

MFS1S00-V00XE-C

Mellanox® Compatible TAA Compliant 200GBase-AOC QSFP56 Active Optical Cable (850nm, MMF, Up to 25m)

Features

- Low latency DSP-free electronics-based
- 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
- Up to 25m length
- SFF-8665 compliant QSFP56 port
- SFF-8636 compliant I²C management interface
- Commercial operating case temperature range: 0 to 70°C
- Hot pluggable
- LSZH or LSZH/OFNR-rated cable
- RoHS/REACH compliant



Applications

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

Product Description

This is an Mellanox® compatible 200GBase-AOC QSFP56 to QSFP56 active optical cable that operates over multi-mode fiber with a maximum reach up to 25m (82ft). 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."



Order Information

| Part Number | Description |
|------------------|---|
| MFS1S00-V001E-C | Mellanox® MFS1S00-V001E Compatible TAA Compliant 200GBase-AOC QSFP56 Active Optical Cable (850nm, MMF, 1m) |
| MFS1S00-V003E-C | Mellanox® MFS1S00-V003E Compatible TAA Compliant 200GBase-AOC QSFP56 Active Optical Cable (850nm, MMF, 3m) |
| MFS1S00-V005E-C | Mellanox® MFS1S00-V005E Compatible TAA Compliant 200GBase-AOC QSFP56 Active Optical Cable (850nm, MMF, 5m) |
| MFS1S00-V007E-C | Mellanox® MFS1S00-V007E Compatible TAA Compliant 200GBase-AOC QSFP56 Active Optical Cable (850nm, MMF, 7m) |
| MFS1S00-V0010E-C | Mellanox® MFS1S00-V010E Compatible TAA Compliant 200GBase-AOC QSFP56 Active Optical Cable (850nm, MMF, 10m) |
| MFS1S00-V0015E-C | Mellanox® MFS1S00-V015E Compatible TAA Compliant 200GBase-AOC QSFP56 Active Optical Cable (850nm, MMF, 15m) |
| MFS1S00-V0020E-C | Mellanox® MFS1S00-V020E Compatible TAA Compliant 200GBase-AOC QSFP56 Active Optical Cable (850nm, MMF, 20m) |
| MFS1S00-V0025E-C | Mellanox® MFS1S00-V025E Compatible TAA Compliant 200GBase-AOC QSFP56 Active Optical Cable (850nm, MMF, 25m) |

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 | V _{cc} | 3.13 | 3.30 | 3.47 | V | |
| Power Supply Current | I _{cc} | | 1091 | | mA | |
| Power Consumption per Cable End | | | 3.6 | 100 | ppm | All channel CDRs are enabled |

Cable Specifications

| Parameter | Value | Unit | Notes |
|---------------------|--------------------------------|------|-------|
| Cable Diameter | $\varnothing 3.0 \pm 0.15$ | mm | |
| Minimum Bend Radius | 30 | mm | |
| Length Tolerance | +300 / -0 | mm | |
| Cable Jacket | LSZH or LSZH/OFNR -rated, Aqua | | |

