

Features

- 8x100G PAM4 data rates
- Hot pluggable OSFP form factor
- 5nm DSP for low power dissipation: <1.4 W
- 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 400GBASE FR4
- Internal CDR on both Transmitter and Receiver channels
- OSFP MSA package with Dual LC connectors
- Cooled 1271/1291/1311/1331 EML Laser
- Up to 2 km 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-FR4 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		-	106.25	-	Gb/s

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_L PW_n=Lo w.
- LPW_n/PRSn voltage for Module installed, H_LPW_n =
- LPW_n/PRSn voltage for no Module.

4. Optical Characteristics

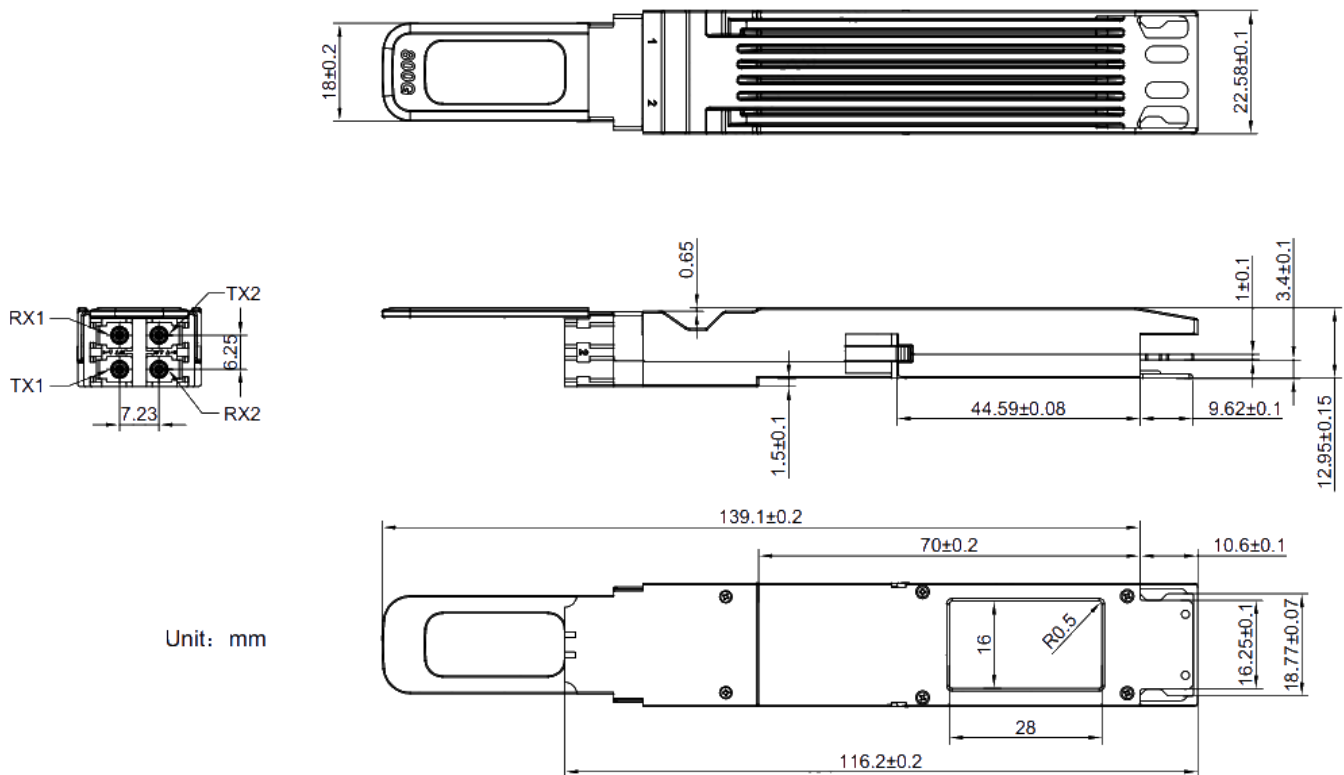
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter						
Average Optical Power per Channel	Pavg	-3.2	-	4.4	dBm	4
Outer Optical Modulation Amplitude, each lane	TDECQ<1.4dB	-0.2	-	3.7	dBm	4
	1.4≤TDECQ≤3.4dB	-1.6+ TDECQ	-	3.7	dBm	4
Extinction Ratio	ER	3.5	-	-	dB	
Center Wavelength Range	CH1	1264.5	1271.5	1277.5	nm	1
	CH2	1284.5	1291.5	1297.5	nm	1
	CH3	1304.5	1311.5	1317.5	nm	1
	CH4	1324.5	1331.5	1337.5	nm	1
	CH5	1264.5	1271.5	1277.5	nm	1
	CH6	1284.5	1291.5	1297.5	nm	1
	CH7	1304.5	1311.5	1317.5	nm	1
	CH8	1324.5	1331.5	1337.5	nm	1
Side Mode suppression Ratio	SMSR	30	-	-	dB	5
PAM4 TDECQ		-	-	3.4	dB	
Optical Return Loss Tolerance	ORLT	-	-	17.1	dB	
Pout of OFF transmitter, each lane	Poff	-	-	-30	dBm	
Receiver						
Center Wavelength Range	CH1	1264.5	1271.5	1277.5	nm	1
	CH2	1284.5	1291.5	1297.5	nm	1
	CH3	1304.5	1311.5	1317.5	nm	1
	CH4	1324.5	1331.5	1337.5	nm	1
	CH5	1264.5	1271.5	1277.5	nm	1
	CH6	1284.5	1291.5	1297.5	nm	1
	CH7	1304.5	1311.5	1317.5	nm	1
	CH8	1324.5	1331.5	1337.5	nm	1
Receiver Sensitivity (OMA)	RxSENS	-	-	-4.6	dBm	
Receiver Overload (Pavg)	POL	4.4	-	-	dBm	2
Receiver reflectance		-	-	-26	dB	
RSSI Accuracy		-2		2	dB	

LOS De-Assert	LOSD	-	-	-10	dBm	3
LOS Assert	LOSA	-16	-	-	dBm	3
LOS Hysteresis		0.5	-	-	dB	

Notes:

1. 13mm width.
2. Per Channel.
3. Average power.
4. Class 1 Laser Safety per FDA/CDRH and EN (IEC) 608 25 regulations.
5. Modulated

5. Mechanical Diagram



6. Ordering Information

OEM	Part Number	OEM	Part Number
Arista	OSFP-800G-2FR4-A	MSA	AN-O800G-FIN-2FR4
Nvidia	MMS4X50-NM-A		

7. Contact Information

Tel: 800.590.9535

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