

### SFP-534-OPC

Gigamon Systems® SFP-534 Compatible TAA 10GBase-ER SFP+ Transceiver (SMF, 1550nm, 40km, LC, DOM)

#### Features

- SFF-8432 and SFF-8472 Compliance
- Duplex LC Connector
- Temperature-stabilized EML 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-ER Ethernet
- 8x/10x Fibre Channel
- Access, Metro and Enterprise

#### Product Description

This Gigamon Systems® SFP-534 compatible SFP+ transceiver provides 10GBase-ER throughput up to 40km over single-mode fiber (SMF) using a wavelength of 1550nm 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     | V <sub>CC</sub>  | -0.5 | 4.0  | V    |
| Storage Temperature        | T <sub>S</sub>   | -40  | 85   | °C   |
| Operating Case Temperature | T <sub>C</sub>   | 0    | 70   | °C   |
| Operating Humidity         | RH               | 5    | 85   | %    |
| Receiver Power             | R <sub>MAX</sub> |      | -1   | dBm  |
| Maximum Bitrate            | B <sub>max</sub> |      | 11.3 | Gbps |

## Electrical Characteristics (TOP=25°C, V<sub>CC</sub>=3.3Volts)

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

## Optical Characteristics

| Parameter                          | Symbol           | Min. | Typ. | Max.  | Unit | Notes |
|------------------------------------|------------------|------|------|-------|------|-------|
| Transmitter                        |                  |      |      |       |      |       |
| Optical Power (average)            | P <sub>AVE</sub> | -4   |      | 4     | dBm  | 1     |
| Optical Modulation amplitude (OMA) | P <sub>OMA</sub> | -2.1 |      |       | dBm  |       |
| Transmitter and Dispersion Penalty | TDP              |      |      | 2     | dB   |       |
| Optical Extinction Ratio           | ER               | 8.2  |      |       | dB   |       |
| Optical Wavelength                 | Tλ               | 1530 | 1550 | 1565  | nm   |       |
| Insertion loss                     | IL               |      | 0.7  |       |      |       |
| Receiver                           |                  |      |      |       |      |       |
| Receiver Sensitivity (average)     | R <sub>AVE</sub> |      |      | -15.8 | dBm  | 3     |
| Receiver Sensitivity (OMA)         | R <sub>OMA</sub> |      |      | -14.1 |      | 2     |
| Receiver overload                  | P <sub>max</sub> | -1   |      |       | 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-12, PRBS 231-1. TDP not included.
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. LVTTTL-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). LVTTTL-I/O. |      |
| 5   | SCL        | 2-Wire Serial Interface Data Line (Same as MOD-DEF2 in INF-8074i). LVTTTL-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. LVTTTL-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 resistor 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 4.7KΩ to 10KΩ. Mod\_ABS is asserted “High” when the SFP+ module is physically absent from a host slot.

- 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.

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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
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