MC220731V-100-AO

Mellanox® MC220731V-100 Compatible TAA Compliant 56GBase-AOC QSFP+ Active Optical Cable (850nm, MMF, 100m)

Features

- Support Infiniband and Fibre Channel application
- Compliant to QSFP+ Electrical MSA SFF-8436
- Multi rate of up to 14.025 Gbps
- +3.3V single power supply
- Low power consumption
- Operating case temp Commercial: 0°C to +70°C
- RoHS compliant
- 100m length

Applications

- InfiniBand FDR at 56Gb
- 16G Fibre Channel at 14Gb per lane
- Super Computer
- Other optical links

Product Description

This is a Mellanox® MC220731V-100 compatible 56GBase-AOC QSFP+ to QSFP+ active optical cable that operates over multi-mode fiber with a maximum reach of 100.0m (328.1ft). At a wavelength of 850nm, it has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. This active optical cable is TAA (Trade Agreements Act) compliant, and is built to comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

 AddOn's active optical cables 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."

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	Vcc3	-0.5		3.6	V	
Operating Case Temperature	Tc	0		70	°C	
Storage Temperature	Tstg	-10		70	°C	
Operating Humidity	RH	+5		85	%	1

Notes:

1. No condensation.

Electrical Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage		Vcc	3.14	3.3	3.47	V	
Power Dissipation		P_{DISS}			1.5	W	
Bit Rate		BR	1.25	14.025		Gbps	
ModSelL	Module Select	VOL	0		0.8	V	
	Module Unselect	VOH	2.5		Vcc	V	
LPMode	Low-Power Mode	VIL	0		0.8	V	
	Normal Operation	VIH	2.5		Vcc+0.3	V	
ResetL	Reset	VIL	0		0.8	V	
	Normal Operation	VIH	2.5		Vcc+0.3	V	
ModPrsL	Normal Operation	VOL	0		0.4	V	
IntL	Interrupt	VOL	0		0.4	V	
	Normal Operation	VOH	2.4		Vcc	V	
Electrical Transmitter Characteristics							
Differential Data Input Swing		VIN,pp	200		1600	mVp-p	
Input Differential Impedance		ZIN	90	100	120	Ω	
Receiver							
Differential Data Output Swing		VIN,pp	350		800	mVp-p	
Bit Error Rate		BER			E-12		1
Input Differential Impedance		ZIN	90	100	110	Ω	

Notes:

1. PRBS2^{31}-1 @ 14.025Gbps.

Pin Descriptions

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

Notes:

1. Circuit ground is internally isolated from the chassis ground.

Electrical Pin-Out Details

Pin	Top Side
38	GND
37	TX1n
36	TX1p
35	GND
34	TX3n
33	TX3p
32	GND
31	LPMode
30	Vcc1
29	VccTx
28	IntL
27	ModPrsL
26	GND
25	RX4p
24	Rx4n
23	GND
22	RX2p
21	RX2n
20	GND

Top Side Viewed From Top

Module Card Edge

Bottom Side	Pin
GND	1
TX2n	2
TX2p	3
GND	4
TX4n	5
TX4p	6
GND	7
ModselL	8
ResetL	9
VccRx	10
SCL	11
SDA	12
GND	13
RX3p	14
Rx3n	15
GND	16
RX1p	17
RX1n	18
GND	19

