

40Gb/s QSFP+ Active Copper Cable

APCA04-QQCXXX-yy





40Gb/s QSFP+ Active Copper Cable

APCA04-QQCXXX-yy

Product Features

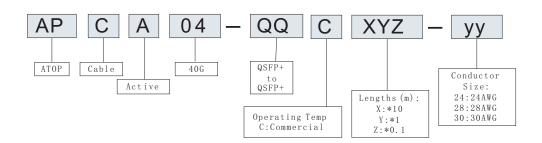
- √ Available in lengths of 1 to 7m
- √ 4 independent full-duplex channels up
- ✓ To 10.3Gbps data rate per wavelength Hot-pluggable QSFP +footprint
- √ RoHS compliant and Lead Free
- ✓ Power dissipation <1.5W (0~70°C)
- √ Commercial operating temperature optional
- √ Compliant with QSFP + MSA
- √ Fully comply with IEEE802.3ba and QDR specifications

Applications

- √ 40G Ethernet
- ✓ Infiniband 4X SDR DDR QDR
- ✓ Serial data transmission



Product Selection



Part Number	Lengths	Wire Size
APCA04-QQC010-30	1m	AWG30
APCA04-QQC020-30	2m	AWG30
APCA04-QQC030-30	3 m	AWG30
APCA04-QQC050-30	5m	AWG30
APCA04-QQC070-30	7m	AWG30
APCA04-QQC080-28	8m	AWG28
APCA04-QQC100-28	10m	AWG28

*For availability of additional cable lengths, please contact ATOP.

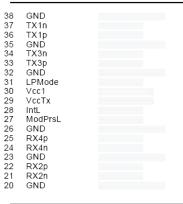


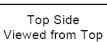
Pin Descriptions

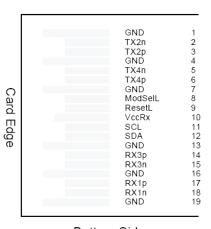
Pin	Symbol	Name Ref.
1	GND	Ground
2	Tx2n	Transmitter Inverted Data Input, CML-I
3	Tx2p	Transmitter Non-Inverted Data output, CML-I
4	GND	Ground
5	Tx4n	Transmitter Inverted Data Input, CML-I
6	Tx4p	Transmitter Non-Inverted Data output, CML-I
7	GND	GND
		The ModSelL is an input pin. When held low by the host, the module responds
		to 2-wire serial communication commands. The ModSelL allows the use of
8	ModSelL	multiple QSFP+ modules on asingle 2-wire interface bus. When the ModSeIL
		is "High", the module shall not respond to or acknowledge any 2-wire interface
		communication from the host. ModSelL signal input node must be biased to
		the "High" state in the module
		The ResetL pin must be pulled to Vcc in the QSFP+ module. A low level on the
		$Reset Lpinforlongerthantheminimumpulselength(t_Reset_init)initiatesa$
9	ResetL	complete module reset, returning all user module settings to their default state.
		$Module\ Reset\ Assert\ Time\ (t_init)\ starts\ on\ the\ rising\ edge\ after\ the\ low\ level$
		on the ResetL pin is released.
10	VccRx	+ 3.3V Power Supply Receiver
11	SCL	2-Wire Serial Interface Clock
12	SDA	2-Wire Serial Interface Data
13	GND	GND
14	Rx3p	Receiver Non-Inverted Data Output, CML-O
15	Rx3n	Receiver Inverted Data Output, CML-O
16	GND	GND
17	Rx1p	Receiver Non-Inverted Data Output, CML-O
18	Rx1n	Receiver Inverted Data Output, CML-O
19	GND	Ground
20	GND	Ground
21	Rx2n	Receiver Inverted Data Output, CML-O
22	Rx2p	Receiver Non-Inverted Data Output, CML-O
23	GND	Ground
24	Rx4n	Receiver Inverted Data Output, CML-O
25	Rx4p	Receiver Non-Inverted Data Output, CML-O



