

DAC-A-OSFP-800G-IB-FTF-XM

NVIDIA Mellanox[®] Compatible 800GBase OSFP to OSFP- RHS Direct Attach Cable

Copper, Active, 3m to 5m Lengths, Commercial Temperature

FEATURES

- Hot Pluggable OSFP form factor with finned top to Remove heat sink (Flat-top) design
- Maximum Aggregate Data Rate: 800Gbps (8 x 100G/Per Lane)
- Based on 8-channels of 100G-PAM4 modulation
- Built-in EQ Linear Driver chip
- OSFP switch end 1.5 Watts; Single port OSFP ends 0.6 Watts
- SFF-8665 compliant
- CMIS compliant I2C management interface
- Commercial operating temperature range: 0°C to 70°C
- DAC Firmware supports both InfiniBand and Ethernet

APPLICATIONS

- InfiniBand 2x400Gb/s Quantum-2
- InfiniBand Spectrum-4 Ethernet switch-to-switch and switch-to-DGX-H100
- Data storage and communication industry
- Switch / router / HBA
- Enterprise network
- Data Centre Network

DESCRIPTION

ATGBICS DAC-A-OSFP-800G-IB-FTF-XM is an 800G OSFP (Octal Small Formfactor Pluggable) to OSFP-RHS Active Copper Cable (ACC). It has an equalizer integrated circuit to extend the length while maintaining very low latency and very low power. The ACC supports both InfiniBand and Ethernet and is automatically enabled depending on the protocol of the switch attached to.

DAC-A-OSFP-800G-IB-FTF-XM cable assembly is compliant with the OSFP-MSA and IEEE 802.3ck. It's a high performance & cost effective I/O solution for LAN, HPC and SAN. The high speed cable assemblies meet and exceed 800Gigabit Ethernet, InfiniBand EDR/HDR and temperature requirements for performance and reliability.

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Max	Unit
Storage Temperature	T _s	-20	85	°C
Case Operating Temperature	T _c	0	70	°C
Humidity (non-condensing)	Rh	5	95	%

RECOMMENDED OPERATING ENVIRONMENT

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	T _c	0	-	70	°C
Baud Rate per Lane (PAM4)	fd	-	53.125		GBaud/s
Humidity	Rh	5	-	85	%

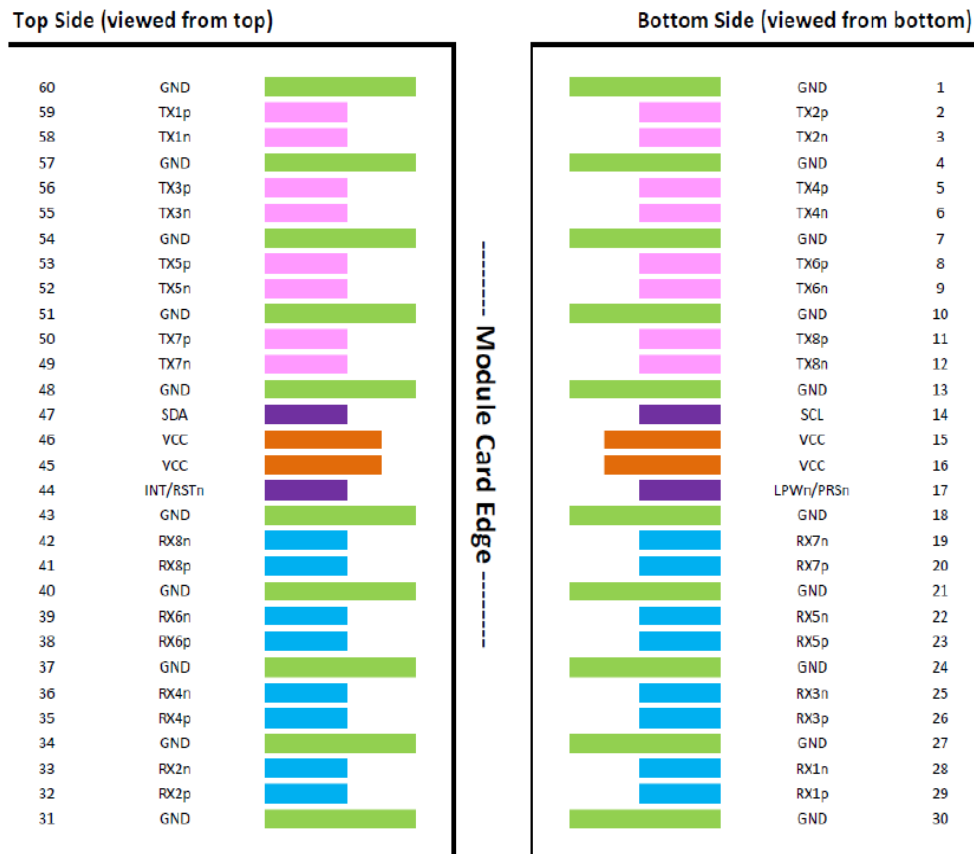
ELECTRICAL SPECIFICATIONS

Parameter	Min	Typical	Max	Units	Note
Characteristic impedance	90	100	110	Ω	
Time propagation delay	-	-	4.5	ns/m	Informative Reference

