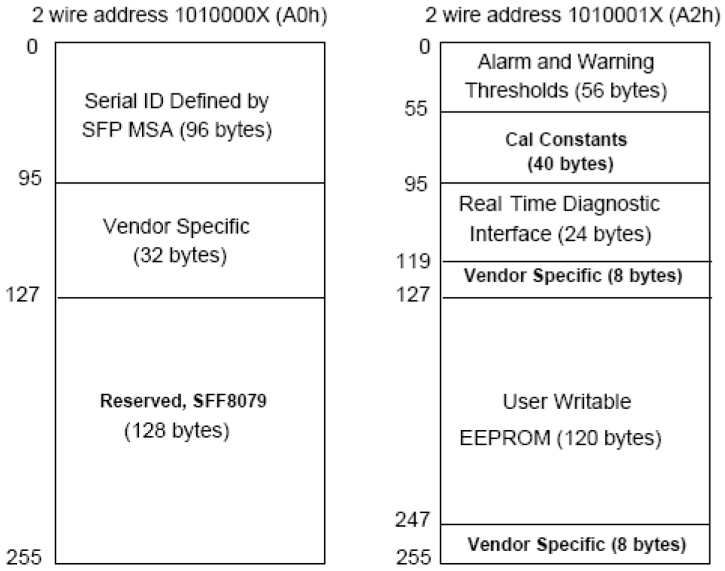
**Mechanical Specifications**

Small Form Factor Pluggable (SFP) transceivers are compatible with the dimensions defined by the SFP Multi- Sourcing Agreement (MSA).




**EEPROM Information**

EEPROM memory map-specific data field description is as below:



**About ProLabs**

Our extensive experience comes as standard. For over 20 years ProLabs has delivered optical connectivity solutions that give our customers freedom and choice through our ability to provide seamless interoperability. At the heart of our company is the ability to provide state-of-the-art optical transport and connectivity solutions that are compatible with more than 100 optical switching and transport platforms.

**A Complete Portfolio of Network Solutions**

ProLabs is focused on innovations in optical transport and connectivity. The combination of our knowledge of optics and networking equipment enables ProLabs to be your single source for optical transport and connectivity solutions from 100Mb to 1.6T while providing innovative solutions that increase network efficiency. We provide the optical connectivity expertise that is compatible with and enhances your switching and transport equipment.

**The Trusted Partner**

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure compatible products, and immediate answers to your questions. With Engineering and Manufacturing offices in the U.K. and U.S. augmented by field offices throughout the U.S., U.K. and Asia, ProLabs is able to be our customers best advocate 24 hours a day.

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