

ND12-T1310-R20-10 (/E)

Optical Transceiver with AutoSFP® functionality for Gigabit Ethernet (1.25Gbps)

Data Sheet



Description

The ND12-T1310-R20-10 is a Small Form Factor Pluggable (SFP) LC optical transceiver. The unit is specially designed to work in a pair with the ND12-GBE1000 to function as a 1000BASE-T/LX Gigabit Ethernet optical media converter. It is made with AutoSFP® enabled functionality to fit the miniHUB product range. It is also available with two temperature ranges, standard and extended.

Part Number Options

Part Number	Temperature *)
ND12-T1310-R20-10	-5°C to +55°C
ND12-T1310-R20-10/E	-40°C to +65°C

*) Rated temperature for the complete miniHUB unit.

Features

- AutoSFP® enabled functionality
- Compliant to IEEE 802.3Z Gigabit Ethernet (1,25Gbps) 1000BASE-LX
- 1310nm Fabry-Perot laser
- Typical Link lengths at 1.25Gbps:
 - 0.5 to 550m @ 50µm MMF
 - 0.5 to 550m @ 62.5µm MMF
 - 0.5 to 15km @ 9µm SMF
- Compliant to MSA-SFP specification
- SFF-8472 diagnostic features
- Hot-pluggable
- Class 1 21CFR and IEC60825-1 laser safety compliant
- Pb-free and RoHS compliant
- Available with extended temperature

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)	-0.5	3.6	V
Control input voltage	-0.5	Vcc+0.5	V

Recommended Operating Conditions

Parameter	Minimum	Typical	Maximum	Unit
Case operating temperature:				
• ND12-T1310-R20-10	0		+70	°C
• ND12-T1310-R20-10/E	-40		+85	°C
Relative Humidity (non-condensing)	5		95	%
Supply voltage (Vcc)	3.15	3.3	3.45	V

Electrical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Supply current			300	mA
Power dissipation			1000	mW
Data rate			1250	Mbps

Transmitter Optical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Transmitting circuit fiber	Single Mode (9/125μm)			
Light source	Fabry-Perot laser			
Optical output power	-8		-3	dBm
Optical extinction ratio	9			dB
TX optical eye mask margin (using filer defined in IEEE 802.3 section 38.6.5)	0	30		%
Optical center wavelength	1270	1310	1355	nm
Optical rise/fall time (20-80%)			260	ps

Receiver Optical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Transmitting circuit fiber	Single Mode (9/125μm)			
Receiver technology	PIN			
Optical input overload power			-3	dBm
Optical receiver sensitivity (BER = 10^{-12} , TX _{EXT} ≥ 9dB)		-21	-20	dBm
Optical receiving window	1270	1310	1610	nm

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