

## Features

- 8x100G 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 802.3ck
- I2C Management interface compliant to CMIS Rev 5.0
- Compliant with IEEE Std 802.3cu 100GBASE-FR1
- Internal CDR on both Transmitter and Receiver channels
- OSFP MSA package with Dual MPO 12 connectors
- Up to 2km on 9/125 um SMF



- Single +3.3V power supply
- Class 1 laser safety certified
- Operating case temperature range: 0°C to 70°C
- RoHS 6 Compliant

## Applications

- High speed storage area networks
- 2x400GDR4 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	Notes
Module Supply Current	Icc	-	-	4.47	A	
Power Dissipation	PD	-	-	14	W	
<b>Transmitter</b>						
Input Differential Impedance	ZIN	90	100	110	Ω	
Differential Data Input Swing	VIN, P-P	-	-	900	mVP-P	
DC Common-Mode Input Voltage		-350	-	2850	mV	
<b>Receiver</b>						
Output Differential Impedance	ZO	90	100	110	Ω	
Differential Data Output Swing	VOU, P-P	-	-	900	mVP-P	1
<b>Dual Function Signals</b>						
INT/RSTn	V_INT/RSTn_1	0.000	0.000	1.000	V	2
	V_INT/RSTn_2	0.000	0.000	1.000	V	3
	V_INT/RSTn_3	1.500	1.900	2.250	V	4
	V_INT/RSTn_4	2.750	3.000	3.465	V	5
LPWn/PRSn	V_LPWn/PRSn_1	0.000	0.950	1.100	V	6
	V_LPWn/PRSn_2	1.400	1.700	2.250	V	7
	V_LPWn/PRSn_3	2.750	3.300	3.465	V	8

### Notes:

- Internally AC coupled, but requires an external 100Ω differential load termination.
- INT/RSTn voltage for no Module
- INT/RSTn voltage for Module installed, H\_RSTn=Low.
- INT/RSTn voltage for Module installed, H\_RSTn=High, M\_INT=Low.
- INT/RSTn voltage for Module installed, H\_RSTn=High, M\_INT= High.
- LPWn/PRSn voltage for Module installed, H\_LPWn=Low.
- LPWn /PRSn voltage for Module installed, H\_LPWn = High
- LPWn/PRSn voltage for no Module.

## 4. Optical Characteristics

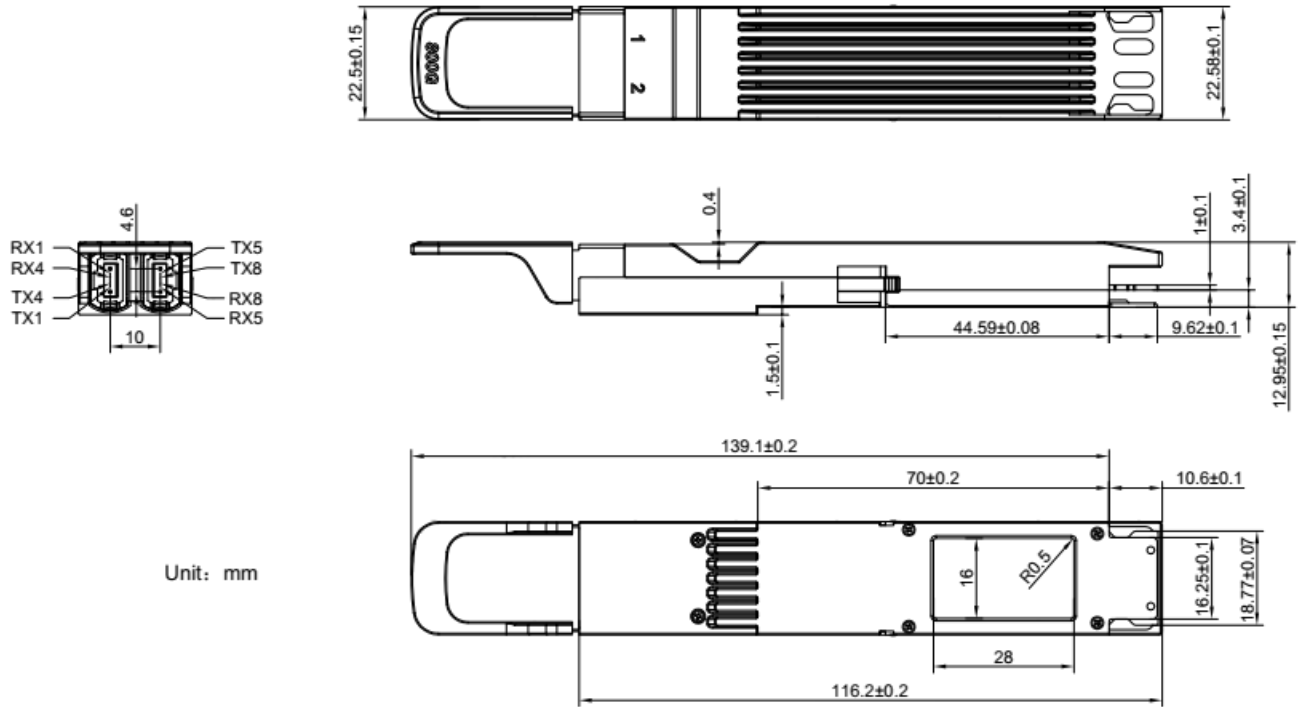
Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
<b>Transmitter</b>						
Lane wavelengths	λ	1304.5	-	1317.5	nm	1
Side-mode suppression ratio	SMSR	30	-	-	dB	2
Average launch power, each lane	P	-3.1	-	4	dBm	3

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	-0.1	-	4.2	dBm	3
		-1.5+ TDECQ	-	4.2	dBm	3
Extinction Ratio	ER	3.5	-	-	dB	4
Average launch power of OFF transmitter	Poff	-	-	-15	dBm	-
Optical Return Loss Tolerance	ORLT	-	-	17.1	dB	-
Transmitter reflectance	-	-	-	-26	dB	-
<b>Receiver</b>						
Lane wavelengths	λ	1304.5	-	1317.5	nm	
Receiver Sensitivity each lane (OMA outer), for TECQ<1.4dB for 1.4≤TECQ≤3.4dB				-4.5	dBm	5
				-5.9+ TDECQ	dBm	5
Receiver Overload, each lane (Pavg)	POL	4	-	-	dBm	
Damage Threshold, each lane		5	-	-	dBm	-
Receive power, each lane (OMAouter)	OMA	-	-	4.2	dBm	-
Receiver Reflectance		-	-	-26	dB	-
LOS De-Assert	LOSD	-	-	-10	dBm	
LOS Assert	LOSA	-16	-	-	dBm	
LOS Hysteresis	-	0.5	-	-	dB	-

**Notes:**

1. 13nm width.
2. Modulated.
3. Class 1 Laser Safety per FDA/CDRH and EN (IEC) 60825
4. 53.125GBd PAM4.
5. Measured with PRBS31Q test pattern, 53.125GBd, PAM4, BER< 2.4E<sup>-4</sup>

## 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-FIN-DR8P	Arista	OSFP-800G-2XDR4-A

## 7. Contact Information

Tel: 800.590.9535

Web: <http://www.approvednetworks.com>