



100G QSFP28 to QSFP28 Direct Attach Cable (DAC) Hot Pluggable, Twinax Copper Cable, 1M~5M

Part number: FDAC-A0G-QPQP-xxx-yy



Overview:

FDAC-A0G-QPQP-xxx-yy QSFP+ to QSFP+ Twinax copper direct attach cables (DAC) are high performance, cost effective I/O solutions for 100Gb Ethernet applications. The QSFP28 DAC are suitable for very short distances and offer a cost effective way to connect within racks and across adjacent racks. It offers passive copper cables in lengths of 1 meter ~ 5 meters.

Applications:

- | 100GBase Ethernet Application
- | Data center cabling infrastructure
- | High capacity I/O in Storage Area Networks, Network Attached Storage, and Storage Servers
- | Switched fabric I/O such as ultra high bandwidth switches and routers

Features:

- | Compliant with QSFP28 MSA SFF-8665
- | Compliant with IEEE802.3bj standard
- | 4 independent duplex channels and operating data rate up to 25.78125Gbps per channel
- | Hot Pluggable
- | I/O Connector designed for high speed differential signal applications
- | Ultra low crosstalk for improved performance
- | Low insertion loss
- | BER better than 10^{-15}
- | 2-wire I2C interface for management
- | Single +3.3V power supply
- | All-metal housing for superior EMI performance
- | RoHS Compliant

Recommended Operating Conditions :

Parameters	Symbol	Min.	Max.	Unit
Storage Temperature	T _{ST}	-40	+85	°C
Case Operating Temperature	T _{OP}	0	+70	°C
Supply Voltage	V _{cc}	3.13	3.47	V
Storage Relative Humidity	RH	5	95	%



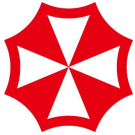
Product Specifications :

Parameters	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	V _{cc}	+3.13	+3.3	+3.47	V
Supply Current	I _{cc}			10	mA
Total Power Consumption	P _d			0.03	W
Data Rate (per lane)	DR1		25.78125		Gbps
Data Rate (Aggregated)	DR2		103.125		Gbps

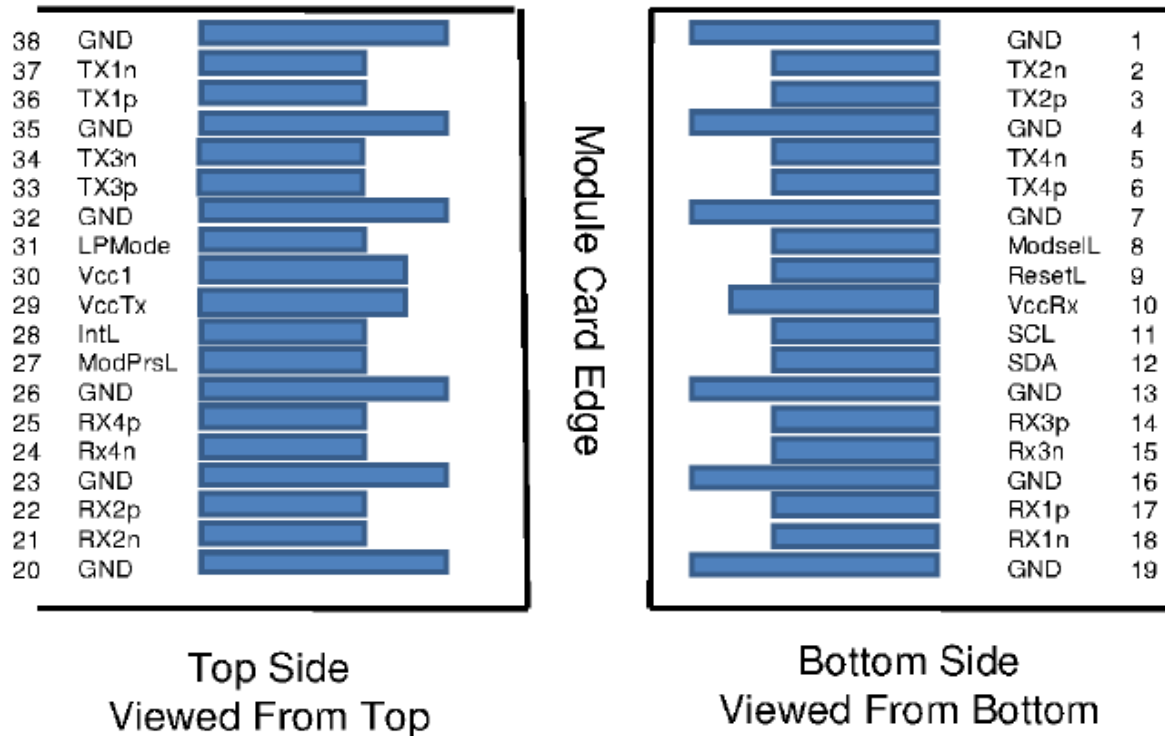
Note: Stress or conditions exceed the above range may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those listed in the operational sections of this specification is not applied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

High Speed Specifications :

Parameters	Symbol	Min.	Typ.	Max.	Unit	Notes
Differential Impedance	Z _d	90	100	110	Ω	
Differential Input Return Loss	SDDXX	<-12+2* SQRT (f) with f in GHz			dB	0.01~4.1GHz
		<-6.3+13* Log10/(f/5.5) with f in GHz			dB	4.1~19GHz
Common Mode Output Return Loss	SCCXX	< -7+1.6*f with f in GHz			dB	0.01~12.89GHz
				-3	dB	12.89~19GHz
Difference Waveform Distortion Penalty	dWDPC			6.75	dB	
VMA Loss	L			4.4	dB	
VMA Loss to Crosstalk Ratio	VCR	32.5			dB	

