

QSFP+ Passive Copper Cable WQS-PC400-0xC

Features

- QSFP+ conforms to the Small Form Factor SFF-8436
- 4-Channel Full-Duplex Passive Copper Cable Transceiver
- Support for multi-gigabit data rates :1.0 Gbps 10.3125
 Gbps (per channel)
- Maximum aggregate data rate: 41.25 Gps (4 x 10.3125Gbit/s)
- Copper link length up to 5m (passive limiting)
- High-Density QSFP 38-PIN Connector
- Power Supply :+3.3V
- Low power consumption: 0.02 W (typ.)
- I2C based two-wire serial interface for EEPROM signature which can be customized
- Temperature Range: 0~ 70 °C

Applications

- 10G/40Gigabit Ethernet
- InfiniBand 4XSDR, DDR, QDR
- Switches, Routers, and HBAs
- Data Centers
- 2, 4, 8, 10 Gigabit Fibre Channel

STANDARDS COMPLIANCE

- IEEE 802.3ba
- SFF-8436
- QDR InfiniBand
- QSFP+ MSA
- RoHS Compliant

Product Description



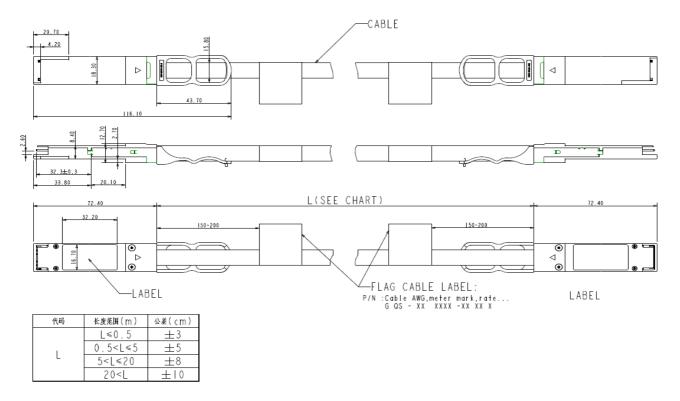


The QSFP+ passive cable assemblies are high performance, cost effective I/O solutions for 40G LAN, HPC and SAN applications. The QSFP+ passive copper cables are compliant with SFF-8436, QSFP+ MSA and IEEE P802.3ba 40GBASE-CR4. It is offer a low power consumption, short reach interconnect applications. The cable each lane is capable of transmitting data at rates up to 10Gb/s, providing an aggregated rate of 40Gb/s.

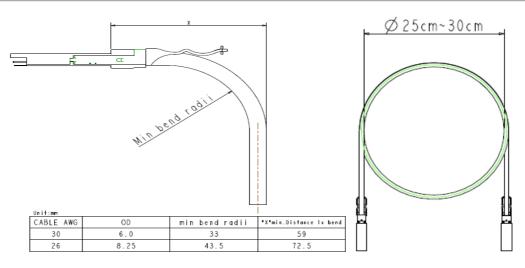
Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Storage Ambient Temperature		-40		+85	°C
Operating Case Temperature	Тс	0		+70	°C
Power Supply Voltage	V _{CC3}	3.14	3.3	3.47	V
Power Dissipation	PD			0.02	W

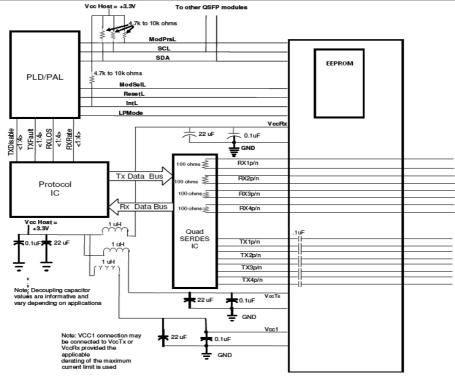
Mechanical Dimensions







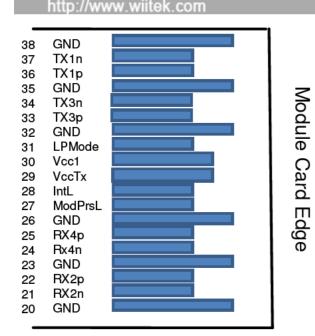
QSFP+ Host Board Schematic for passive copper cables

