

TRA-SFP-10G-LR

10G-1310nm / 10km / Gigabit Ethernet 10GBASE-LR

Features

- SFP+ Multi-Source Agreement compliant (SFF-8431)
- Hot pluggable SFP+ footprint
- Serial ID functionality supported according to (SFF-8472)
- Class 1 laser safety standard IEC 60825 compliant
- Dual LC connector
- 1310nm DFB transmitter
- 10km, point-to-point transmission on single mode fibre
- Gigabit Ethernet compliant
- Operating temperature range 0°C to 70°C or -40°C to 85°C
- Low power dissipation (<1W)
- Digital diagnostics monitoring (DDM)



Applications

- 10x Gigabit Ethernet
- 9.83 Gbps CPRI
- 8x Fiber Channel
- 4x Fiber Channel
- 2x Fiber Channel

Description

Transceiver.Asia is a high-performance transceiver module for up to 10x Gigabit Ethernet data links over a single mode fibre pair. The maximum reach is 10km with 6.2dB end of life (EOL) power budget. The transmitter is a 1310nm DFB laser, the receiver is a PIN photodiode. 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 Sensitivity ³ | Optical Receiver Overload ⁴ | Power Budget |
|------------------|------------|-----------------------------------|---|--|--------------|
| | [nm] | [dBm] | [dBm] | [dBm] | [dB] |
| TRA-SFP-10G-10KM | 1310 | -8.2 to 0.5 | ≤ -14.4 | 0 | ≥ 6.2 |

Recommended Operating Conditions

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|----------------------------|-----------------|------|------|------|------|----------|
| Power Supply Voltage | V _{cc} | 3.15 | 3.3 | 3.45 | V | |
| Power Supply Current | I _{cc} | | | 300 | mA | |
| Case Operating Temperature | T _c | 0 | | 70 | °C | Standard |
| | | -20 | | 85 | °C | Extended |
| | | | | | | |
| Relative Humidity | | 5 | | 95 | % | |
| Storage Temperature | | -40 | | 85 | °C | |

Transmitter Optical Specifications

| Parameter | Min | Typ | Max | Units |
|----------------------|------|------|------|-------|
| Average Output Power | -8.2 | | 0.5 | dBm |
| Centre Wavelength | 1270 | 1310 | 1355 | nm |
| Spectral Width (RMS) | | | 1 | nm |
| Extinction Ratio | 3.5 | | | dB |

Receiver Optical Specification

| Parameter | min | Typ | max | unit | note |
|------------------------|------|-----|-------|------|------|
| Sensitivity | | | -14.4 | dBm | 6 |
| Receiver Overload | -1 | | | dBm | 6 |
| Wavelegth of Operation | 1260 | | 1565 | 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-10G-LR 10KM | 10G Single Mode SFP+ Transceiver,Tx : 1310nm , 10km, LC, DDM, 0°C~+70°C |

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