

Features

- 8x 100G PAM4 data rates
- Hot pluggable OSFP form factor
- 5nm DSP for low power dissipation: <14W
- Cooled 1310 EML Laser
- Electrical interface compliant with 100Gbps per lane, defined by IEEE 802.3 ck
- I2C Management interface compliant to CMIS Rev 5.0
- Compliant with IEEE Std 802.3cu 100GBASE LR1
- Internal CDR on both Transmitter and Receiver channels
- OSFP MSA package with Dual MPO 12 connectors
- Up to 10km on 9/125um SMF
- Single +3.3V power supply



- Class 1 laser safety certified
- Operating case temperature range: 0°C to 70°C
- RoHS6 Compliant

Applications

- High speed storage area networks
- 2x400G DR4++ applications

1. Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	TS	-40	85	°C
Relative Humidity	RH	5	95	%
Supply Voltage	VCC	-0.5	3.6	V

2. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Temperature	TC	0	40	70	°C
Supply Voltage	VCC	3.135	3.3	3.465	V
Data Rate		-	53.125	-	GBd
Modulation format		PAM4			

3. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Module Supply Current	I _{cc}	-	-	4.47	A	
Power Dissipation	PD	-	-	14	W	
Transmitter						
Input Differential Impedance	Z _{IN}	90	100	110	Ω	
Differential Data Input Swing	V _{IN} , P-P	-	-	845	mVP-P	
DC Common-Mode Input Voltage		-350	-	2850	mV	
Receiver						
Output Differential Impedance	Z _O	90	100	110	Ω	
Differential Data Output Swing	V _{OUT} , P-P	-	-	750	mVP-P	1
Dual Function Signals						
INT/RST _n	V_INT/RST _n _1	0.000	0.000	1.000	V	2
	V_INT/RST _n _2	0.000	0.000	1.000	V	3
	V_INT/RST _n _3	1.500	1.900	2.250	V	4
	V_INT/RST _n _4	2.750	3.000	3.465	V	5
LPW _n /PRSn	V_LPW _n /PRSn_1	0.000	0.950	1.100	V	6
	V_LPW _n /PRSn_2	1.400	1.700	2.250	V	7
	V_LPW _n /PRSn_3	2.750	3.300	3.465	V	8

Notes:

- Internally AC coupled, but requires an external 100Ω differential load termination.
- INT/R ST_n voltage for no Module
- INT/RST_n voltage for Module installed, H_RST_n=Low.
- INT/RST_n voltage for Module installed, H_RST_n=High, M_INT=Low.
- INT/RST_n voltage for Module installed, H_RST_n=High, M_INT= High.
- LPW_n/PRSn voltage for Module installed, H_LPW_n=Low.
- LPW_n/PRSn voltage for Module installed, H_LPW_n =
- LPW_n/PRSn voltage for no Module.

