

ND12-C1xxx-R25-40

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

Data Sheet



Description

The ND12-C1xxx-R25-40 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/ZX Gigabit Ethernet optical media converter. It contains one optical receiver and one DFB CWDM laser providing error-free transmissions with more than 80km of fiber.

The ND12-C1xxx-R25-40 is made with AutoSFP™ enabled functionality to fit the miniHUB product range.

Part Number Options

Part Number	Laser wavelength (nm)	Temperature *)
ND12-C1470-R25-40	1470	0°C to +40°C
ND12-C1490-R25-40	1490	0°C to +40°C
ND12-C1510-R25-40	1510 ¹⁾	0°C to +40°C
ND12-C1530-R25-40	1530 ¹⁾	0°C to +40°C
ND12-C1550-R25-40	1550	0°C to +40°C
ND12-C1570-R25-40	1570	0°C to +40°C
ND12-C1590-R25-40	1590	0°C to +40°C
ND12-C1610-R25-40	1610	0°C to +40°C

*) Rated temperature for the complete miniHUB.

1) Unit with best delivery time

Wavelengths 1270nm to 1450nm are also available on request.

Features

- AutoSFP™ enabled functionality
- Compliant to IEEE 802.3ah Gigabit Ethernet (1,25Gbps) 1000BASE-ZX
- Available wavelengths: 1270nm to 1610nm, with 20nm channel spacing
- DFB laser
- Typical Link lengths at 1.25Gbps:
 - 0.5 to 80km @ 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

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

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			300	mA
Power dissipation			1000	mW
Data rate		1.063 / 1250	1250	Mbps

Transmitter Optical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Transmitting circuit fiber	Single Mode (9/125µm)			
Light source	DFB laser			
Optical output power	0	+2	+5	dBm
Optical extinction ratio (filtered)	8.2			dB
Optical center wavelength ($\lambda = 1270\text{nm}$ to 1610nm)	$\lambda - 6.0\text{nm}$	λ	$\lambda + 7.5\text{nm}$	nm
Spectral width (-20dB)			1	nm
Optical rise/fall time (20-80%)			260	ps
TX optical eye mask (filtered, measured w/ PRBS $2^{-7}-1$)	Compliant with IEEE 802.3ah-2004			

Receiver Optical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Transmitting circuit fiber	Single Mode (9/125µm)			
Receiver technology	PIN			
Optical receiving window	1270		1610	nm
Optical input overload power	-3			dBm
Optical receiver sensitivity (BER= 10^{-12} , TX _{EXT} ≥ 9dB)		-28	-25	dBm

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