

SFP Fiber Optic Transceivers

TFA1310-TF17

125 Mbps Bi-Directional Optical Transceiver Module
(1310 nm Tx/1550 nm Tx)

FEATURES

- 125 Mbps data throughput
- Pluggable SFP MSA 8472 Rev. 9.3 compliant
- Simplex LC/UPC connector
- Tx/Rx distance up to 20 km over SMF
- 1310 nm laser diode transmitter
- Extended operating temperature range (-40°C to +85°C)



PRODUCT OVERVIEW

The TFA1310-TF17 Bi-Directional Optical Transceiver Module is ideally suited for Fast Ethernet and applications where a single fiber is required to simultaneously carry both Tx and Rx signals up to 20 km (over SMF). The built-in high isolation WDM enables full duplex operation.

Conforming to the Small Form Pluggable (SFP) Multisource Agreement for a 2x10 package with a Simplex LC/UPC optical connector, these state-of-the-art components are designed expressly for bi-directional communication applications that require rates of up to 125 Mbps. The transmitter and receiver subassemblies incorporate a high performance 1310 nm DFB laser assembly and high sensitivity 1550 nm PIN/TIA photo receiver with limiting amplifier.

The TFA1310-TF17 features a very low jitter contribution, resulting in extremely clean, high-quality eye patterns. The module operates over extended temperature (-40° to $+85^{\circ}\text{C}$) ranges, and dissipates less than 700 mW. The Class I laser transmitter complies with applicable safety standards (IEC 60825-1, FDA 21, CFR 1040.10 and 1040.11).

SPECIFICATIONS

Characteristics	Specification
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	
Application temperature range	-40° to $+85^{\circ}\text{C}$ (-40° to $+185^{\circ}\text{F}$)
Storage temperature range	-40° to $+85^{\circ}\text{C}$ (-40° to $+185^{\circ}\text{F}$)
Humidity	5% to 95% non-condensing
Optical Interface	
Optical connectors	Simplex LC
Power requirements	
Input voltage	3.3 V_{DC} (160 mA)
Power consumption	700 mW max
General	
Hot plug-in/out	
Regulatory	
Laser Class 1 devices per FDA/CDRH and IEC 60825-1	
Optical	
Transmitter:	
Wavelength	1270–1350 nm (1310 nm typical)
Signaling speed	125 Mbps
Optical output power with 9/125 μ SMF	-15 to -8 dBm
Extinction ratio (ER)	10.0 dB min
Optical isolation	30 dB
Receiver:	
Receiver type	1550 nm PIN/TIA
Wavelength	1000–1670 nm (1550 nm typical)
Received optical power with 9/125 μ SMF	-32 to -8 dBm
Receive LOS assert level	-31 dBm
System:	
Optical return loss, min	50 dB
WDM crosstalk (optical), max	-40 dB
Packet error loss, max	10–10 (random packet size)
Power budget, min with 9/125 μ SMF	17 dB
Fiber span, max with 9/125 μ SMF	20 km

RELATED PRODUCTS

Fast Ethernet applications

ORDERING INFORMATION

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125 Mbps Bi-directional SFP Optical Transceiver Module
(1310 nm Tx/1550 nm Rx)

Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656

Note: Specifications are subject to change without notice.

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