Pin Descriptions

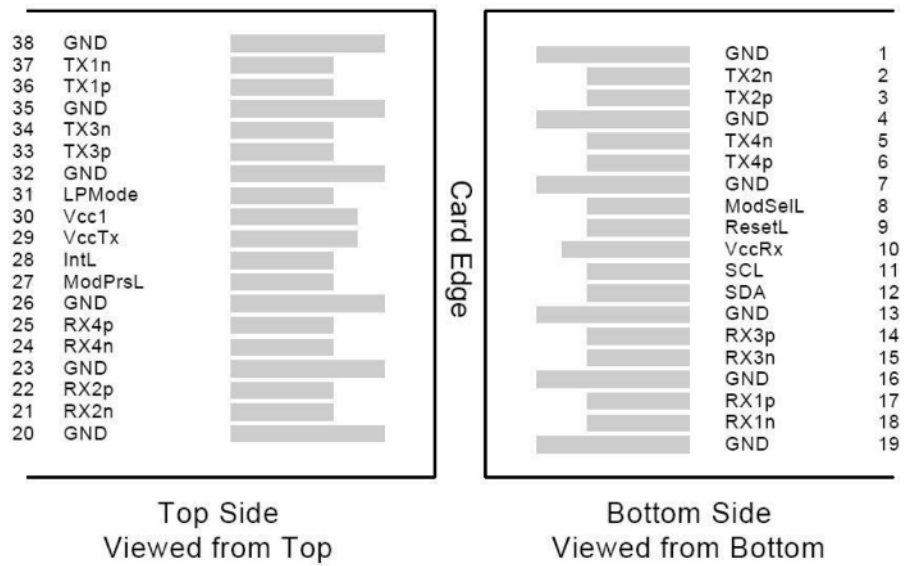
| Pin | Logic | Symbol | Name/Descriptions | Ref. |
|-----|------------|---------|--|------|
| 1 | | GND | Module Ground | 1 |
| 2 | CML-I | Tx2- | Transmitter inverted data input | |
| 3 | CML-I | Tx2+ | Transmitter non-inverted data input | |
| 4 | | GND | Module Ground | 1 |
| 5 | CML-I | Tx4- | Transmitter inverted data input | |
| 6 | CML-I | Tx4+ | Transmitter non-inverted data input | |
| 7 | | GND | Module Ground | 1 |
| 8 | LVTTTL-I | MODSEL | Module Select | 2 |
| 9 | LVTTTL-I | ResetL | Module Reset | 2 |
| 10 | | VCCRx | +3.3v Receiver Power Supply | |
| 11 | LVCNOS-I | SCL | 2-wire Serial interface clock | 2 |
| 12 | LVCNOS-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 | LVTTTL-O | ModPrsL | Module Present, internal pulled down to GND | |
| 28 | LVTTTL-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 | LVTTTL-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 |

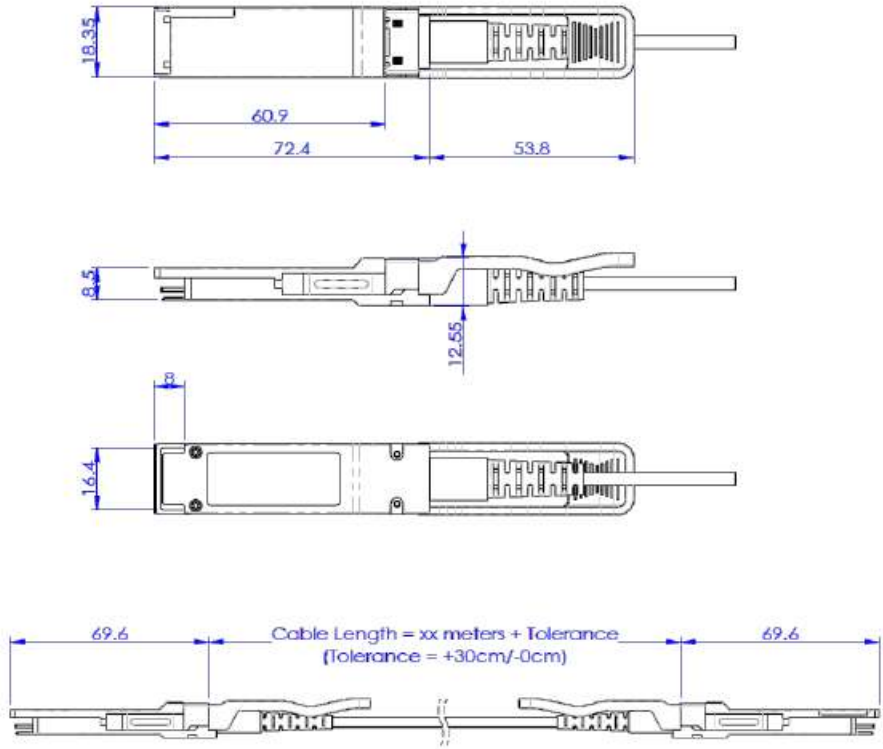
Notes:

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.

Contact Information

ProLabs US

Email: sales@prolabs.com

Telephone: 952-852-0252

ProLabs UK

Email: salessupport@prolabs.com

Telephone: +44 1285 719 600