

1000BASE-T GBIC 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<sup>®</sup>** 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 8805 61 13  
Fax.: +49 231 8805 61 15

info@tde.de | www.tde.de

## 1000BASE-T GBIC Module RJ-45 100m data range

### Technical Data

#### Features

- Up to 1.25GBd b-directionale data links
- Compliant with IEEE 802.3z, IEEE 802.3ab compliant
- Compliant with GBIC Specification Revision 5.5
- SCA-2 Host connector
- Hot Pluggable
- Support 1000BASE-T full duplex default operating mode
- RJ-45 connector
- Auto-sense MDI/MDIX
- Power supply 3.3V/5V
- RoHS Compliance
- Operating temperature range: 0°C to 70°C

#### Applications

- 1.25GBd Gigabit Ethernet

#### General Specifications

| Parameter             | Symbol | Min. | Typ. | Max.  | Unit   | Remarks   |
|-----------------------|--------|------|------|-------|--------|---|
| Data Rate1            | DR     |      |      | 1000  | Mb/sec | IEEE 802,3  |
| Cable Length          | CL     |      |      | 100   | m      | Category 5 UTP  |
| Bit Error Rate        | BER    |      |      | 10-12 |        |   |
| Operating Temperature | Top    | 0    |      | 70    | °C     | Case temperature  |
| Storage Temperature   | Tsto   | -40  |      | 85    | °C     | Ambient temperature   |
| Supply Current        | Is     |      | 310  | 375   | mA     | For electrical power interface                                      |
| Input Voltage         | Vcc    | 3.15 | 5    | 5.5   | V      | Referenced to GND. For electrical power interface                   |
| Maximum Voltage       | Vmax   |      |      | 6     | V      | For electrical power interface                                      |
| Surge Current         | Isurge |      |      | 30    | mA     | Hot Plug above steady state current. For electrical power interface |

#### High Speed Electrical Interface Host-GBIC

| Parameter                   | Symbol   | Min. | Typ. | Max. | Unit | Remarks                |
|-----------------------------|----------|------|------|------|------|------------------------|
| Differential Input Voltage  | VINDIFF  | 500  |      | 2000 | mV   | Differential peak-peak |
| Differential Output Voltage | VOUIDIFF | 370  |      | 2000 | mV   | Differential peak-peak |

## 1000BASE-T GBIC Module RJ-45 100m data range

|                               |        |     |      |              |
|-------------------------------|--------|-----|------|--------------|
| Rise/Fall Time<br>(20% – 80%) | ZIN    | 250 | psec |              |
| Tx Input impedance            | ISurge | 75  | ohm  | Single ended |
| Rx Output impedance           | ZOUT   | 75  | ohm  | Single ended |

### High Speed Electrical Interface Transmission Line-GBIC

| Parameter                          | Symbol | Min. | Typ. | Max. | Unit | Remarks          |
|------------------------------------|--------|------|------|------|------|------------------|
| Line Frequency                     | FL     |      | 125  |      | MHz  | 5-level encoding |
| Tx Output Impedance – Differential | ZOUT_T |      | 100  |      | Ohm  | Note 1           |
| Rx Input Impedance – Differential  | ZIN_RX |      | 100  |      | Ohm  | Note 1           |

### Low Speed Electrical Signal

| Parameter        | Symbol | Min.           | Typ. | Max.           | Unit | Remarks                                    |
|------------------|--------|----------------|------|----------------|------|--|
| GBIC Output Low  | VOL    | 0              |      | 0,5            | V    | External 4.7k-10k ohm pull-up to host_VCC. |
| GBIC Output High | VOH    | Host_VCC – 0.5 |      | Host_VCC + 0.3 | V    | External 4.7k-10k ohm pull-up to host_VCC. |
| GBIC Input Low   | VIL    | 0              |      | 0.8            | V    | External 4.7k-10k ohm pull-up to host_VCC. |
| GBIC Input High  | VIH    | 2              |      | VCC + 0.3      | V    | External 4.7k-10k ohm pull-up to host_VCC. |

## Product variants & accessories

| Art.-No.   | Description                                  |
|------------|--|
| TDE-ASG-TX | 1000BASE-T GBIC Module RJ-45 100m data range |