Q56-2Q56-200GB-ADAC4MIB-C

MSA and TAA 200GBase-CU QSFP56 to 2xQSFP56 Direct Attach Cable (Active Twinax, 4m, Infiniband HDR)

Features:

- QSFP Module Compliant to SFF-8664
- Compliant to InfiniBand HDR
- Transmission Data Rate up to PAM4 53.125Gbps Per Channel
- Enables 212.5Gbps to 2x106.25Gbps Transmission
- Fully Preserves Effects of Transmit Pre-Emphasis or Amplitude Adjustments
- Low Power Consumption:
- Independent Equalization Setting and Standby Control
- Operating Case Temperature: 0 to 70 Celsius
- RoHS Compliant and Lead-Free

Applications:

- 200GBase

Product Description

This is a MSA Compliant 200GBase-CU QSFP56 to 2xQSFP56 Infiniband HDR direct attach cable that operates over active copper with a maximum reach of 4m. It has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. We stand behind the quality of our products and proudly offer a limited lifetime warranty. This cable is TAA (Trade Agreements Act) compliant and is built to comply with MSA (Multi-Source Agreement) standards.

ProLabs' transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S. – made or designated country end products."

TAA COMPLIANT

Rev. 102723

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc	-0.3	3.3	3.6	V
Storage Temperature	Tstg	-40		85	˚C
Operating Case Temperature	Tc	0		70	˚C
Relative Humidity	RH	5		85	%
Data Rate			212.5		Gbps

Physical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Length	L			4	M
AWG			30		AWG
Jacket Material		PVC, Black			

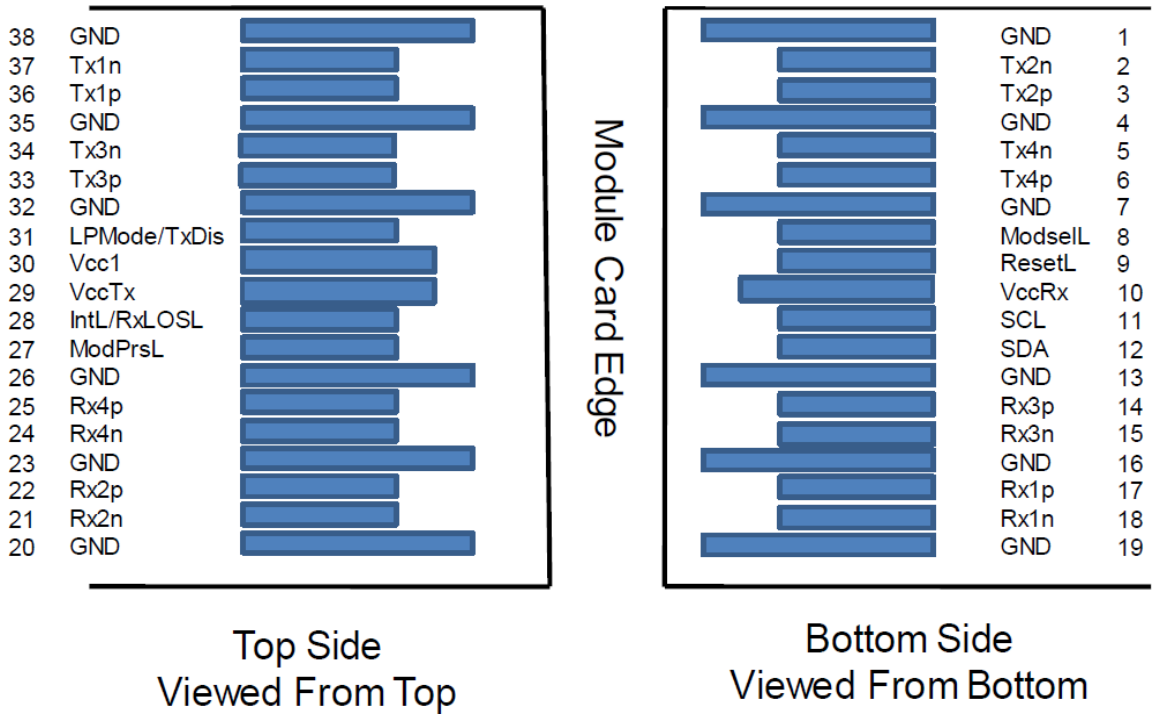
Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power Supply Voltage	Vcc	3.1	3.3	3.5	V
Current Draw for Each Active Channel	Iact-Ch		45		mA
Current Draw When Both Channels are Placed in Standby Mode	Istdby		1		mA
Input Voltage - High (PROGEN, SCL, SDA)	VIH	3.1	3.3	3.5	V
Input Voltage - High (ADDR0/1/2)	VIH_ADDR	2.3	2.5	2.7	V
Input Voltage - Low	VIL	0		0.4	V
Time from Valid Vcc to Operation of the IC	$T_{StartUp}$			10	ms
Time from Valid Vcc to VIH of 12C Signals	T_{I2C}	0			ms

High-Speed Channel Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Raw Cable Differential Impedance	Zca	90		110	Ω
PCBA Differential Impedance	Zpcba	85		115	Ω
Maximum Insertion Loss at 13.28GHz	SDD21	6		14	dB
Other SI Performance		Compliant with Infiniband HDR			
Minimum COM	COM	3			dB
Bit Error Ratio				$1E^{-8}$	

