# TRA-SFP-1G-BD-LX 10KM

1.25G-Tx1550nm/Rx 1310nm/ 10km / Gigabit Ethernet 1000 BASE-BD-LX

## Features


- SFP Multi-Source Agreement compliant (INF-8074)
- Hot pluggable SFP footprint
- Serial ID functionality supported according to (SFF-8472)
- Class 1 laser safety standard IEC 60825 compliant
- Dual LC connector
- 1550nm FP transmitter, 1310nm PIN receiver
- Gigabit Ethernet compliant
- 1x Fibre Channel compatible
- 10km point-to-point transmission on single mode fiber
- Operating temperature range 0°C to 70°C or -40°C to 85°C
- Low power dissipation (<1W)
- Digital diagnostics monitoring (DDM)

## Applications

- Gigabit Ethernet
- Storage
- FTTx

## Description

**TRansceiver.Asia** is a high performance transceiver module for Gigabit Ethernet data links over one single mode fibre. The maximum reach[1] is 10km, with 14dB end of life (EOL) power budget. The emitter is a 1550nm Fabry-Perot (FP) laser, the receiver is a 1310nm PIN photodiode. Consequently, a module with a 1550nm emitter and a 1550nm receiver is required at the opposite side of the link. The recommended counterpart is TRA-SFP-1G-BD-LX 10KM.

This transceiver module is compliant with the Small Form-factor Pluggable (SFP) Multisource Agreement (MSA) and hot pluggable.Always contact **TRansceiver.Asia** commercial agents for compatibility with different equipment platforms.

### Optical Interfaces

| P/N | Wavelength | Output Optical Power[2] | Optical receiver Sensitivity3 | Optical Receiver Overload[4] | Power Budget |
|---|---|---|---|---|---|
| | [nm] | [dBm] | [dBm] | [dBm] | [dB] |
| TRA-SFP-1G-BD-LX 10KM | Tx 1550 nm<br>Rx 1310 nm | -8 to -3 | ≤ -22 | -3 | ≥ 14 |

## Recommended Operating Conditions

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|---|---|---|---|---|---|---|
| Power Supply Voltage | Vcc | 3.15 | 3.3 | 3.5 | V | |
| Power Supply Current | Icc | | | 300 | mA | |
| Case Operating Temperature | Tc | 0 | | 70 | °C | Standard |
| | | -20 | | 85 | °C | Extended |
| | | -40 | | 85 | °C | Industrial |
| Relative Humidity | | 5 | | 95 | % | |
| Storage Temperature | | -40 | | 85 | °C | |

## Transmitter Optical Specifications

| Parameter | Min | Typ | Max | Units |
|---|---|---|---|---|
| Average Output Power | -8 | | -3 | dBm |
| Centre Wavelength | 1520 | 1550 | 1580 | nm |
| Spectral Width (RMS) | | | 1 | nm |
| Optical Extinction Ratio ER | 6 | 9 | | dB |

## Receiver Optical Specification

| Parametter | min | typ | max | unit | note |
|---|---|---|---|---|---|
| Sensitifity | | | -22 | dBm | 6 |
| Receiver Overload | -3 | | | dBm | |
| Wavelegth of Operation | 1260 | | 1360 | nm | |

## Module Electrical Pin Definition

| Pin Number | Name | Function |
|---|---|---|
| 1 | VeeT | Transmitter Ground |
| 2 | TX Fault | Transmitter Fault Indication |
| 3 | TX_ Disable | Transmitter Disable |
| 4 | MOD-DEF2 | 2-Wire Serial Interface Data |
| 5 | MOD-DEF1 | 2-Wire Serial Interface Clock |
| 6 | MOD-DEF0 | Grounded in Module |
| 7 | Rate Select | Not Connected |
| 8 | LOS | Loss of Signal |
| 9 | VeeR | Receiver Ground |
| 10 | VeeR | Receiver Ground |
| 11 | VeeR | Receiver Ground |
| 12 | RD- | Inverted Received Data Out |
| 13 | RD+ | Received Data Out |
| 14 | VeeR | Receiver Ground |
| 15 | VccR | Receiver Power |
| 16 | VccT | Transmitter Power |
| 17 | VeeT | Transmitter Ground |
| 18 | TD+ | Transmit Data In |
| 19 | TD- | Inverted Transmit Data In |
| 20 | VeeT | Transmitter Ground |

## Ordering information

| Part Number | Description |
|---|---|
| TRA-SFP-1G-BD-LX 10KM | 1G Single Mode SFP Transceiver,Tx : 1550nm ,Rx 1310, 10km, LC, DDM, 0ºC~+70ºC |

**Warnings**

**Process plug**

The transceiver optics is supplied with a dust cover. This plug protects the transceiver optics during standard manufacturing processes by preventing contamination from air borne particles. It is recommended that the dust cover remain in the transceiver whenever an optical fiber connector is not inserted.

**Handling Precautions**

The transceiver optics is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

**Laser Safety**

The transceiver optics is a Class 1 laser product per international standard IEC 60825-1. Radiation emitted by laser