MFS1S00-H100E-C

Mellanox® MFS1S00-H100E Compatible TAA Compliant 200GBase-AOC QSFP56 Infiniband® HDR Active Optical Cable (850nm, MMF, 100m)

Features

- Low latency DSP-free electronics-based
- Support InfiniBand HDR
- Data rate: 53.125 Gb/s per lane
- PAM4 modulation
- BER of 1×10^{-15}(with FEC)
- Single 3.3 V power supply
- Low power consumption: 3.6 W per cable end with CDR enabled
- 100m length
- SFF-8665 compliant QSFP56 port
- SFF-8636 compliant I^2C management interface
- Commercial operating case temperature range: 0 to 70°C
- Hot pluggable
- OFNP-rated cable
- RoHS/REACH compliant

Applications

- IEEE 802.3cd 200GBASE SR4
- IBTA InfiniBand HDR
- Datacenter: servers, switches, storages and NIC adapters

Product Description

This is a Mellanox® MFS1S00-H100E compatible 200GBase-AOC QSFP56 to QSFP56 active optical cable that operates over active fiber with a maximum reach of 100m. 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.

ProLabs' 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	V_{IN}	0		4.0	V	
Input Swing	V_{IN-MAX}			1600	mVpp	
Storage Temperature	T_{STG}	-40		85	°C	Ambient
Relative Humidity	RH	5		85	%	

Operating Specifications

Parameter	Symbol	Min	Typ.	Max.	Unit	Notes
Operating Case Temperature	Top	0		70	degC	
Power Supply Voltage	Vcc	3.13	3.30	3.47	V	
Power Supply Current	Icc		1091		mA	
Power Consumption per Cable End			3.6	100	ppm	All channel CDRs are enabled

Cable Specifications

Parameter	Value	Unit	Notes
Cable Diameter	Ø3.0 ± 0.15	mm	
Minimum Bend Radius	30	mm	
Length Tolerance	+300 / -0	mm	
Cable Jacket	OFNP-rated, Aqua		

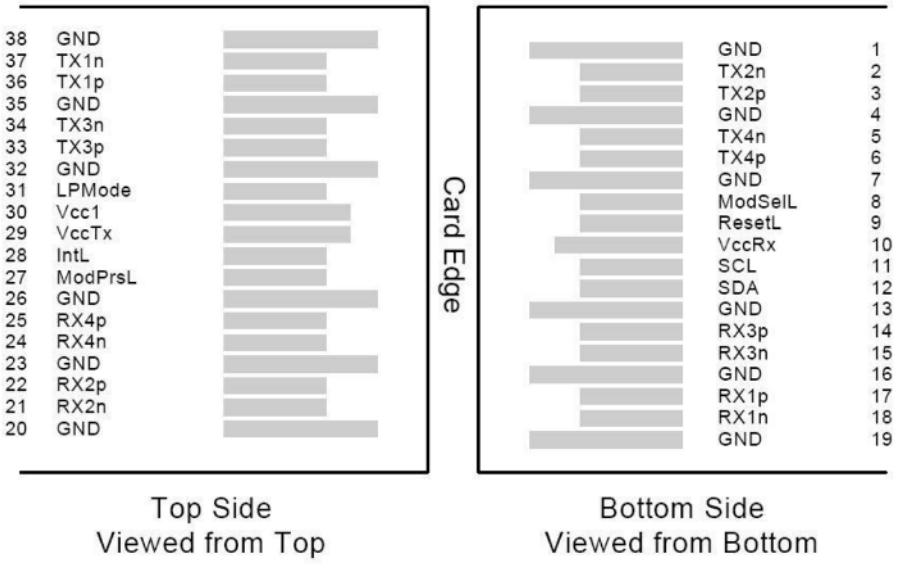
Pin Descriptions

Pin	Logic	Symbol	Name/Descriptions	Ref.
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	MODSEIL	Module Select	2
9	LVTTL-I	ResetL	Module Reset	2
10		VCCRx	+3.3v Receiver Power Supply	
11	LVCMOS-I	SCL	2-wire Serial interface clock	2
12	LVCMOS-I/O	SDA	2-wire Serial interface data	2
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, internal pulled down to GND	
28	LVTTL-O	IntL	Interrupt output should be pulled up on host board	2
29		VCCTx	+3.3v Transmitter Power Supply	
30		VCC1	+3.3v Power Supply	
31	LVTTL-I	LPMode	Low Power Mode	2
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

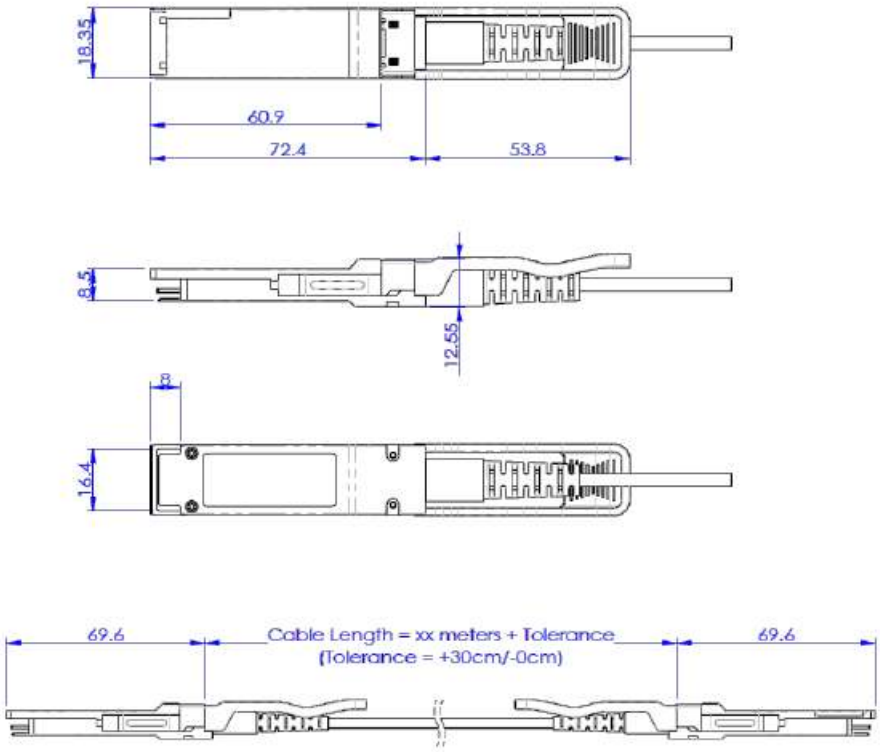
Notes:

1. Module circuit ground is isolated from module chassis ground with in the module.
2. Open collector; should be pulled up with 4.7k-10k ohms on host board to a voltage between 3.15V and 3.6V.

Electrical Pin-out Details



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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