



100G QSFP28 Direct Attach Cable (DAC) Hot Pluggable, Twinax Copper Cables, Passive 0.5~5M

Part Number: FDAC-A0G-QPQP-Pxx-xx



Overview

FDAC-A0G-QPQP-Pxx-xx QSFP28 Copper Twinax Direct Attach Cables (DAC) are cost-effective and energy-saving I/O solutions for 100GBASE Ethernet applications. The QSFP28 DAC are suitable for very short distances within racks and across adjacent racks. The Passive DAC has no signal amplification and offer cable lengths reach 0.5m to 5m.

Applications

- 40G / 100GBASE Ethernet
- InfiniBand 4xFDR-10, 4xFDR, 4xEDR
- Data Center & Storage
- Datacom / Telecom Switch & Router

Features

- Compliant with IEEE802.3bj 100GBASE-CR4, IEEE802.3ba 40GBASE-CR4
- Compliant with SFF-8665 QSFP28 MSA
- Support 40G / 100G Ethernet
- Support InfiniBand 4xFDR-10, 4xFDR, 4xEDR
- Hot Pluggable
- 2-wire interface for management
- Single +3.3V power supply
- Link distance up to 5m
- Enhanced EMI / EMC performance
- RoHS Compliant

Absolute Maximum Ratings

Parameters	Symbol	Min.	Max.	Unit
Storage Temperature	T _{ST}	-40	+80	°C
Storage Relative Humidity	RH	5	95	%
Supply Voltage	V _{CC}	-0.5	+3.6	V



Recommended Operating Conditions

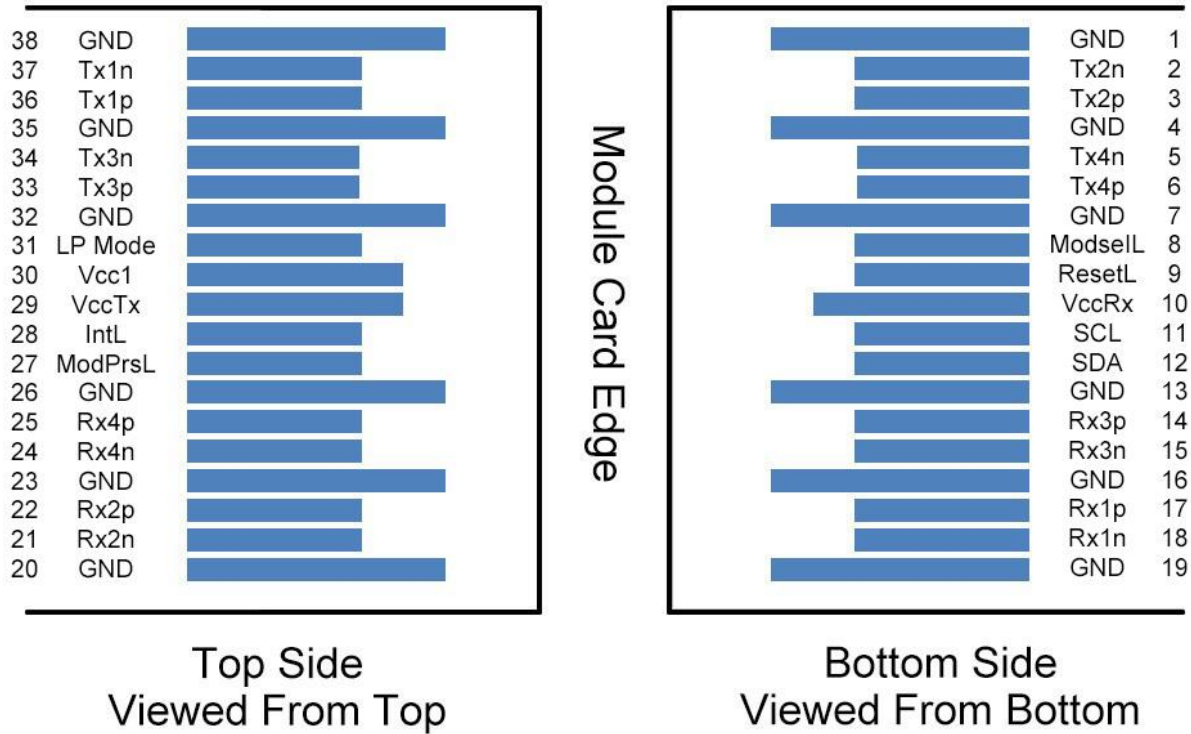
Parameters	Symbol	Min.	Typ.	Max.	Unit
Case Operating Temperature	T _{OP}	-20	-	+75	°C
Supply Voltage	V _{CC}	+3.13	+3.3	+3.47	V
Supply Current, per QSFP28	I _{CC}			60	mA
Power Consumption, per QSFP28	P			0.2	W
Operating Data Rate, per Lane	DR	10.3125	25.78125	27.9525	Gb/s
Minimum Cable Bending Radius		30			mm

