FTQ-C4XG-Tx

QSFP+ 40G Copper Twinax, 1m-10m

Description

QSFP+ DAC cable can be used to setup high speed serial data links between two networking devices. This cable is equipped with two 40Gbps QSFP+ connectors. Low power consumption and price make this solution very attractive, especially for interconnections on short distances. Maximum length available for those cables is 5 meters (passive version) and 10 meters (active version). Thanks to module's compact size port density of host device can be archived easily. Casing made fully from metal alloys ensures very good EMI immunity. Module is fully compliant with QSFP+ MSA. Transceiver can be prepared as compatible with: Cisco, HP, Netgear, Avaya, D-Link, Brocade, Extreme Networks, Huawei, Enterasys, 3Com, Alcatel-Lucent and other. To confirm compatibility please contact technical support before ordering.

Applications

- 40G Ethernet, 10G Ethernet
- Infiniband 4x SDR, DDR, QDR
- Rack to rack connections

Fibrain Co., Ltd.
Address: ul. Wspólna 4A, 35-205 Rzeszów, Poland
Tel: +48 17 86-60-811, +48 17 86-60-812
Fax: +48 17 86-60-810
Email: info@fibrain.com http://www.fibrain.com

QSFP+ Transceivers

Key features

- Two 40Gbps QSFP+ connectors
- Transmission distance: 1m, 3m, 5m, 7m, 10m
- Fully compliant with QSFP+ MSA SFF-8436
- Hot-Pluggable
- RoHS compliant
- Class 1 laser safety
- Low power dissipation
- Metal case for low EMI
- Operating case temperature: 0~70°C

Specification

Supported transmission technology
40G Ethernet, 10G Ethernet

Speed supported for Ethernet technology
40Gbps, 10Gbps

Speed supported for Fibre Channel technology
-

Transmission medium
Twisted Pair Copper Cable

Transmission distance
1m, 3m, 5m, 7m, 10m

Receptacle type
QSFP+

Wavelength
N/A

Output power
N/A

Receiver sensitivity
N/A

Power supply voltage
3.3V

Total power consumption
< 3W

Operating environment – temperature
0~70°C

Operating environment – humidity
5~95% non-condensing

Dimensions
Compliant with QSFP+ Multi-Source Agreement

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Detailed technical specification

Pin Description

Pin	Name	Function/Description	Notes
1	GND	Transmitter Ground (Common with Receiver Ground)	1
2	Tx2-	Transmitter Inverted Data Input	-
3	Tx2+	Transmitter Non-Inverted Data output	-
4	GND	Transmitter Ground (Common with Receiver Ground)	1
5	Tx4-	Transmitter Inverted Data Input	-
6	Tx4+	Transmitter Non-Inverted Data output	-
7	GND	Transmitter Ground (Common with Receiver Ground)	1
8	ModSelL	Module Select	2
9	ResetL	Module Reset	2
10	VccRx	3.3V Power Supply Receiver	-
11	SCL	2-Wire serial Interface Clock	2
12	SDA	2-Wire serial Interface Data	2
13	GND	Transmitter Ground (Common with Receiver Ground)	1
14	Rx3+	Receiver Non-Inverted Data Output	-
15	Rx3-	Receiver Inverted Data Output	-
16	GND	Transmitter Ground (Common with Receiver Ground)	1
17	Rx1+	Receiver Non-Inverted Data Output	-
18	Rx1-	Receiver Inverted Data Output	-
19	GND	Transmitter Ground (Common with Receiver Ground)	1
20	GND	Transmitter Ground (Common with Receiver Ground)	1
21	Rx2-	Receiver Inverted Data Output	-
22	Rx2+	Receiver Non-Inverted Data Output	-
23	GND	Transmitter Ground (Common with Receiver Ground)	1
24	Rx4-	Receiver Inverted Data Output	1
25	Rx4+	Receiver Non-Inverted Data Output	-
26	GND	Transmitter Ground (Common with Receiver Ground)	1
27	ModPrsl	Module Present	-
28	IntL	Interrupt	2
29	VccTx	3.3V 3ower supply transmitter	-
30	Vcc1	3.3V 3ower supply	-
31	LPMode	Low Power Mode	2
32	GND	Transmitter Ground (Common with Receiver Ground)	1
33	Tx3+	Transmitter Non-Inverted Data Input	-
34	Tx3-	Transmitter Inverted Data Output	-
35	GND	Transmitter Ground (Common with Receiver Ground)	1
36	Tx1+	Transmitter Non-Inverted Data Input	-
37	Tx1-	Transmitter Inverted Data Output	-
38	GND	Transmitter Ground (Common with Receiver Ground)	1

Notes:

1. The module signal grounds are isolated from the module case.
2. This is an open collector/drain output that on the host board requires a 4.7KΩ to 10KΩ pull-up resistor to VccHost.

