

10/100/1000BASE-T SFP Module RJ-45 100m data range



GBIC-, SFP-, XFP-, XENPAK-Transceiver

The tde Small Form Pluggable Optical Transceiver are easy installed for enterprise and telecom applications. The tde SFP modular line provides a fully compatible, highly reliable and volume accessible supply of quality transceiver products with excellent performance for design-in manufacturing and end-user enterprise applications.



tde[®] trans data elektronik GmbH

Headquarter address:

Lingener Str. 2
D-49626 Bippen/Ohrte
Tel.: +49 5435 9511 0
Fax.: +49 5435 9511 32

Sales office address:

Prinz-Friedrich-Karl-Str. 46
D-44135 Dortmund
Tel.: +49 231 914 36 99
Fax.: +49 231 914 31 29

info@tde.de | www.tde.de

10/100/1000BASE-T SFP Module RJ-45 100m data range

Technical Data

Features

- Support 10/100/1000BASE-T operation in host systems with SGMII interface
- Up to 1.25Gbps bi-direction data links
- Hot-pluggable SFP footprint
- Fully metallic enclosure for low EMI
- Low power dissipation (1.05 W typical)
- Compact RJ-45 connector assembly
- 100m transmission over unshielded twisted pair (UTP) Category 5 Cable
- Access to physical layer IC via 2-wire serial bus
- Extended Case Temperature Range 0°C-85°C

Applications

- LAN 1000Base-T
- 1.25 Gigabit Ethernet over Cat 5 cable
- Switch to Switch interface
- Router/Server interface

Absolute Maximum Ratings

Maximum Supply Voltage (Vcc)	min. -0.5 / max. 4.0
Storage Temperature (TS)	min. -40 / max. 85

Normal operating condition

Operating Case Temperature (Top)	min. 0°C / max. 85°C
Power Supply Voltage (Vcc)	min. 3.14 V / typ. 3.3 V / max. 3.46 V

Electrical Characteristics

+3.3 Volt Electrical Power Interface		
Supply Current (Icc)	typ. 300 mA / max. 350 mA	
Input Voltage (Vcc)	min. 3.18 V / typ. 3.3 V / max. 3.47 V	
Surge Current (Isurge)	max. 30 mA	
Low-Speed Signals, Electronic Characteristics		
SFP Output LOW (VOL)	min. 0 V / max. 0.5 V	4.7k to 10k pull-up to host_Vcc, measured at host side of connector
SFP Output HIGH (VOH)	min. host_Vcc -0.5 V / max. host_Vcc +0.3 V	4.7k to 10k pull-up to host_Vcc, measured at host side of connector
SFP Input LOW (VIL)	min. 0 V / max. 0.8 V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector
SFP Input HIGH (VIH)	min. 2 V / max. Vcc +0.3 V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector
High-Speed Electrical Interface, Transmission Line-SFP		

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Line Frequency (fL)	typ. 125 MHz	5-level encoding, per IEEE 802.3
Tx Output impedance (Zout,TX)	typ. 100 Ohm	Differential, for all frequencies between 1MHz and 125MHz
Rx Input Impedance (Zin,RX)	typ. 100 Ohm	Differential, for all frequencies between 1MHz and 125MHz
High-Speed Electrical Interface, Host-SFP		
Single ended data input swing (Vin)	min. 250 mV / max. 1200 mV	Single ended
Single ended data output swing (Vout)	min. 350 mV / max. 800 mV	Single ended
Rise/Fall Time (Tr,Tf)	typ. 175 psec	20%-80%
Tx Input Impedance (Zin)	typ. 50 Ohm	Single ended
Rx Output Impedance (Zout)	typ. 50 Ohm	Single ended

General specifications

Datarate	min. 10 Mbps / max. 1000 Mbps	
Distance	max. 100 m	Category 5 UTP. BER <10 ⁻¹²

Product variants & accessories

Art.-No.	Description
TDE-AS-TX	10/100/1000BASES-T SFP Module RJ-45 100m data range