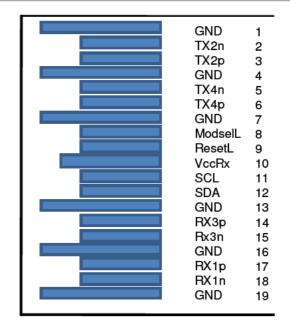


QSFP+ Copper Module

Pin Descriptions







Top Side Viewed From Top

Bottom Side Viewed From Bottom

Pin	Logic	Symbol	Name/Description	Notes
1		GND	Ground	1
2	CML-I	Tx2n	Transmitter Inverted Data Input	
3	CML-I	Tx2p	Transmitter Non-Inverted Data Input	
4		GND	Ground	1
5	CML-I	Tx4n	Transmitter Inverted Data Input	
6	CML-I	Tx4p	Transmitter Non-Inverted Data Input	
7		GND	Ground	1
8	LVTTL-I	ModSelL	Module Select	
9	LVTTL-I	ResetL	Module Reset	
10		Vcc Rx	+3.3V Power Supply Receiver	2
11	LVCMOSI/O	SCL	2-wire serial interface clock	
12	LVCMOSI/O	SDA	2-wire serial interface data	
13		GND	Ground	
14	CML-O	Rx3p	Receiver Non-Inverted Data Output	
15	CML-O	Rx3n	Receiver Inverted Data Output	
16		GND	Ground	
17	CML-O	Rx1p	Receiver Non-Inverted Data Output	



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18	CML-O	Rx1n	Receiver Inverted Data Output		
	CIVIL-O		Receiver Inverted Data Output 1		
19		GND	Ground		
20		GND	Ground		
21	CML-O	Rx2n	Receiver Inverted Data Output		
22	CML-O	Rx2p	Receiver Non-Inverted Data Output		
23		GND	Ground		
24	CML-O	Rx4n	Receiver Inverted Data Output		
25	CML-O	Rx4p	Receiver Non-Inverted Data Output		
26		GND	Ground		
27	LVTTL-O	ModPrsL	Module Present		
28	LVTTL-O	IntL	Interrupt		
29		Vcc Tx	+3.3V Power supply transmitter	2	
30		Vcc1	+3.3V Power supply	2	
31	LVTTL-I	LPMode	Low Power Mode		
32		GND	Ground	1	
33	CML-I	Тх3р	Transmitter Non-Inverted Data Input		
34	CML-I	Tx3n	Transmitter Inverted Data Input		
35		GND	Ground	1	
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input		
37	CML-I	Tx1n	Transmitter Inverted Data Input		
38		GND	Ground	1	

Note 1: GND is the symbol for signal and supply (power) common for the QSFP+ module. All are common within the QSFP+ module and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal-common ground plane.

Note 2: Vcc Rx, Vcc1 and Vcc Tx are the receiver and transmitter power supplies and shall be applied concurrently. Requirements defined for the host side of the Host Edge Card Connector are listed in Table 6. Recommended host board power supply filtering is shown in Figure 4. Vcc Rx Vcc1 and Vcc Tx may be internally connected within the QSFP+ Module module in any combination. The connector pins are each rated for a maximum current of 500 mA.

Ordering information

Part Number	Product Description		
WQS-PC400-01C	4 x 10Gbps QSFP+ Direct Attach Cables, 1m (30AWG),0°C ~ +70°C		
WQS-PC400-03C	4 x 10Gbps QSFP+ Direct Attach Cables, 3m (30AWG),0°C ~ +70°C		
WQS-PC400-05C	4 x 10Gbps QSFP+ Direct Attach Cables, 5m (28AWG),0°C ~ +70°C		

Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must



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