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OSFP-CLT-800G-SR8-5

800GBase, OSFP, Closed Top, SR8, CMIS 5.0, MMF TRANSCEIVER
850nm, 50m OM3/100m OM4 REACH, Dual MPO-12 APC CONNECTORS

Features

- Hot-pluggable OSFP form factor with a closed top with integrated heatsink
- Maximum link length of 100m on OM4 fiber with FEC
- +3.3V single power supply
- Power dissipation < 14W
- Operating case temp
  Commercial: 0°C to +70 °C
- Dual MPO-12 APC connector
- RoHS compliant

Applications

- Application case 1, 8x100G SR, 8 of 100G per channel breakout connections
- Application case 2, 2x400G SR4, 2 of 400G per port breakout connections
- Application case 3, 2x200G SR4, 2 of 200G per port breakout connections
- Application case 4, 1x800G SR8, 1 of 800G per port point to point connection
- Application case 5, 2x100G SR4, 2 of 100G per port breakout connections
- Applications for backward compliance, refer to detailed application list below. Mixed applications of case 1 and case 2 are also supported

1. Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc3	-0.5	-	+3.6	V
Storage Temperature	Ts	-40	-	+85	°C
Operating Humidity [1]	RH	0	-	+85	%
Control Input Voltage [1]	VI	-0.3	-	VCC+0.5	V

Note 1: No condensation

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2. Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Case Temperature	TC	0	-	+70	°C
Power Supply Voltage	Vcc	3.135	3.3	3.465	V
Power Dissipation	Pd	-	-	14	W
Supply Current	Icc	-	-	4240	mA
Pre-FEC Bit Error Ratio	-	-	-	$2.4x10^{-4}$	-
Post-FEC Bit Error Ratio [1]	-	-	-	$1x10^{-15}$	-
Link Distance (OM4) [2]	-	2	-	100	m
Link Distance (OM3) [2]	-	2	-	50	m

Notes:
1. FEC provided by host system
2. FEC required on host system to support maximum distance

3. Electrical Characteristics

Parameter	Symbol	Unit	Min.	Typical	Max.
Transmitter					
Signaling Rate per Lane	SR	Gbd	53.125 ± 100 ppm		
Modulation format	-	-	PAM4		
Differential pk-pk input Voltage tolerance	Vin,pp,diff	mV	750	-	-
Peak-to-peak AC common-mode voltage tolerance Low-frequency Full-band	 VCMLF VCMFB	mV	 32 80		
Differential-mode to common-mode return loss	RLcd	dB	IEEE 803.3ck D3.3 Equation(120G-2)		
Effective return loss	ERL	dB	8.5		
Differential termination mismatch	-	%	-	-	10
Single-ended voltage tolerance range	-	V	-0.4	-	3.3
DC common-mode voltage tolerance	-	mV	350	-	2850
Receiver					
Signaling Rate per Lane	SR	Gbd	53.125 ± 100 ppm		
Modulation format	-	-	PAM4		
Peak-to-peak AC common-mode voltage Low-frequency Full-band	 VCMLF VCMFB	mV			 32 80
Differential output Voltage (Long mode)	-	mV	-	-	845

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Differential output Voltage (Short mode)	-	mV	-	-	600
Eye height	-	mV	15	-	-
Vertical eye closure	VEC	mV	-	-	12
Common-mode to differential-mode return loss	RLdc	dB	IEEE 803.3ck (120G-1)		
Differential Termination Mismatch	-	%	-	-	10
Transition Time	-	ps	8.5	-	-
DC common mode Voltage tolerance	-	mV	-350	-	2850

4. Optical Characteristics

Parameter	Symbol	Unit	Min.	Typical	Max.
Transmitter					
Signaling Rate per Lane	SR	Gbd	53.125 ± 100 ppm		
Modulation format	-	-	PAM4		
Center wavelength	CW	nm	844	850	863
RMS Spectral Width	SW	dBm	-	-	0.6
Average Launch Power per Lane[1]	AOP	dBm	-4.6	-	4
Outer Optical Modulation Amplitude (OMAouter), each lane (min) For max(TECQ,TDECQ)≤1.8dB For 1.8<max(TECQ,TDECQ)≤4.4dB	TxOMA	dBm	2.6	-	3.5
Transmitter and Dispersion Eye Closure for PAM4 (TDECQ), each lane	TDECQ	dB	-	-	4.4
Transmitter eye closure for PAM4, each lane	TECQ	dB	-	-	4.4
Overshoot/undershoot	-	%	-	-	29
Transimitter power excursion,each lane	-	dBm	-	-	2.3
Transmitter Transition Time	Tt	ps	-	-	17
Average Launch Power of OFF Transmitter, each lane	TOFF	dBm	-	-	-30
RIN14OMA	RIN	dB/Hz	-	-	-132
Extinction Ratio, each lane	ER	dB	2.5	-	-
Optical Return Loss Tolerance	ORL	dB	-	-	14
Encircled flux[2]	-	dBm	≥86% at 19μm ≤30% at 4.5μm		