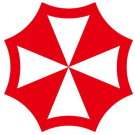


100G QSFP28 Pin Assignment :

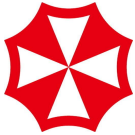


100G QSFP28 Pin Description :

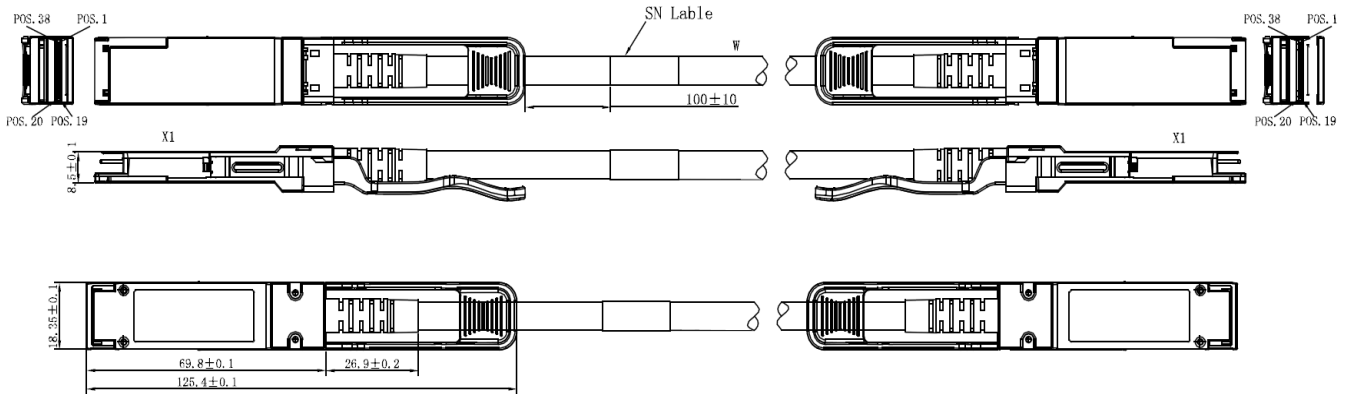
Pin	Logic	Name	Function / Description
1		GND	Module Ground
2	CML-I	Tx2n	Transmitter Inverted Data Input
3	CML-I	Tx2p	Transmitter Non-Inverted Data Input
4		GND	Module Ground
5	CML-I	Tx4n	Transmitter Inverted Data Input
6	CML-I	Tx4p	Transmitter Non-Inverted Data Input
7		GND	Module Ground
8	LVTLL-I	ModSelL	Module Select
9	LVTLL-I	ResetL	Module Reset
10		VccRx	+3.3V Power Supply Receiver
11	LVC MOS-I/O	SCL	2-Wire Serial Interface Clock



12	LVC MOS-I/O	SDA	2-Wire Serial Interface Data
13		GND	Module Ground
14	CML-O	Rx3p	Receiver Non-Inverted Data Output
15	CML-O	Rx3n	Receiver Inverted Data Output
16		GND	Module Ground
17	CML-O	Rx1p	Receiver Non-Inverted Data Output
18	CML-O	Rx1n	Receiver Inverted Data Output
19		GND	Module Ground
20		GND	Module Ground
21	CML-O	Rx2p	Receiver Non-Inverted Data Output
22	CML-O	Rx2n	Receiver Inverted Data Output
23		GND	Module Ground
24	CML-O	Rx4p	Receiver Non-Inverted Data Output
25	CML-O	Rx4n	Receiver Inverted Data Output
26		GND	Module Ground
27	LVTLL-O	ModPrsL	Module Present
28	LVTLL-O	IntL	Interrupt
29		VccTx	+3.3V Power Supply Transmitter
30		Vcc1	+3.3V Power Supply
31	LVTLL-I	LPMODE	Low Power Mode
32		GND	Module Ground
33	CML-I	Tx3n	Transmitter Inverted Data Input
34	CML-I	Tx3p	Transmitter Non-Inverted Data Input
35		GND	Module Ground
36	CML-I	Tx1n	Transmitter Inverted Data Input
37	CML-I	Tx1p	Transmitter Non-Inverted Data Input
38		GND	Module Ground



Mechanical Dimensions :



(All Dimensions are ±0.20mm Unless Otherwise Specified, Unit: mm)

Ordering Information :

Part No.	Product Description	Length Tolerance
FDAC-A0G-QPQP-P01-30	100G-CR4 to 100G-CR4 Copper Cable, 30AWG, 1.0m, passive	± 25 mm
FDAC-A0G-QPQP-P1X-30	100G-CR4 to 100G-CR4 Copper Cable, 30AWG, 1.5m, passive	± 30 mm
FDAC-A0G-QPQP-P02-30	100G-CR4 to 100G-CR4 Copper Cable, 30AWG, 2.0m, passive	± 35 mm
FDAC-A0G-QPQP-P2X-26	100G-CR4 to 100G-CR4 Copper Cable, 30AWG, 2.5m, passive	± 35 mm
FDAC-A0G-QPQP-P03-26	100G-CR4 to 100G-CR4 Copper Cable, 26AWG, 3.0m, passive	± 45 mm
FDAC-A0G-QPQP-P04-26	100G-CR4 to 100G-CR4 Copper Cable, 26AWG, 4.0m, passive	± 50 mm
FDAC-A0G-QPQP-P05-26	100G-CR4 to 100G-CR4 Copper Cable, 26AWG, 5.0m, passive	± 65 mm
FDAC-A0G-QPQP-P05-24	100G-CR4 to 100G-CR4 Copper Cable, 24AWG, 5.0m, passive	± 65 mm