Bottom Side Viewed From Bottom
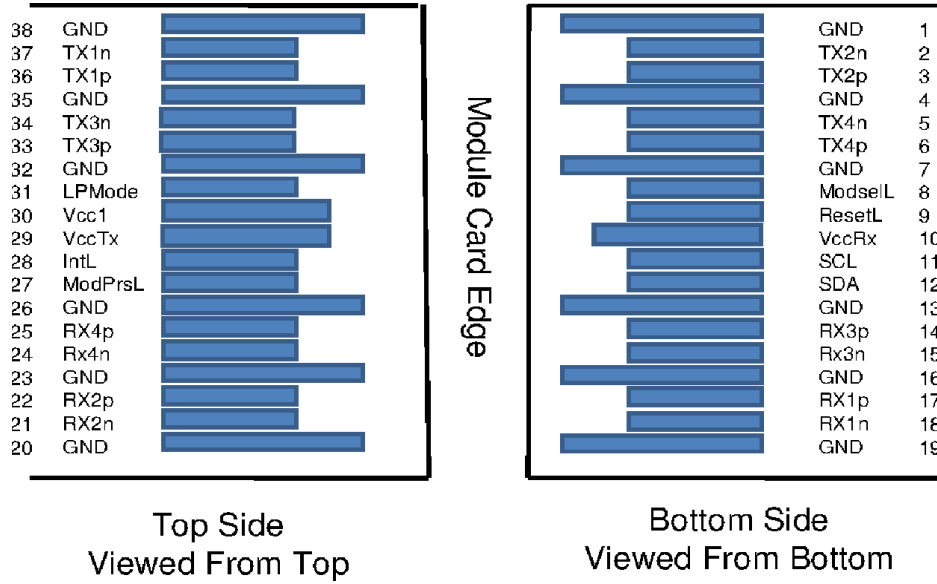
Recommended Interface Circuit
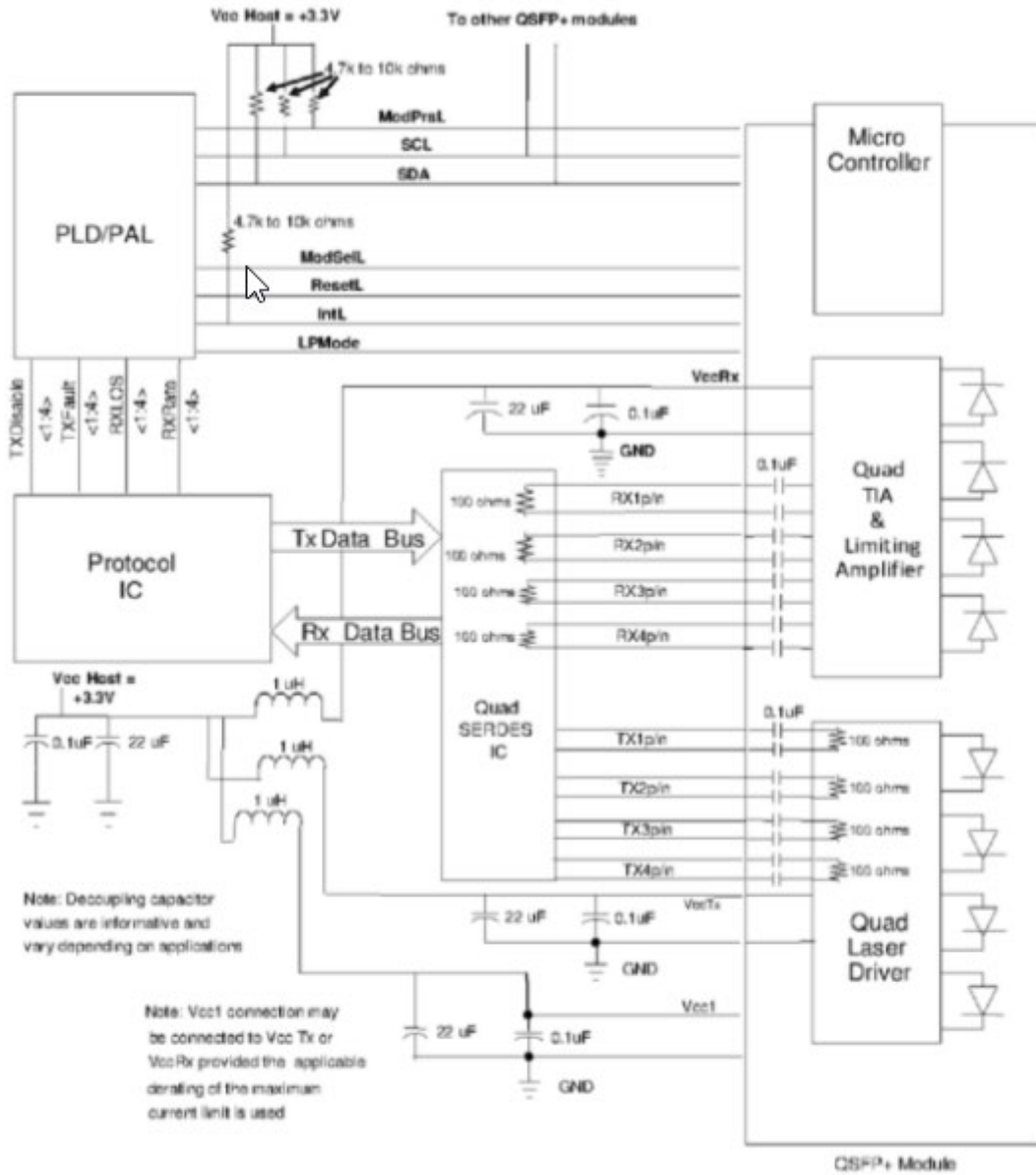
Monitoring Specifications