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Receiver					
Signaling Rate per Lane	SR	Gbd	53.125 ± 100 ppm		
Modulation format	-	-	PAM4		
Wavelength	W	nm	842	850	948
Damage Threshold, average optical power, each lane [3]	DT	dBm	5	-	-
Average Receive Power, each lane [4]	RXPx	dBm	-6.4	-	4
Receive Power (OMA) per Lane	RxOMA	dBm	-	-	3.5
Receiver Reflectance	Rfl	dB	-	-	-15
Receiver Sensitivity (OMAouter), each lane [5]	SEN	dBm	-	-	-4.6
Stressed Receiver Sensitivity (OMAouter) each Lane [6]	SRS	dBm	-	-	-2.0
LOS Assert	LOSA	dBm	-15	-	-8.6
LOS De-assert	LOSD	dBm	-	-	-6.6
LOS Hysteresis	LOSH	dB	0.5	-	-
Stressed Eye Closure for PAM4 (SECQ), lane under Test	-	dB	-	4.4	-
OMAouter of each aggressor lane	-	dBm	-	3.5	-

Notes:

1. Average launch power, each lane (min) is informative and not the principal indicator of signal strength. A transmitter with launch power below this value cannot be compliant; however, a value above this does not ensure compliance

2. If measured into type A1a.2 or type A1a.3, or A1a.4, 50 µm fiber, in accordance with IEC 61280-1-4

3. The receiver shall be able to tolerate, without damage, continuous exposure to a modulated optical input signal having this power level on one lane. The receiver does not have to operate correctly at this input power

4. Average receive power, each lane (min) is informative and not the principal indicator of signal strength. A received power below this value cannot be compliant; however, a value above this does not ensure compliance

5. Measured with conformance test signal at TP3 for the BER equal to 2.4x10-4

6. These test conditions are for measuring stressed receiver sensitivity. They are not characteristics of the receiver

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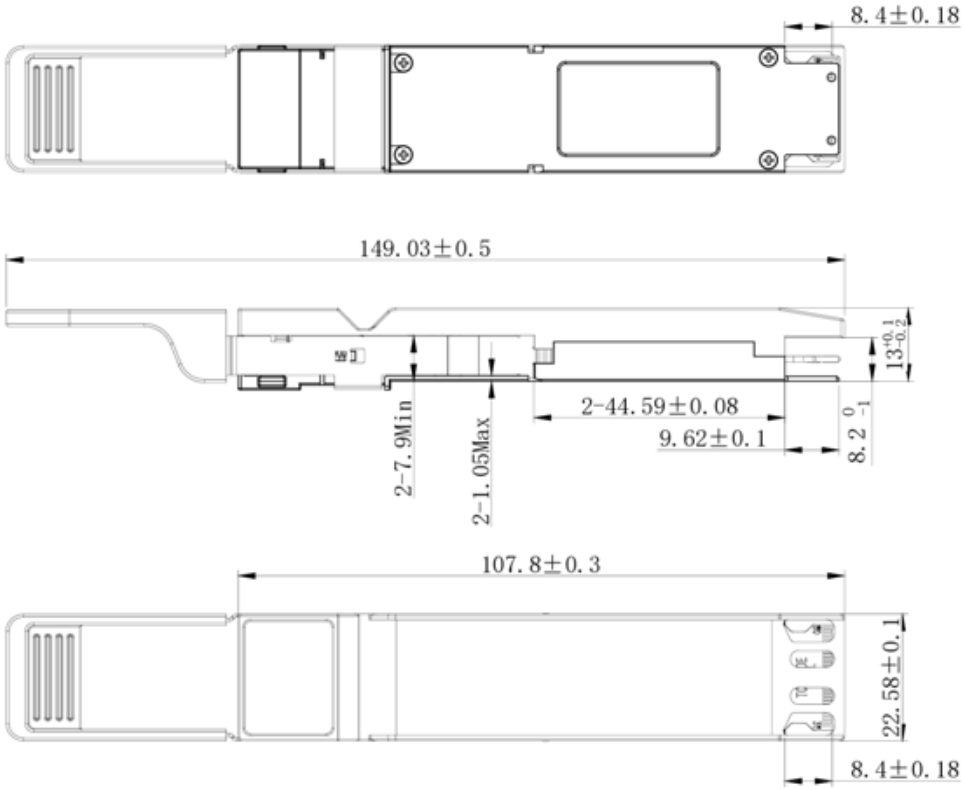
5. Mechanical Diagram



Note: External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.

6. Ordering Information

OEM	Part Number	OEM	Part Number
MSA	AN-O800G-CLT-SR8	Nvidia	MMA4Z00-NS-CLT-A

7. Contact Information

Tel: 800.590.9535
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