

Features

- Interconnects Aurora digital return transport devices and integrated Ethernet products
- 2.125 Gbps data throughput
- Pluggable SFP MSA footprint
- Duplex LC connector
- Very low jitter
- Metal enclosure for lower EMI
- 3.3 V power supply with low power dissipation
- Extended operating temperature range (–40°C to +85°C)

2.125 Gbps 1550nm Optical Transceiver Module



The TR4540-0000-PI 1550nm Optical Transceiver Module enable additional capabilities for high-speed communications required for Aurora Networks' digital networking products. These modules are functionally identical to the transceivers already built into many of Aurora Networks' products (e.g., DT4000 and DT5000 series optical node transceivers), but provide a flexible, plug-in means of enabling additional optional secondary ports in several of those products.

Conforming to the Small Form Factor Pluggable (SFP) Multisource Agreement, these state-of-the-art components are designed expressly for high-speed bi-directional communication applications that require rates of up to 2.125 Gbps, with the laser transmission portion of the device operating at a wavelength of 1550 nm.

The TR4540 module features a very low jitter contribution, resulting in extremely clean, high-quality eye patterns. And the module's metal enclosure not only makes it sturdier, but also improves its FCC test margins. This emission and ESD control is particularly important in applications with sensitive multipoint hubs and switches. The module operates at extended temperature range (–40° to +85°C) and dissipates less than 800 mW. Modules are supplied with a duplex LC connector.

The TR4540-0000-PI SFP can be ordered as an optional plug-in transceiver module to activate the primary or secondary ring capabilities of transceiver units in NC4000 series nodes and NC5000 series nodes. Modules may also used to populate ports of the DS4008 Optical Concentrator module for NC4000 series nodes as well as a variety of other products from Aurora Networks.

TR4540-0000-PI Product Specifications

Physical:

- Dimensions: 2.2" L x 0.4" H x 0.5" W (5.6 cm x 1.0 cm x 1.3 cm)
- Weight: 0.1 lbs (0.05 kg)

Environmental:

- Operating temperature range: -40° to $+85^{\circ}\text{C}$ (-40° to 185°F)
- Storage temperature range: -40° to $+85^{\circ}\text{C}$ (-40° to 185°F)
- Humidity: 0% to 85% non-condensing

Optical Interface:

- Optical connectors: Duplex LC

Power Requirements:

- Input voltage: $3.3 V_{\text{DC}}$ (180 mA max)
- Power consumption: 700 mW max

General:

- Supported link length: 40 km (on SMF-28 or equivalent)
- Data rate: 2.125 Gb/s
- BER: 10^{-10} max
- Hot plug-in/out

Optical Interface:

Transmitter:

- Transmitter type: 1550nm DFB
- Center wavelength: 1550 nm
- Optical output power: -3 dBm min, $+2$ dBm max

Receiver:

- Receiver type: PIN/TIA
- Receive wavelength: 1260 – 1660 nm
- Receiver sensitivity, max: -18 dBm
- Return loss, min: 27 dB
- Maximum input power: 3 dBm
- Receive LOS assert level: -20.5 dBm

Regulatory:

Class 1 devices per FDA 21 CFR 1040.10 and IEC-60825-1 laser safety regulations

Ordering Information

T R 4 5 4 0 - 0 0 0 0 - P I

1550nm Optical Transceiver Module



Corporate Headquarters

5400 Betsy Ross Drive
Santa Clara, CA 95054
Tel 408.235.7000
Fax 408.845.9045