

EDQP200-2QPx

200G QSFP56-2QSFP56 Direct Attach Cable - PAM4 (DAC)

PRODUCT FEATURES

- Compatible with IEEE 802.3bj and IEEE 802.3cd
- In accordance with the paging function in the protocol SFF-8636, paging can be selected 00H or 02H in 127 bytes
- Supports aggregate data rates of 200Gbps(PAM4)
- Optimized construction to minimize insertion loss and cross talk
- Backward compatible with existing QSFP+ connectors and cages
- Pull-to-release slide latch design
- 26AWG through 30AWG cable
- Straight and break out assembly configurations available
- Customized cable braid termination limits EMI radiation
- Customizable EEPROM mapping for cable signature
- RoHS Compatible

APPLICATIONS

- Switches, servers and routers
- Data Center networks
- Storage area networks
- High performance computing
- Telecommunication and wireless infrastructure
- Medical diagnostics and networking

- Test and measurement equipment

Industry Standards

- 200G Ethernet(IEEE 802.3cd)
- InfiniBand EDR

Technical Documents

- 108-32081 QSFP28 Copper Module Direct Attach Cable Assembly

Description

The QSFP56 passive copper cable assembly feature eight differential copper pairs providing four data transmission channels at speeds up to 56Gbps(PAM4) per channel and meets 200G Ethernet and InfiniBand Enhanced Data Rate(EDR) requirements. Available in a broad range of wire gages-from 26AWG through 30AWG-this 200G copper cable assembly features low insertion loss and low cross talk.

The QSFP56 uses PAM4 signals for transmission, which doubles the rate. However, there are more stringent requirements for cable insertion loss. For detailed requirements, please see High Speed Characteristics.

Designed for applications in the data center networking and telecommunications markets that require a high speed reliable cable assembly this next generation product shares the same mating interface with QSFP+ form factor, making it backward compatible with existing QSFP ports.

Ordering Information

Part No.	Description
EDQP200-2QPx-30	200G QSFP56-2QSFP56 Direct Attach Cable - PAM4 (DAC) 0.5~2M 30AWG
EDQP200-2QPx-26	200G QSFP56-2QSFP56 Direct Attach Cable - PAM4 (DAC) 0.5~2M 26AWG

Notes:

- where "x" denotes cable length in meters. Examples are as follows:
- x = 1 for 1m

High Speed Characteristics

Parameter	Symbol	Min	Typical	Max	Unit	Note
Differential Impedance	TDR	90	100	110	Ω	
Insertion loss	SDD21	-16.06			dB	At 13.28 GHz
Differential Return Loss	SDD11			See 1	dB	At 0.05 to 4.1 GHz
	SDD22			See 2	dB	At 4.1 to 19 GHz
Common-mode to common-mode output return loss	SCC11 SCC22			-2	dB	At 0.2 to 19 GHz
Differential to common-mode return loss	SCD11 SCD22			See 3	dB	At 0.01 to 12.89 GHz
				See 4		At 12.89 to 19 GHz
Differential to common Mode Conversion Loss	SCD21-IL			-10	dB	At 0.01 to 12.89 GHz
				See 5		At 12.89 to 15.7 GHz
				-6.3		At 15.7 to 19 GHz

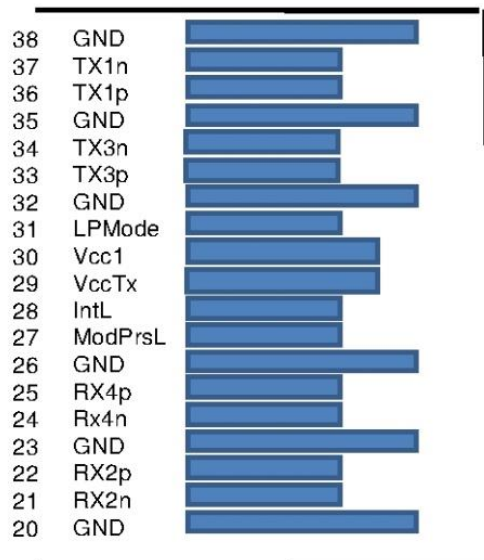
Notes:

1. Reflection Coefficient given by equation $SDD11(dB) < -16.5 + 2 \times \text{SQRT}(f)$, with f in GHz
2. Reflection Coefficient given by equation $SDD11(dB) < -10.66 + 14 \times \log_{10}(f/5.5)$, with f in GHz
3. Reflection Coefficient given by equation $SCD11(dB) < -22 + (20/25.78) \times f$, with f in GHz
4. Reflection Coefficient given by equation $SCD11(dB) < -15 + (6/25.78) \times f$, with f in GHz
5. Reflection Coefficient given by equation $SCD21(dB) < -27 + (29/22) \times f$, with f in GHz

Pin Descriptions

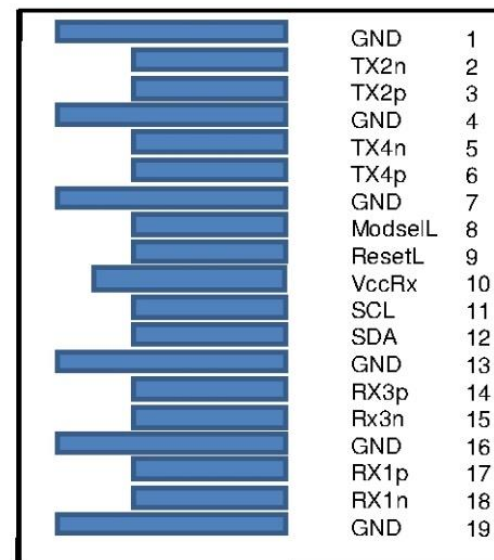
Pin	Logic	Symbol	Description
1		GND	Ground
2	CML-I	Tx2n	Transmitter Inverted Data Input
3	CML-I	Tx2p	Transmitter Non-Inverted Data Input
4		GND	Ground
5	CML-I	Tx4n	Transmitter Inverted Data Input
6	CML-I	Tx4p	Transmitter Non-Inverted Data Input
7		GND	Ground
8	LVTTL-I	ModSelL	Module Select
9	LVTTL-I	ResetL	Module Reset
10		Vcc Rx	+3.3V Power Supply Receiver
11	LVC MOS-	SCL	2-wire serial interface clock

	I/O		
12	LVTTL-O	SDA	2-wire serial interface data
13	I/O	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
18	CML-O	Rx1n	Receiver Inverted Data Output
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
30		Vcc1	+3.3V Power supply
31	LVTTL-I	LPMode	Low Power Mode
32		GND	Ground
33	CML-I	Tx3p	Transmitter Non-Inverted Data Input
34	CML-I	Tx3n	Transmitter Inverted Data Input
35		GND	Ground
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input
37	CML-I	Tx1n	Transmitter Inverted Data Input
38		GND	Ground



Top Side
Viewed From Top

Module Card Edge



Bottom Side
Viewed From Bottom

Revision History

Version No.	Date	Description
1.0	Aug 18, 2020	Preliminary datasheet
1.1	Aug 25, 2024	Format change

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