MCA7J50-H003R-AO

Mellanox® MCA7J50-H003R Compatible TAA 200GBase-CU QSFP56 to 2xQSFP56 Direct Attach Cable (Active Twinax, 3m, Infiniband HDR)

Features

- QSFP Module Compliant to SFF-8663
- Transmission Data Rate up to PAM4 53.125Gbps Per Channel
- Compliant to InfiniBand HDR
- Fully Preserves Effects of Transmit Pre-Emphasis or Amplitude Adjustments
- Low Power Consumption:
- Enables 212.5Gbps to 2x106.25Gbps Transmission
- Operating Case Temperature: 0 to 70 Celsius
- Independent Equalization Setting and Standby Control
- RoHS Compliant and Lead-Free

Applications

- 200GBase

Product Description

This is a Mellanox® MCA7J50-H003R Compatible 200GBase-CU QSFP56 to 2xQSFP56 Infiniband HDR direct attach cable that operates over active copper with a maximum reach of 3m. 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.

AddOn's 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."

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			3	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	TStartUp			10	ms
Time from Valid Vcc to VIH of 12C Signals	TI2C	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			Bottom Side	
38	GND			GND	1
37	Tx1n			Tx2n	2
36	Tx1p			Tx2p	3
35	GND			GND	4
34	Tx3n			Tx4n	5
33	Tx3p			Tx4p	6
32	GND			GND	7
31	LPMode/TxDis			ModselL	8
30	Vcc1			ResetL	9
29	VccTx			VccRx	10
28	IntL/RxLOSL			SCL	11
27	ModPrsL			SDA	12
26	GND			GND	13
25	Rx4p			Rx3p	14
24	Rx4n			Rx3n	15
23	GND			GND	16
22	Rx2p			Rx1p	17
21	Rx2n			Rx1n	18
20	GND			GND	19
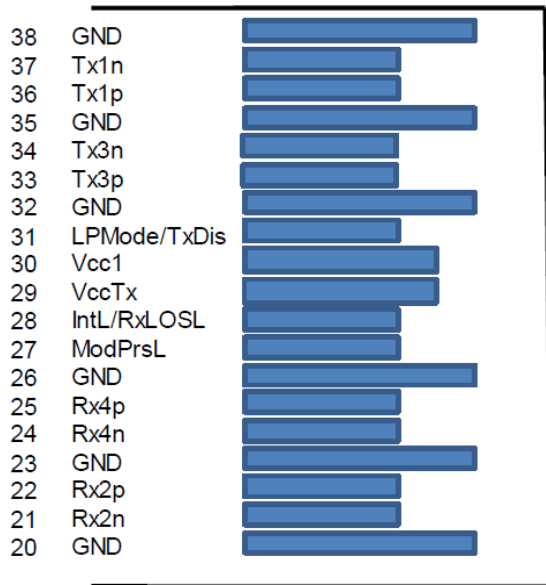
Module Card Edge

Top Side
Viewed From Top
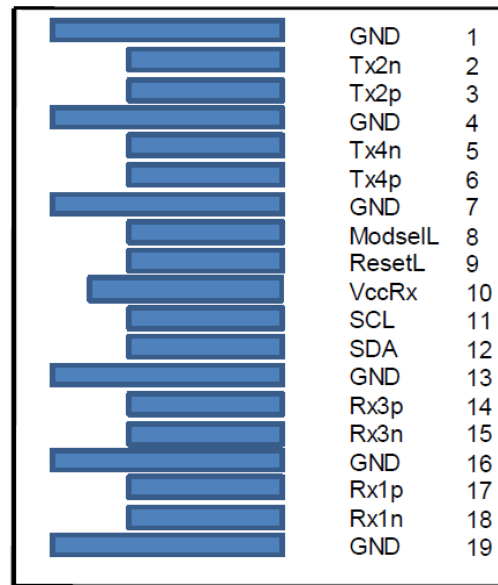
Bottom Side
Viewed From Bottom

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
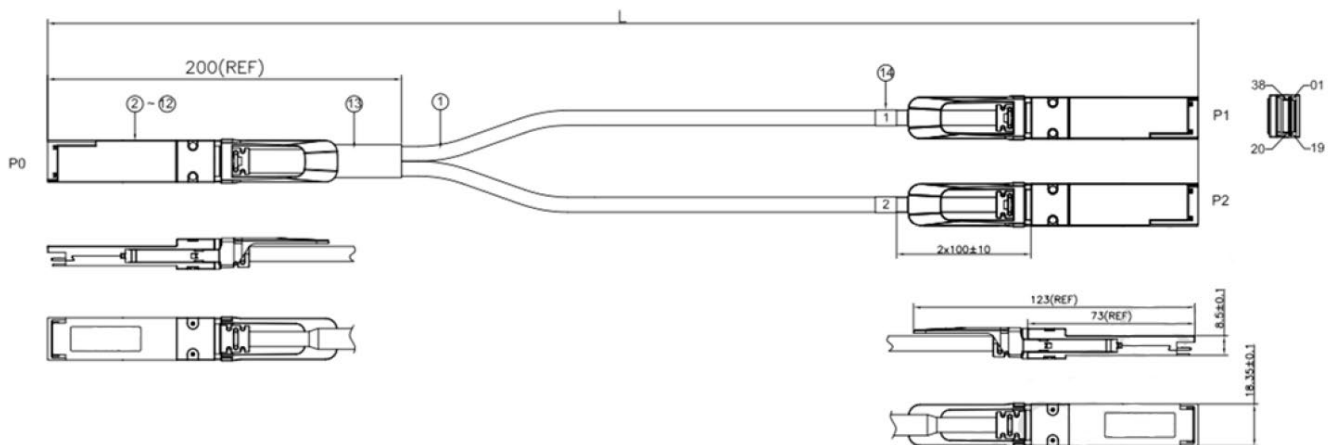
About AddOn Networks

In 1999, AddOn Networks entered the market with a single product. Our founders fulfilled a severe shortage for compatible, cost-effective optical transceivers that compete at the same performance levels as leading OEM manufacturers. Adhering to the idea of redefining service and product quality not previously had in the fiber optic networking industry, AddOn invested resources in solution design, production, fulfillment, and global support.

Combining one of the most extensive and stringent testing processes in the industry, an exceptional free tech support center, and a consistent roll-out of innovative technologies, AddOn has continually set industry standards of quality and reliability throughout its history.

Reliability is the cornerstone of any optical fiber network and is in engrained in AddOn's DNA. It has played a key role in nurturing the long-term relationships developed over the years with customers. AddOn remains committed to exceeding industry standards with certifications from ranging from NEBS Level 3 to ISO 9001:2005 with every new development while maintaining the signature reliability of its products.

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