

#### SFP-533-OPC

Gigamon Systems® SFP-533 Compatible TAA 10GBase-LR SFP+ Transceiver (SMF, 1310nm, 10km, LC, DOM)

#### **Features**

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



## **Applications:**

- 10GBase-LR Ethernet
- 8x/10x Fibre Channel
- Access, Datacenter and Enterprise
- Mobile Fronthaul CPRI/OBSAI

### **Product Description**

This Gigamon Systems® SFP-533 compatible SFP+ transceiver provides 10GBase-LR throughput up to 10km over single-mode fiber (SMF) using a wavelength of 1310nm via an LC connector. It 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 Gigamon Systems®. 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. | Max. | Unit |
|----------------------------|------------------|------|------|------|
| Maximum Supply Voltage     | Vcc              | -0.5 | 4.0  | V    |
| Storage Temperature        | TS               | -40  | 85   | °C   |
| Operating Case Temperature | Тс               | 0    | 70   | °C   |
| Operating Humidity         | RH               | 5    | 85   | %    |
| Receiver Power             | R <sub>MAX</sub> |      | 0.5  | dBm  |
| Maximum Bitrate            | B <sub>max</sub> |      | 11.3 | Gbps |

# **Electrical Characteristics** (TOP=25°C, Vcc=3.3Volts)

| Parameter                      | Symbol            | Min. | Тур. | Max. | Unit | Notes |  |
|--------------------------------|-------------------|------|------|------|------|-------|--|
| Power Supply Voltage           | Vcc               | 3.15 | 3.30 | 3.43 | V    |       |  |
| Power Supply Current           | Icc               |      |      | 303  | mA   |       |  |
| Power Consumption              | P <sub>DISS</sub> |      |      | 1    | W    |       |  |
| Transmitter                    |                   |      |      |      |      |       |  |
| Differential data input swing  | Vin,pp            | 120  |      | 850  | mV   |       |  |
| Input differential impedance   | Zin               | 80   | 100  | 120  | Ω    |       |  |
| Receiver                       |                   |      |      |      |      |       |  |
| Differential data output swing | Vout, pp          | 300  |      | 850  | mV   |       |  |
| Output differential impedance  | Zin               | 80   | 100  | 120  | Ω    |       |  |

# **Optical Characteristics**

| Parameter                          | Symbol           | Min. | Тур. | Max.  | Unit | Notes |
|------------------------------------|------------------|------|------|-------|------|-------|
| Transmitter                        |                  |      |      |       |      |       |
| Optical Power (average)            | P <sub>AVE</sub> | -8.2 |      | 0.5   | dBm  | 1     |
| Optical Modulation amplitude (OMA) | POMA             | -5.2 |      |       | dBm  |       |
| Optical Extinction Ratio           | ER               | 3.5  |      |       | dB   |       |
| Optical Wavelength                 | Τλ               | 1260 | 1310 | 1355  | nm   |       |
| Insertion loss                     | IL               |      | 0.6  |       |      |       |
| Receiver                           |                  |      |      |       |      |       |
| Receiver Sensitivity (average)     | R <sub>AVE</sub> |      |      | -14.4 | dBm  | 3     |
| Receiver Sensitivity (OMA)         | R <sub>OMA</sub> |      |      | -12.6 |      | 2     |
| Receiver overload                  | P <sub>max</sub> | 0.5  |      |       | dBm  | 4     |
| Receiver wavelength                | Rλ               | 1260 |      | 1565  | nm   |       |

#### Notes:

- 1. Coupled into a Single-mode fibre
- 2. Per IEEE 802.3ae specification
- 3. Average power, back-to-back, @10.31Gbps, BER 1E<sup>-12</sup>, PRBS 2<sup>31</sup>-1.
- 4. Exceeding the Receiver overload can physically damage the module. Please use appropriate attenuation.

