

NC99-T1310-R14-10

Optical Single Mode Transceiver with CDR and AutoSFP® functionality for 10 Gigabit Ethernet (10Gbps)

Data Sheet



Description

The NC99-T1310-R14-10 is a Small Form Factor Pluggable (SFP+) LC optical transceiver. The unit is specially designed to meet the 10GBASE-LR 10Gbps Ethernet specification. It contains one PIN optical receiver and one DFB laser providing error-free transmissions with up to 10km of fiber. This SFP also has a built in CDR and will improve signal integrity.

The NC99-T1310-R14-10 is made with AutoSFP® enabled functionality to fit the miniHUB product range.

Part Number Options

| Part Number | Laser wavelength | Temperature *) |
|-------------------|------------------|----------------|
| NC99-T1310-R14-10 | 1310nm | -0°C to +40°C |

*) Rated temperature for the complete miniHUB.

Absolute Maximum Ratings

Absolute maximum ratings are those values beyond which functional performance is not intended, device reliability is not implied, and damage to the device may occur.

| Parameter | Minimum | Maximum | Unit |
|-------------------------------------|---------|---------|------|
| Storage temperature (non-operating) | -40 | +85 | °C |
| Relative Humidity (non-condensing) | 5 | 95 | % |
| Supply voltage (Vcc) | 0 | 3.6 | V |

Features

- AutoSFP® enabled functionality
- Compliant to SFF-8431, SFF-8432 and IEEE 802.3ae 10Gigabit Ethernet, 10GBASE-LR/LW
- Compliant to 2G/4G/8G/10G Fiber Channel
- Built-in CDR
- PIN receiver technology
- DFB laser
- Typical Link lengths at 10Gbps:
 - Up to 10km @ 9µm SMF
- Hot-pluggable and SFP+ compliant
- SFF-8472 diagnostic features
- Class 1 21CFR and IEC60825-1 laser safety compliant
- Pb-free and RoHS compliant

Recommended Operating Conditions

| Parameter | Minimum | Typical | Maximum | Unit |
|------------------------------------|---------|---------|---------|------|
| Case operating temperature: | 0 | | +70 | °C |
| Relative Humidity (non-condensing) | 5 | | 90 | % |
| Supply voltage (Vcc) | 3.15 | 3.3 | 3.45 | V |

Electrical Characteristics

| Parameter | Minimum | Typical | Maximum | Unit |
|-------------------|---------|---------|---------|------|
| Supply current | | 420 | 610 | mA |
| Power dissipation | | 1.4 | 1.5 | W |
| Data rate | | | 11.1 | Gbps |

Transmitter Optical Characteristics

| Parameter | Minimum | Typical | Maximum | Unit |
|-------------------------------------|-----------------------|---------|---------|------|
| Transmitting circuit fiber | Single Mode (9/125μm) | | | |
| Light source | DFB laser | | | |
| Optical output power | -6 | | 0 | dBm |
| Optical extinction ratio (filtered) | 6 | | | dB |
| Optical center wavelength | 1270 | 1310 | 1355 | nm |
| Spectral width (-20dB) | | | 1 | nm |
| Side Mode Suppression Ratio | 30 | | | dB |
| Transmitter Dispersion Penalty | | | 3.2 | dB |

Receiver Optical Characteristics

| Parameter | Minimum | Typical | Maximum | Unit |
|---|-----------------------|---------|---------|------|
| Transmitting circuit fiber | Single Mode (9/125μm) | | | |
| Receiver technology | PIN | | | |
| Optical receiving window | 1260 | | 1565 | nm |
| Optical input overload power | 0 | | | dBm |
| Optical receiver sensitivity (BER=10 ⁻¹² , PRBS 2 ⁻³¹ -1) | | | -14 | dBm |

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