Electrical Pin-Out Details for QSFP



Top Side
Viewed From Top

Bottom Side
Viewed From Bottom

Pin Descriptions

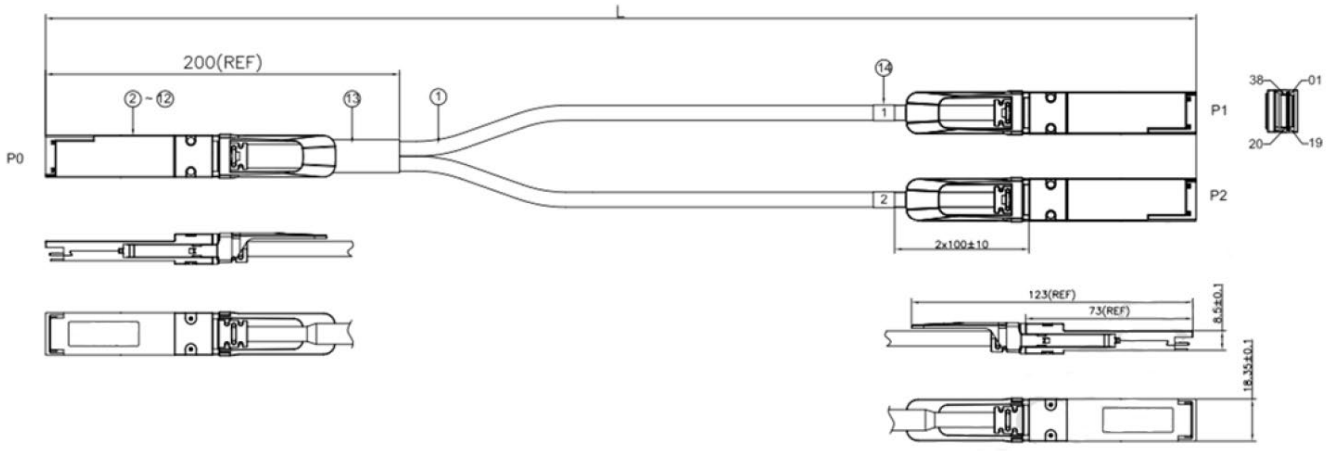
Pin	Logic	Symbol	Name/Description	Notes
1		GND	Module Ground.	1
2	CML-I	Tx2-	Transmitter Inverted Data Input.	
3	CML-I	Tx2+	Transmitter Non-Inverted Data Input.	
4		GND	Module Ground.	1
5	CML-I	Tx4-	Transmitter Inverted Data Input.	
6	CML-I	Tx4+	Transmitter Non-Inverted Data Input.	
7		GND	Module Ground.	1
8	LVTTL-I	ModSelL	Module Select.	
9	LVTTL-I	ResetL	Module Reset.	
10		VccRx	+3.3V Receiver Power Supply.	2
11	LVCMOS-I/O	SCL	2-Wire Serial Interface Clock.	
12	LVCMOS-I/O	SDA	2-Wire Serial Interface Data.	
13		GND	Module Ground.	1
14	CML-O	Rx3+	Receiver Non-Inverted Data Output.	
15	CML-O	Rx3-	Receiver Inverted Data Output.	
16		GND	Module Ground.	1
17	CML-O	Rx1+	Receiver Non-Inverted Data Output.	
18	CML-O	Rx1-	Receiver Inverted Data Output.	
19		GND	Module Ground.	1
20		GND	Module Ground.	1
21	CML-O	Rx2-	Receiver Inverted Data Output.	
22	CML-O	Rx2+	Receiver Non-Inverted Data Output.	
23		GND	Module Ground.	1
24	CML-O	Rx4-	Receiver Inverted Data Output.	
25	CML-O	Rx4+	Receiver Non-Inverted Data Output.	
26		GND	Module Ground.	1
27	LVTTL-O	ModPrsL	Module Present.	
28	LVTTL-O	IntL	Interrupt.	
29		VccTx	+3.3V Transmitter Power Supply.	2
30		Vcc1	+3.3V Power Supply.	2
31	LVTTL-I	LPMode	Low-Power Mode.	
32		GND	Module Ground.	1
33	CML-I	Tx3+	Transmitter Non-Inverted Data Input.	
34	CML-I	Tx3-	Transmitter Inverted Data Input.	

35		GND	Module Ground.	1
36	CML-I	Tx1+	Transmitter Non-Inverted Data Input.	
37	CML-I	Tx1-	Transmitter Inverted Data Input.	
38		GND	Module Ground.	1

Notes:

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.
2. VccRx, Vcc1, and VccTx are the receiver and transmitter power supplies and shall be applied concurrently. VccRx, Vcc1, and VccTx may be internally connected within the QSFP transceiver module in any combination. The connector pins are each rated for a maximum current of 500mA.

Mechanical Specifications



About ProLabs

Our experience comes as standard; for over 15 years ProLabs has delivered optical connectivity solutions that give our customers freedom and choice through our ability to provide seamless interoperability. At the heart of our company is the ability to provide state-of-the-art optical transport and connectivity solutions that are compatible with over 90 optical switching and transport platforms.

Complete Portfolio of Network Solutions

ProLabs is focused on innovations in optical transport and connectivity. The combination of our knowledge of optics and networking equipment enables ProLabs to be your single source for optical transport and connectivity solutions from 100Mb to 400G while providing innovative solutions that increase network efficiency. We provide the optical connectivity expertise that is compatible with and enhances your switching and transport equipment.

Trusted Partner

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure that you get immediate answers to your questions and compatible product when needed. With Engineering and Manufacturing offices in the U.K. and U.S. augmented by field offices throughout the U.S., U.K. and Asia, ProLabs is able to be our customers best advocate 24 hours a day.

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