## **Pin Descriptions**

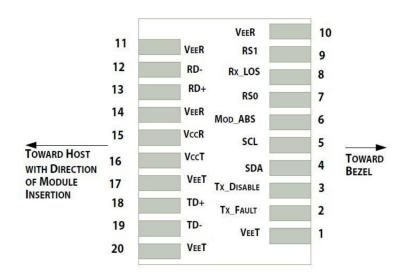
| Pin | Symbol     | Name/Descriptions   | Ref. |
|-----|------------|---|------|
| 1   | VeeT       | Transmitter Ground (Common with Receiver Ground).                             | 1    |
| 2   | TX Fault   | Transmitter Fault. LVTTL-O  | 2    |
| 3   | TX Disable | Transmitter Disable. Laser output disabled on high or open. LVTT-I.           | 3    |
| 4   | SDA        | 2-Wire Serial Interface Data Line (Same as MOD-DEF2 in INF-8074i). LVTTL-I/O. |      |
| 5   | SCL        | 2-Wire Serial Interface Data Line (Same as MOD-DEF2 in INF-8074i). LVTTL-I.   |      |
| 6   | MOD_ABS    | Module Absent, Connect to VeeT or VeeR in 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 Vcc\_Host with resister in the range  $4.7K\Omega$  to  $10K\Omega$ . Pull ups can be connected to one or several power supplies, however the host board design shall ensure that no module contract has voltage exceeding module VccT/R +0.5.V.
- 3. Tx Disable is an input contact with a  $4.7K\Omega$  to  $10K\Omega$  pull-up resistor to VccT inside module.
- 4. Mod\_ABS is connected to VeeT or VeeR in the SFP+ module. The host may pull the contract up to

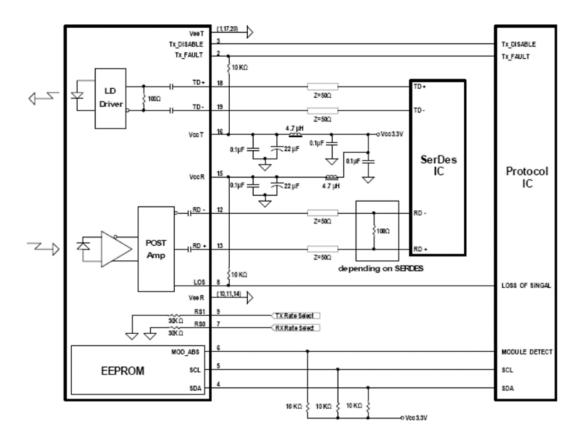
Vcc\_Host with a resistor in the range from  $4.7K\Omega$  to  $10K\Omega$ . Mod\_ABS is asserted "High" when the SFP+ module is physically absent from a host slot.

5. Internally pulled down per SFF-8431



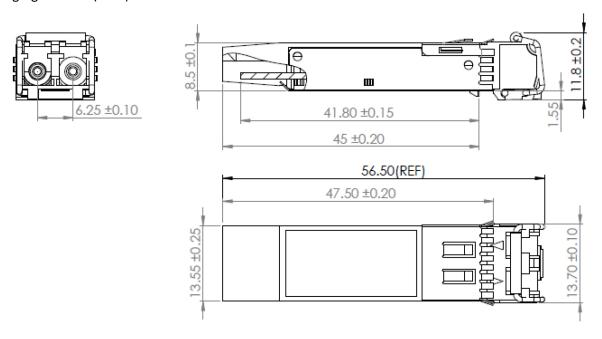
Pin-out of connector Block on Host board

# **Recommended Circuit Schematic**



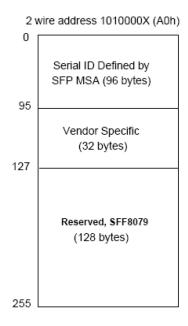
# **Mechanical Specifications**

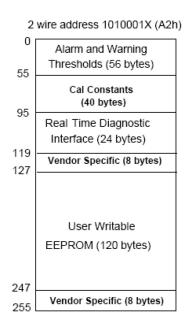
Small Form Factor Pluggable (SFP) transceivers are compatible with the dimensions defined by the SFP Multi-Sourcing Agreement (MSA).



### **EEPROM Information**

EEPROM memory map specific data field description is as below:





### **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 Al-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. <a href="https://www.optioconnect.com">www.optioconnect.com</a> | info@optioconnect.com







