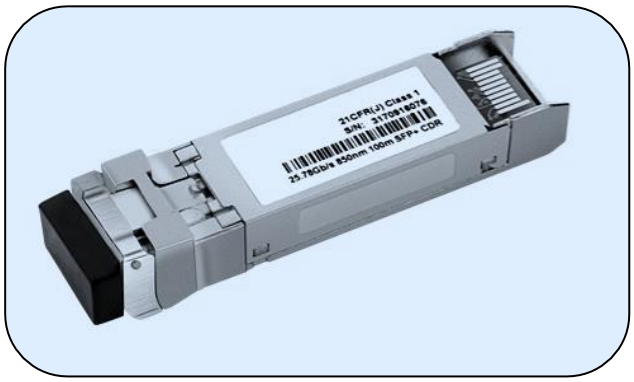
XTM85P-M3LY

25 Gb/s 300 m 25GBASE-eSR SFP28 Transceiver



Features

- Support 25.78 Gb/s and 10.3 Gb/s bi-directional data links
- Electrical interface specifications per SFF-8431
- Management interface specifications per SFF-8432 and SFF-8472
- Build-in CDR with 25.78 Gb/s operation
- SFP28 MSA package with duplex LC connector
- Uncooled 850 nm VCSEL Laser
- Single +3.3 V power supply
- Class 1 laser safety certified
- Metal enclosure, for lower EMI
- 1W maximum power consumption
- Operating case temperature: 0°C to 70 °C (Commercial)
- Up to 200 m on OM3 MMF and 300 m on OM4 MMF
- RoHS compliant

Applications

- High speed storage area networks
- 25G high speed interconnection
- 10G Ethernet 10GBASE-SR/SW
- Support CPRI rate: 24.3 Gb/s

Description

XTM85P-M3LY SFP28 transceivers, according to 25Gigabit Small Form Factor Pluggable “SFP28” Multi-Sourcing Agreement (MSA) SFF-8431 Rev. 4.1 and SFF-8472 Rev.12.1, are designed for use up to 25.78Gb/s data rate over multimode fiber. They are compatible with SFF-8432

Absolute Maximum ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of the data sheet. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Minimum	Maximum	Unit
Storage Temperature	T_S	-40	85	°C
Relative Humidity	RH	5	85	%
Supply Voltage	V_{CC}	-0.5	4.0	V

Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_C	0	25	70	°C
Supply Voltage	V_{CC}	3.135	3.3	3.465	V
Data Rate	-	10.3	25.78	-	Gb/s

Electrical characteristics

Parameter		Symbol	Minimum	Typical	Maximum	Unit	Notes
Module Supply Current		Icc	-	-	290	mA	-
Power Dissipation		P_D	-	-	1000	mW	-
Transmitter							
Input Differential Impedance		Z_{IN}	-	100	-	Ω	-
Differential Data Input Swing		$V_{IN, P-P}$	180	-	700	mV_{P-P}	-
TX_FAULT	Transmitter Fault	V_{OH}	2.0	-	V_{CC}	V	-
	Normal Operation	V_{OL}	0	-	0.8	V	TX_FAULT
TX_DISABLE	Transmitter Disable	V_{IH}	2.0	-	V_{CC}	V	TX_DISABLE
	Transmitter Enable	V_{IL}	0	-	0.8	V	-
Receiver							
Output Differential Impedance		Z_O	-	100	-	Ω	-
Differential Data Output Swing		$V_{OUT, P-P}$	300	-	850	mV_{P-P}	1
Data Output Rise Time, Fall Time		t_r, t_f	-	30	-	ps	2
RX_LOS	Loss of signal (LOS)	V_{OH}	2.0	-	V_{CC}	V	RX_LOS
	Normal Operation	V_{OL}	0	-	0.8	V	-

Notes

1. Internally AC coupled, but requires an external 100 Ω differential load termination.
2. 20 – 80 %.
3. LOS is an open collector output. Should be pulled up with 4.7 kΩ on the host board.

Transmitter Optical Characteristics

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Launch Optical Power	Po	-7.6	-	+2.4	dBm	1
Center Wavelength Range	λc	840	850	860	nm	-
Extinction Ratio	ER	2	-	-	dB	-
Spectral Width (RMS) @25.78 Gb/s	Δλ	-	-	0.6	nm	-
Transmitter Dispersion Penalty @25.78 Gb/s	TWDP	-	-	4.3	dB	-
Optical Return Loss Tolerance	ORLT	-	-	12	dB	-
Pout @TX-Disable Asserted	P_{off}	-	-	-30	dBm	1

Notes

1. 50/125 µm fiber with NA = 0.2.

Receiver Optical Characteristics

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Center Wavelength	λc	840	-	860	nm	-
Receiver Sensitivity (P_{avg})	S	-	-	-11.9	dBm	1
Receiver Sensitivity (P_{avg})	S	-	-	-12.0	dBm	2
Receiver Overload (P_{avg})	P_{OL}	2.5	-	-	dBm	
Optical Return Loss	ORL	12	-	-	dB	-
LOS De-Assert	LOS_D	-	-	-12	dBm	-
LOS Assert	LOS_A	-30	-	-	dBm	-
LOS Hysteresis	-	0.5	-	-	dB	-

Notes

1. Measured with PRBS 2^{31}-1 at 5e-5 BER @25.78 Gb/s
2. Measured with PRBS 2^{31}-1 at 5e-5 BER @10.3 Gb/s

Ordering information[1]

Part number	Product Description
XTM85P-M3LY	850 nm VCSEL MMF SFP28, 25/10 Gbps, 300 m, LC, DDM, 0°C~+70°C

Notes

[1] For accurate order specification please contact XenOpt reseller before placing an order. The content of this document is subject to change without notice. XenOpt does not guarantee errorless or outdated information.
Please specify any compatibility requirements at time of ordering. Standard MSA compatible pluggable components may not work or some function of these components may not be available in devices that require customized compatible devices. Pluggable components compatible with one type of communications equipment may not work in other type of communications equipment.

To find out more, please contact: