Approved Networks
A brand of legrand

OSFP-CLT-800G-DR8-5

800GBase, OSFP, Closed Top, DR8, CMIS 5.0, SMF TRANSCEIVER
1310nm, 500m, Dual MPO-12 APC CONNECTORS

Features

- Hot-pluggable OSFP form factor
- EML transmitter and PIN PD receiver
- Support 850Gb/s aggregate bit rate
- Support both Ethernet and InfiniBand NDR
- Compliant with IEEE 802.3cu-2021:
  - 8x100GBASE-DR optical interface
- Compliant with IEEE 802.3ck-2022:
  - 8x100GAUI-1 C2M electrical interface
- Compliant with InfiniBand Trade Association (IBTA)
- Specification 1.6
  - InfiniBand NDR electrical and optical interface
- Compliant with OSFP MSA Specification Rev 5.0
- Type 2 housing with Dual MPO-12/APC receptacle
- Compliant with CMIS Rev 5.0
- Case operating temperature 0°C to 70°C
- Two wire serial Interface with digital diagnostic monitoring
- Complies with EU Directive 2011/65/EU (RoHS compliant)
- Class 1 Laser

Applications

- 800GBASE Ethernet
- Switch, Router, and Server connectivity
- Intra-datacenter connectivity

1. Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	T_S	-40	85	°C
Supply Voltage	Vcc	-0.5	3.6	V
Relative Humidity (non-condensing)	RH	5	95	%
Data Input Voltage Differential	|VDIP-VDIN|	-	1	V
Control Input Voltage	VI	-0.3	Vcc+0.5	V
Control Output Current	Io	-20	20	mA

2. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Case Temperature	T_{OPR}	0	-	70	°C
Power Supply Voltage	V_{CC}	3.135	3.3	3.465	V
Instantaneous peak current at hot plug	I_{CC_IP}	-	-	6600	mA
Sustained peak current at hot plug	I_{CC_SP}	-	-	5494.5	mA
Maximum Power Dissipation	P_D	-	-	16.5	W
Maximum Power Dissipation, Low Power Mode	P_{DLP}	-	-	2	W
Signalling Speed per Lane	DRL	-	53.125	-	GBd
Control Input Voltage High	V_{IH}	VCC*0.7	-	VCC+0.3	V
Control Input Voltage Low	V_{IL}	-0.3	-	VCC*0.3	V
Two Wire Serial Interface Clock Rate	-	-	-	400	kHz
Power Supply Noise 1 kHz - 1 MHz (p-p)	-	-	-	66	mVpp
Operating Distance	-	2	-	500	m

3. Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Transmitter					
Wavelength	λ_C	1304.5	1311	1317.5	nm
Side Mode Suppression Ratio	SMSR	30	-	-	dB
Average Launch Power, each lane [1]	AOP_L	-2.9	-	4.0	dBm
Outer Optical Modulation Amplitude (OMAouter), each Lane	T_{OMA}	-0.8	-	4.2	dBm
Launch power in OMAouter minus TDECQ, each lane for extinction ratio >= 5 dB for extinction ratio < 5 dB	$T_{OMA-TDECQ}$	 -2.2 -1.9	-	-	dBm
Transmitter and Dispersion Eye Closure for PAM4 (TDECQ), each lane	TDECQ	-	-	3.4	dB
TDECQ – 10log10(Ceq), each lane	Ceq	-	-	3.4	dB
Average Launch Power of OFF Transmitter, each lane	T_{OFF}	-	-	-15	dBm
Extinction Ratio	ER	3.5	-	-	dB
Transmitter transition time	Tr			17	ps

RIN15.5OMA	RIN	-	-	-136	dB/ Hz
Optical return loss tolerance	ORL	-	-	15.5	dB
Transmitter Reflectance [2]	TR	-	-	-26	dB
Receiver					
Wavelength	λC0	1304.5	1311	1317.5	nm
Damage Threshold, each Lane	AOPD	5	-	-	dBm
Average Receive Power, each Lane	AOPR	-5.9	-	4	dBm
Receive Power (OMAouter), each Lane	OMAR	-	-	4.2	dBm
Receiver Reflectance	RR	-	-	-26	dB
Receiver Sensitivity (OMAouter), each Lane [3]	SOMA	-	-	Max (–3.9, SECQ – 5.3)	dBm
Stressed Receiver Sensitivity (OMAouter), each Lane [4]	SRS	-	-	-1.9	dBm
Conditions of stressed receiver sensitivity test					
Stressed eye closure for PAM4 (SECQ), lane under test	SECQ	-	3.4	-	dB
SECQ – 10log10(Ceq), lane under test	Ceq	-	-	3.4	dB

Notes:

1. Average launch power, each lane (min) is informative and not the principal indicator of signal strength
2. Transmitter reflectance is defined looking into the transmitter.
3. Receiver sensitivity (OMAouter), each lane (max) is informative and is defined for a transmitter with a value of SECQ up to 3.4 dB.
4. Measured with conformance test signal at TP3 for the BER = 2.4x10-4

4. Electrical Characteristics

Electrical Specification High Speed Signal (compliant with IEEE802.3ck C2M)