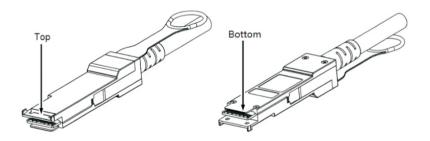
26	CND	Court d
26	GND	Ground
27	ModPrsL	Module Present, connect to GND
		The IntL pin is an open collector output and must be pulled
		to host supply voltage on the host board. The INTL pin is de-asserted
28	IntL	"High" after completion of reset, when byte 2 bit 0 (Data Not Ready) is
		read with a value of '0' and the flag field is read.
29	VccTx	+3.3 V Power Supply transmitter
30	Vcc1	+3.3 V Power Supply
		The LPMode pin shall be pulled up to Vcc in the QSFP+ module.
31	LPMode	This function is affected by the LPMode pin and the combination of the
		$Power_over-ride\ and\ Power_set\ software control\ bits\ (Address\ A0h,\ byte\ 93\ bits\ 0,1).$
32		
32	GND	Ground
33	GND Tx3p	Ground Transmitter Non-Inverted Data Input, CML-I
33	Тх3р	Transmitter Non-Inverted Data Input, CML-I
33	Tx3p Tx3n	Transmitter Non-Inverted Data Input, CML-I Transmitter Inverted Data Output, CML-I
33 34 35	Tx3p Tx3n GND	Transmitter Non-Inverted Data Input, CML-I Transmitter Inverted Data Output, CML-I Ground
33 34 35 36	Tx3p Tx3n GND Tx1p	Transmitter Non-Inverted Data Input, CML-I Transmitter Inverted Data Output, CML-I Ground Transmitter Non-Inverted Data Input, CML-I







Bottom Side Viewed from Bottom



Pin-out of Connector Block on Host Board



Absolute Maximum Ratings

Parameter	Symbol	Min	Тур	Max	Unit	Ref.
Maximum Supply Voltage	Vcc	-0.5		+4.0	V	
StorageTemperature	TS	-4.0		+85	°C	
Operating Humidity	RH	0		85	%	

Recommended Operating Conditions

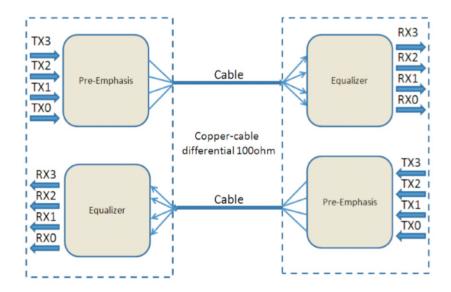
Parameter	Symbol	Min	Тур	Max	Unit	Ref.
Power Supply Voltage	Vcc	3.13	3.30	3.47	V	
Power Supply Current	lcc	-	-	1	Α (Commercial
Case Operating Temperature	Tc	0	-	+70	°C	Commercial
Bit Rate Each Lane	Br	1	-	11.3	Gbps	
Length	Lmax	1	-	10	m	

Cable specifications

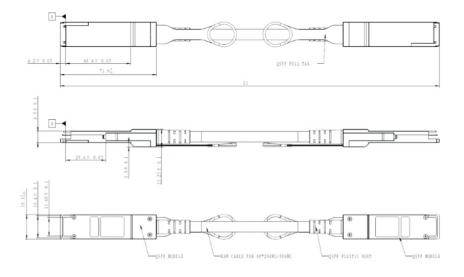
Parameter	Symbol	Min	Тур	Max	Unit	Ref.
Sizes	Rin	30		28	AWG	
impedance	Z	90	100	110	Ohm	



Product block diagram



Mechanical Specifications



Unit: mm Tolerance: ± 0.2mm

Revision History

Revision	Initiated	Reviewed	Approved	DCN	Release Date
Version1.0	Tang zhiqiang	LiTao	Ding zheng	New Released.	Nov 22, 2019



let's make it personal

atoptechnology.com