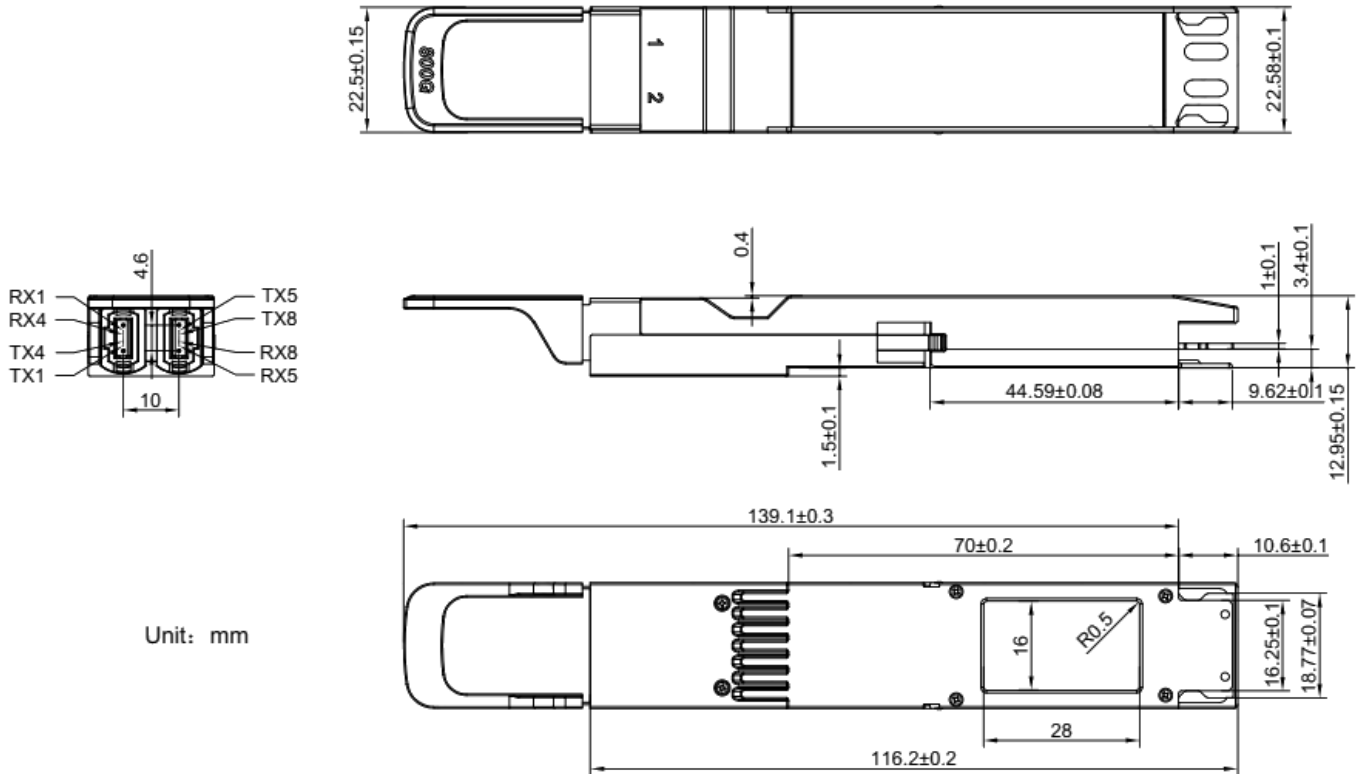
4. Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter						
Lane wavelengths	λ	1304.5	-	1317.5	nm	1
Side-mode suppression ratio	SMSR	30	-	-	dB	2
Average launch power, each lane	P	-1.9	-	4.8	dBm	3
Transmitter and dispersion penalty eye closure for PAM4, each lane	TDECQ	-	-	3.4	dB	4
Outer Optical Modulation Amplitude, each lane for TDECQ<1.4dB for 1.4dB≤TDECQ≤3.4dB	OMA outer	1.1	-	5	dBm	3
		-0.3+TDECQ	-	5	dBm	3
Extinction Ratio	ER	3.5	-	-	dB	4
Average launch power of OFF transmitter	Poff	-	-	-15	dBm	-
Optical Return Loss Tolerance	ORLT	-	-	15.6	dB	-
Transmitter reflectance	-	-	-	-26	dB	-
Receiver						
Lane wavelengths	λ	1304.5	-	1317.5	nm	
Receiver Sensitivity each lane (OMA outer), for TECQ<1.4dB for 1.4≤TECQ≤3.4dB				-6.1	dBm	5
				-7.5+TECQ	dBm	5
Receiver Overload, each lane (Pavg)	POL	4.8	-	-	dBm	
Damage Threshold, each lane		5.8	-	-	dBm	-
Receive power, each lane (OMAouter)	OMA	-	-	5	dBm	-
Receiver Reflectance		-	-	-26	dB	-
LOS De-Assert	LOSD	-	-	-10	dBm	
LOS Assert	LOSA	-18	-	-	dBm	
LOS Hysteresis	-	0.5	-	-	dB	-

Notes:

- 13nm width.
- Modulated.
- Class 1 Laser Safety per FDA/CDRH and EN (IEC) 60825 regulations.
- 4.53.125GBd PAM4.
- 53.125 G Bd @BER<2.4 x 10⁻⁴ and PRBS2³¹-1, per Channel.

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
Arista	OSFP-800G-2PLR4-CLT-A	MSA	AN-O800G-CLT-DR8PP

7. Contact Information

Tel: 800.590.9535

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