

XTM85A-M3LY – 10Gbps SFP+ 300 m 850 nm DDM Optical Transceiver



FEATURES

- Optical interface compliant to IEEE 802.3ae 10GBASE-SR
- Electrical interface compliant to SFF-8431
- Hot Pluggable
- 850 nm VCSEL transmitter, PIN photo-detector
- Maximum link length of 300 m on 2000 MHz/km MMF
- Operating case temperature: 0 to 70°C
- Low power consumption
- All-metal housing for superior EMI performance
- Advanced firmware allow customer system encryption information to be stored in transceiver
- Cost effective SFP+ solution, enables higher port densities and greater bandwidth

APPLICATIONS

- 10GBASE-SR at 10.3125 Gbps
- 10GBASE-SW at 9.953 Gbps
- Other optical links

DESCRIPTION

This 850 nm VCSEL 10Gigabit SFP+ transceiver is designed to transmit and receive optical data over 50/125 μm or 62.5/125 μm multimode optical fiber (Table 1).

The SFP+ SR module electrical interface is compliant to SFI electrical specifications. The transmitter input and receiver output impedance is 100 Ohms differential. Data lines are internally AC coupled. The module provides differential termination and reduce differential to common mode conversion for quality signal termination and low EMI. SFI typically operates over 200 mm of improved FR4 material or up to about 150 mm of standard FR4 with one connector.

Fiber type	Minimum modal bandwidth @ 850 nm (MHz*km)	Operating range (meters)
62,5 μm MMF	160	2 to 26
	200	2 to 33
50 μm MMF	400	2 to 66
	500	2 to 82
	2000	2 to 300

ABSOLUTE MAXIMUM RATING

Parameters	Symbol	Min.	Max.	Unit
Power Supply Voltage	Vcc	0	+3,6	V
Storage Temperature	Tc	-40	85	°C
Operating Case Temperature	Tc	-5	75	°C
Operating Relative Humidity	RH	5	95	%
RX Input Average Power	Pmax	-	0	dBm

RECOMMENDED OPERATING ENVIRONMENT

Parameters	Symbol	Min.	Typical	Max.	Unit
Power Supply Voltage	Vcc	3.135	3.300	3.465	V
Operating Case Temperature	Tc	0	25	70	°C

OPTICAL CHARACTERISTICS

Parameters	Symbol	Min.	Typical	Max.	Unit	Notes
Transmitter						
Center Wavelength	λ_t	840	850	860	nm	
RMS spectral width	Pm	-	-	Note 1	nm	
Average Optical Power	Pavg	-6.5	-	-1	dBm	2
Extinction Ratio	ER	3.5	-	-	dB	3
Transmitter Dispersion Penalty	TDP	-	-	3.9	dB	
Relative Intensity Noise	Rin	-	-	-128	dB/Hz	12dB reflection
Optical Return Loss Tolerance		-	-	12	dB	
Receiver						
Center Wavelength	λ_r	840	850	860	nm	
Receiver Sensitivity	Psens	-	-	-11.1	dBm	4
Stressed Sensitivity in OMA		-	-	-7.5	dBm	4
Los function	Los	-30	-	-12	dBm	
Overload	Pin	-	-	-1.0	dBm	4
Receiver Reflectance		-	-	-12	dB	

Notes

1. Trade-offs are available between spectral width, center wavelength and minimum OMA, as shown in table 6.
2. The optical power is launched into MMF
3. Measured with a PRBS 231-1 test pattern @10.3125Gbps
4. Measured with a PRBS 231-1 test pattern @10.3125Gbps, BER \leq 10⁻¹².

ELECTRICAL CHARACTERISTICS

Parameters	Symbol	Min.	Typical	Max.	Unit	Notes
Data Rate		-	10.3125	-	Gbps	
Power Consumption		-	600	800	mW	
Transmitter						
Single Ended Output Voltage Tolerance		-0.3	-	4.0	V	
C common mode voltage tolerance		15	-	-	mV	
Tx Input Diff Voltage	VI	180		1200	mV	
Tx Fault	VoL	-0.3		0.4	V	At 0.7 mA
Data Dependent Input Jitter	DDJ			0.10	UI	
Data Input Total Jitter	TJ			0.28	UI	
Receiver						
Single Ended Output Voltage Tolerance		-0.3	-	4.0	V	
Rx Output Diff Voltage	Vo	300		850	mV	
Rx Output Rise and Fall Time	Tr/Tf	30			ps	20% to 80%
Total Jitter	TJ			0.70	UI	
Deterministic Jitter	DJ			0.42	UI	

ORDERING INFORMATION¹

Part number	Product Description
XTM85A-M3LY	SFP+, 850 nm, 10 Gbps,, 300 m, LC, 0 °C ~ +70 °C, DDM

Note

1. For accurate order specification please contact XenOpt reseller before placing an order.

COMPANY INFORMATION

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PARTNER INFORMATION

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