2-Wire Serial Address 1010000x
Lower Page 00h
0 Identifier
1- 2 Status
3- 21 Interrupt Flags
22- 33 Free Side Device Monitors
34- 81 Channel Monitors
82- 85 Reserved
86- 98 Control
99 Reserved
100-104 Hardware Interrupt Pin Masks
105-106 Vendor Specific
107 Reserved
108-110 Free Side Device Properties
111-112 Assigned for use by PCI Express
113 Free Side Device Properties
114-118 Reserved
119-122 Password Change Entry Area (Optional)
123-126 Password Entry Area (Optional)
127 Page Select Byte

Upper Page 00h	Optional Page 01h	Optional Page 02h	Optional Page 03h
128 Identifier	128 CC_APPS	128-255 User EEPROM Data	128-175 Free Side Device Thresholds
129-191 Base ID Fields	129 AST Table Length (TL)		
	130-131 Application Code Entry 0		
	132-133 Application Code Entry 1		
	134-253 other entries		
			176-223 Channel Thresholds
192-223 Extended ID			224 Tx EQ & Rx Emphasis Magnitude ID
224-255 Vendor Specific ID			225 RX output amplitude indicators
			226-241 Channel Controls
			242-251 Channel Monitor Masks
	254-255 Application Code Entry TL		252-255 Reserved

Mechanical Specifications
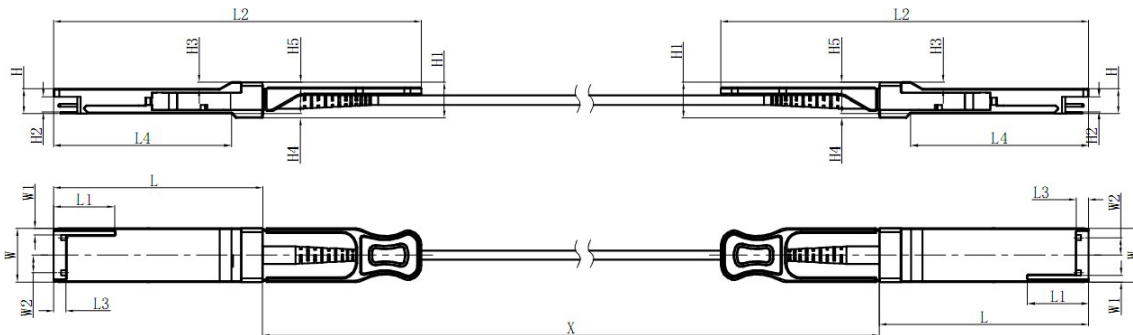
About AddOn Networks

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.

U.S. Headquarters

Email: sales@addonnetworks.com

Telephone: +1 877.292.1701

Fax: 949.266.9273

Europe Headquarters

Email: salessupportemea@addonnetworks.com

Telephone: +44 1285 842070