Specifications

Parameters	Symbol	Min.	Typ.	Max.	Unit
Protocols Supported	Ethernet 40Gb / 100Gb InfiniBand 4xFDR-10, 4xFDR, 4xEDR				
Differential Insertion Loss @12.89GHz	S _{DD21} (Max.)	30AWG 1m		10.5	dB
		30/28AWG 3m		21.5	
		26AWG 3m		16.5	
		26AWG 5m		22.0	
Impedance	Z _{IN}	85	100	115	Ohm



Pin Assignment



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

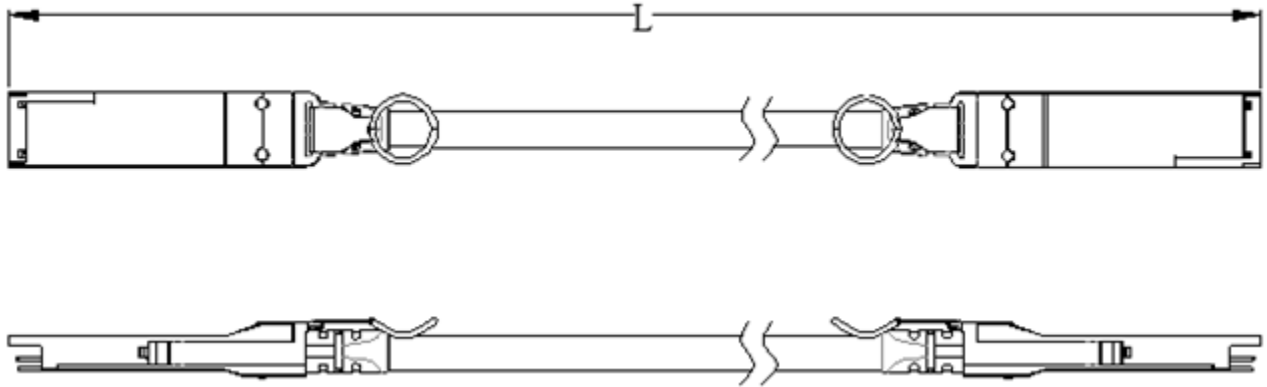


13		GND	Module Ground
14	CML-O	Rx3p	Receiver Non-Inverted Data Output
15	CML-O	Rx3n	Receiver Inverted Data Output
16		GND	Module Ground
17	CML-O	Rx1p	Receiver Non-Inverted Data Output
18	CML-O	Rx1n	Receiver Inverted Data Output
19		GND	Module Ground
20		GND	Module Ground
21	CML-O	Rx2n	Receiver Inverted Data Output
22	CML-O	Rx2p	Receiver Non-Inverted Data Output
23		GND	Module Ground
24	CML-O	Rx4n	Receiver Inverted Data Output
25	CML-O	Rx4p	Receiver Non-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	Tx3p	Transmitter Non-Inverted Data Input
34	CML-I	Tx3n	Transmitter Inverted Data Input
35		GND	Module Ground
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input
37	CML-I	Tx1n	Transmitter Inverted Data Input
38		GND	Module Ground

Note1: GND is the symbol for signal and supply (power) common for QSFP28 modules. All are common within the QSFP28 module and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal common ground lane.



Mechanical Dimensions



(All Dimensions are $\pm 0.20\text{mm}$ Unless Otherwise Specified, Unit: mm)

Ordering Information

Part No.	Product Description	Length Tolerance
FDAC-A0G-QPQP-PX5-30	100GBASE-CR4, Twinax PVC cable, 30AWG, 0.5m, Passive	$\pm 15\text{mm}$
FDAC-A0G-QPQP-P01-30	100GBASE-CR4, Twinax PVC cable, 30AWG, 1.0m, Passive	$\pm 25\text{mm}$
FDAC-A0G-QPQP-P1X-30	100GBASE-CR4, Twinax PVC cable, 30AWG, 1.5m, Passive	$\pm 30\text{mm}$
FDAC-A0G-QPQP-P02-30	100GBASE-CR4, Twinax PVC cable, 30AWG, 2.0m, Passive	$\pm 35\text{mm}$
FDAC-A0G-QPQP-P2X-30	100GBASE-CR4, Twinax PVC cable, 30AWG, 2.5m, Passive	$\pm 35\text{mm}$
FDAC-A0G-QPQP-P2X-28	100GBASE-CR4, Twinax PVC cable, 28AWG, 2.5m, Passive	$\pm 35\text{mm}$
FDAC-A0G-QPQP-P03-30	100GBASE-CR4, Twinax PVC cable, 30AWG, 3.0m, Passive	$\pm 45\text{mm}$
FDAC-A0G-QPQP-P03-28	100GBASE-CR4, Twinax PVC cable, 28AWG, 3.0m, Passive	$\pm 45\text{mm}$
FDAC-A0G-QPQP-P03-26	100GBASE-CR4, Twinax PVC cable, 26AWG, 3.0m, Passive	$\pm 45\text{mm}$
FDAC-A0G-QPQP-P04-26	100GBASE-CR4, Twinax PVC cable, 26AWG, 4.0m, Passive	$\pm 50\text{mm}$
FDAC-A0G-QPQP-P05-26	100GBASE-CR4, Twinax PVC cable, 26AWG, 5.0m, Passive	$\pm 65\text{mm}$