SI REQUIREMENTS

Test Items	Specification	Notes
SDD21&SDD12	(Please reference only, when the length is more than 1.5m) ≤19.75 dB Min. @26.56 GHz; ≥ 11.0 dB max. @26.56GHz;	From 0.01 GHz to 26.56GHz
ERL	Minimum cable assembly ERL(*) : ≥ 8.25dB	/
SCD12-SDD12 SCD21-SDD21	≥ 10 0.05GHz≤f<12.89GHz ≥ 14-0.3108f 12.89GHz≤f≤40GHz	(up to 40GHz)

PIN DESCRIPTION



Electrical Pinout

Pin	Symbol	Description	Pin	Symbol	Description
1	GND	Ground	31	GND	Ground
2	Tx2p	Transmitter Non-Inverted Data Input	32	Rx2p	Receiver Non-Inverted Data Output
3	Tx2n	Transmitter Inverted Data Input	33	Rx2n	Receiver Inverted Data Output
4	GND	Ground	34	GND	Grounds
5	Tx4p	Transmitter Non-Inverted Data Input	35	Rx4p	Receiver Non-Inverted Data Output
6	Tx4n	Transmitter Inverted Data Input	36	Rx4n	Receiver Inverted Data Output
7	GND	Ground	37	GND	Ground
8	Tx6p	Transmitter Non-Inverted Data Input	38	Rx6p	Receiver Non-Inverted Data Output
9	Tx6n	Transmitter Inverted Data Input	39	Rx6n	Receiver Inverted Data Output
10	GND	Ground	40	GND	Ground
11	Tx8p	Transmitter Non-Inverted Data Input	41	Rx8p	Receiver Non-Inverted Data Output
12	Tx8n	Transmitter Inverted Data Input	42	Rx8n	Receiver Inverted Data Output
13	GND	Ground	43	GND	Ground
14	SCL	2-wire serial interface clock	44	INT / RSTn	Module Interrupt / Module Reset
15	VCC	+3.3V Power	45	VCC	+3.3V Power
16	VCC	+3.3V Power	46	VCC	+3.3V Power

CONTINUED

17	LPWn / PRSn	Low-Power Mode / Module Present	47	SDA	2-wire Serial interface data
18	GND	Ground	48	GND	Ground
19	Rx7n	Receiver Inverted Data Output	49	Tx7n	Transmitter Inverted Data Input
20	Rx7p	Receiver Non-Inverted Data Output	50	Tx7p	Transmitter Non-Inverted Data Input
21	GND	Ground	51	GND	Ground
22	Rx5n	Receiver Inverted Data Output	52	Tx5n	Transmitter Inverted Data Input
23	Rx5p	Receiver Non-Inverted Data Output	53	Tx5p	Transmitter Non-Inverted Data Input
24	GND	Ground	54	GND	Ground
25	Rx3n	Receiver Inverted Data Output	55	Tx3n	Transmitter Inverted Data Input
26	Rx3p	Receiver Non-Inverted Data Output	56	Tx3p	Transmitter Non-Inverted Data Input
27	GND	Ground	57	GND	Ground
28	Rx1n	Receiver Inverted Data Output	58	Tx1n	Transmitter Inverted Data Input
29	Rx1p	Receiver Non-Inverted Data Output	59	Tx1p	Transmitter Non-Inverted Data Input
30	GND	Ground	60	GND	Ground

REGULATORY COMPLIANCE

Feature	Test Method	Performance
Electrostatic Discharge(ESD) to the Electrical Pins	MIL-STD-883C Method 3015.7	Class 1(>2000 Volts)
Electromagnetic Interference (EMI)	FCC Class B	Compliant with Standards
	CENELEC EN55022 Class B	
	CISPR22 ITE Class B	
RF Immunity (RFI)	IEC61000-4-3	Typically Show no Measurable Effect from a 10V/m Field Swept from 80 to 1000MHz
RoHS Compliance	RoHS Directive 2011/65/EU and its Amendment Directives (EU)2015/863	RoHS (EU) 2015/863 compliant

MECHANICAL DIMENSIONS (UNIT: mm)

