

## NC99-T850-R11-MM

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

### Data Sheet



#### Description

The NC99-T850-R11-MM is a Small Form Factor Pluggable (SFP+) LC optical transceiver. The unit is specially designed to meet the 10GBASE-SR 10Gbps Ethernet specification. It contains one IDP optical receiver and one 850nm VCSEL transmitter providing error-free transmissions with up to 300m of multi mode fiber. This SFP also has a built in CDR and will improve signal integrity.

The NC99-T850-R11-MM is made with AutoSFP® enabled functionality to fit the miniHUB product range.

#### Part Number Options

Part Number	Transmitter wavelength	Temperature *)
NC99-T850-R11-MM	850nm	-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 and IEEE 802.3ae 10Gigabit Ethernet, 10GBASE-SR/SW
- Compliant to 2G/4G/8G/10G Fiber Channel
- Built-in dual CDR
- IDP receiver technology
- 850nm VCSEL transmitter
- Typical Link lengths at 10Gbps:
  - Up to 300m @ 50µm MMF
- 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 (SR / SW)		10.3125 / 9.95		Gbps

## Transmitter Optical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Transmitting circuit fiber	Multi Mode (50/125µm)			
Light source	850nm VCSEL			
Optical output power	-6		-1	dBm
Optical extinction ratio (filtered)	3.0	5.0		dB
Optical center wavelength	840	850	860	nm
Spectral width (RMS)			0.45	nm
Output Optical Eye	IEEE 802.3-2005 Compliant			
Transmitter Dispersion Penalty			3.9	dB

## Receiver Optical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Transmitting circuit fiber	Multi Mode (50/125µm)			
Receiver technology	IDP (Integrated GaAs Detector Preamplifier)			
Optical receiving window	840	850	860	nm
Optical input overload power	-1			dBm
Optical receiver sensitivity (BER=10 <sup>-12</sup> , PRBS 2 <sup>-31</sup> -1)			-11	dBm
Dispersion tolerance (over G.651)		Up to 40		ps/nm

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