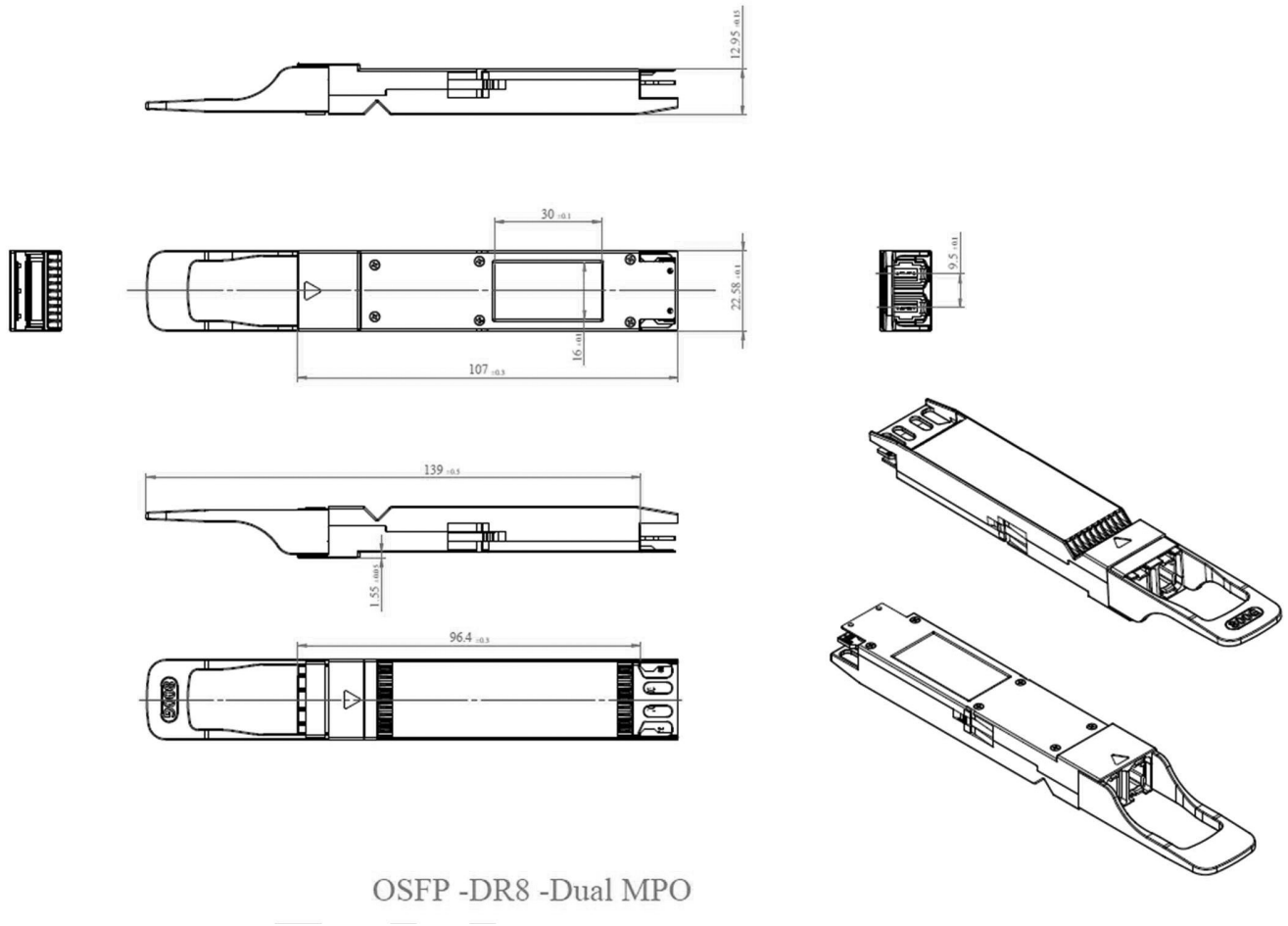
Parameter	Symbol	Min.	Typ.	Max.	Unit
Receiver (Module Output, TP4)					
Peak-to-peak AC common-mode voltage Low-frequency, VCMLF Full-band, VCMFB	-	-	-	 32 80	mV
Differential peak-to-peak output voltage Short mode Long mode	-	-	-	600 845	mV
Eye height	EH	15	-	-	mV

Vertical eye closure	VEC	-	-	12	dB
Common-mode to differential-mode return loss	RLDc	802.3ck 120G-1			dB
Effective return loss	ERL	8.5	-	-	dB
Differential termination mismatch	-	-	-	10	%
Transition time	-	8.5	-	-	ps
DC common-mode voltage tolerance	-	-0.35	-	2.85	V
Transmitter (Module Input, TP1)					
Differential pk-pk input Voltage tolerance (TP1a)	-	750	-	-	mV
Peak-to-peak AC common-mode voltage tolerance Low-frequency, VCMLF Full-band, VCMFB	-	-	-	 32 80	mV
Differential-mode to common-mode return loss	RLcd	802.3ck 120G-2			dB
Effective return loss	ERL	8.5	-	-	dB
Differential termination mismatch	-	-	-	10	%
Single-ended voltage tolerance range	-	-0.4	-	3.3	V
DC common-mode voltage tolerance	-	-0.35	-	2.85	V

Electrical Specification Low Speed Control and Sense Signals

Parameter	Symbol	Min.	Max.	Unit	Condition
Module output SCL and SDA	V_{OL}	0	0.4	V	
Module Input SCL and SDA	V_{IL}	-0.3	VCC*0.3	V	
	V_{IH}	VCC*0.7	VCC+0.5	V	
InitMode, ResetL and ModSelL	V_{IL}	-0.3	0.8	V	
	V_{IH}	2	VCC+0.3	V	
IntL	V_{OL}	0	0.4	V	
	V_{OH}	VCC-0.5	VCC+0.3	V	

5. Mechanical Diagram



OSFP -DR8 -Dual MPO

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-DR8	Nvidia	MMS4X00-NM-CLT

7. Contact Information

Tel: 800.590.9535
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