

## Features

- 125 Mbps data throughput
- 1310 nm laser diode transmitter
- 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)

## 125 Mbps 1310nm Optical Transceiver Module



The TFA1310-TL29 Optical Transceiver Module is ideally suited for Fast Ethernet applications. Conforming to the Small Form Factor Pluggable (SFP) Multisource Agreement, this state-of-the-art plug-in component is designed for applications that require rates of up to 125 Mbps, with the laser transmission portion of the device operating at a wavelength of 1310nm. The modules are supplied with a duplex LC connector.

The TFA1310-TL29 module features a very low jitter contribution, resulting in extremely clean, high-quality eye patterns. And the modules' 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 multiport hubs and switches. The module operates at extended voltage and temperature ranges, and dissipates less than 1 W. The Class 1 laser transmitter complies with applicable safety standards (IEC 60825-1 and 21 CFR 1040.10 and 1040.11).

**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:  $-40^{\circ}$  to  $+85^{\circ}\text{C}$  ( $-40^{\circ}$  to  $185^{\circ}\text{F}$ )
- Storage temperature range:  $-40^{\circ}$  to  $+85^{\circ}\text{C}$  ( $-40^{\circ}$  to  $185^{\circ}\text{F}$ )
- Humidity: 5% to 95% non-condensing

**Optical Interface:**

- Optical connector: Duplex LC

**Power Requirements:**

- Input voltage:  $3.3 V_{\text{DC}}$
- Power consumption: 1 W max

**General:**

- Link budget: 29 dB
- Data rate: 125 Mbps
- Hot plug-in/out

**Optical:****Transmitter:**

- Transmitter type: Uncooled 1310nm DFB
- Center wavelength: 1263–1360 nm (1310 nm typ)
- Optical output power:  $-5$  dBm min
- Extinction ratio (ER): 10.0 dB min
- Optical isolation: 30 dB

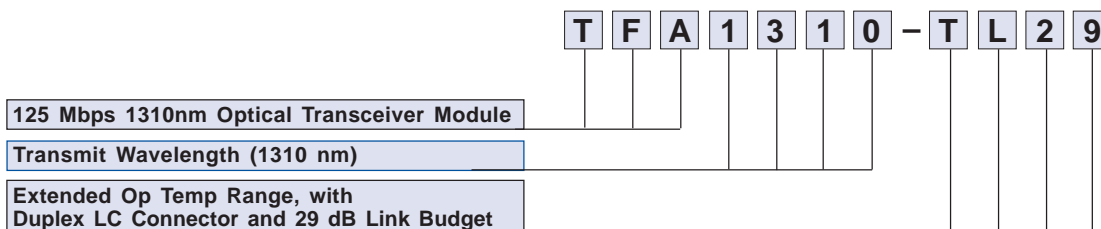
**Receiver:**

- Wavelength: 1261–1580 nm
- Received optical power:  $-34$  dBm min
- Maximum input power:  $-3$  dBm
- Receive LOS assert level:  $-34.5$  dBm

**Regulatory:**

Laser Class 1 devices per FDA/CDRH and IEC 60825-1 laser safety regulations

## Ordering Information

**Corporate Headquarters**

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