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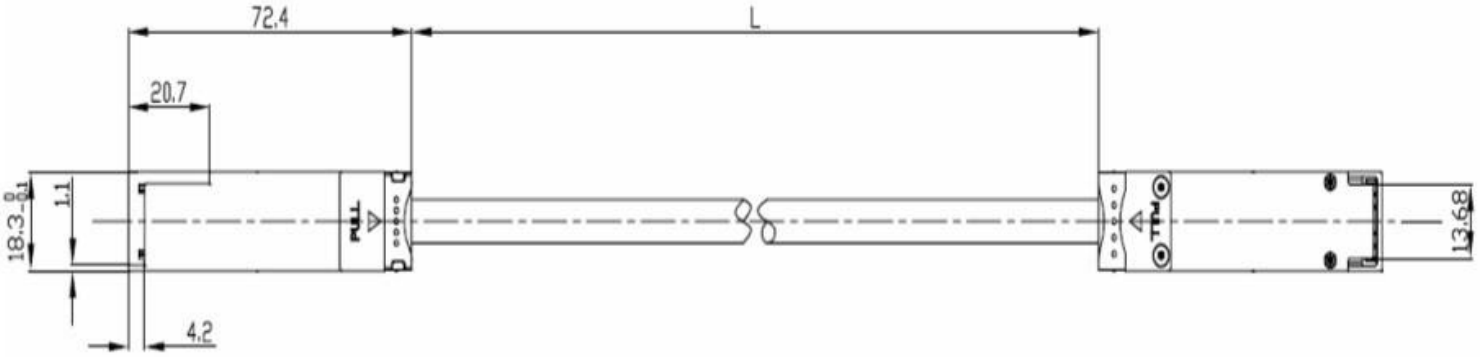
Electrical parameters

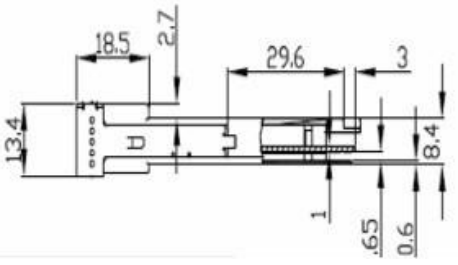
Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter Differential Input Volt	+/-TX_DAT	180		900	mV p-p	1
Receiver Differential Output Volt	+/-RX_DAT	300		850	mV p-p	2
Tx_Disable Input Voltage – Low	V_{IL}	0		0.8	V	
Tx_Disable Input Voltage – High	V_{IH}	2.0		Vcc	V	
Tx_Fault Output Voltage – Low	V_{OL}	0		0.8	V	
Tx_Fault Output Voltage – High	V_{OH}	2.0		Vcc	V	
Rx_LOS Output Voltage- Low	V_{OL}	0		0.8	V	
Rx_LOS Output Voltage- High	V_{OH}	2.0		Vcc	V	
Total current requirement				10	mA	
Differential waveform distortion penalty				6.75	dBe	
VMA Loss	L			4.4	dBe	
VMA Loss to crosstalk ration	V_{cr}	32.5			dB	

Notes:

1. Internally AC coupled and terminated to 100Ω differential load.
2. Internally AC coupled, but requires a 100Ω differential termination or internal to Serializer/Deserializer.

Mechanical specification





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Recommended environment conditions

Parameter	Symbol	Min	Typ	Max	Unit
Operating Temperature Range	T	0	25	70	^{0}C
Supply Voltage	V_{CC}	3.135	3.3	3.465	V
Relative Humidity	RH	5	-	95	%

Ordering information

FTQ-C4XG-Tx – QSFP+ 40G Copper Twinax, 1m-10m, commercial temperature (0~70°C)

└ x – indicates cable length(1m, 3m, 5m, 7m, 10m), more info available in Ordering Information chapter

For further information regarding host device PCB layout recommendation, power supply requirements, EEPROM memory map, DDMI specification please check:

SFF-8436 - Technical specification for QSFP transceiver

Pictures used for reference only, actual product look may differ. For most actual information please contact technical support via aktywa@fibrain.pl

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