



100Gb/s QSFP28 MMF Active Optical Cables

MFA1A00-Cxxx

Mellanox® MFA1A00-Cxxx are QSFP28 VCSEL-based (Vertical Cavity Surface-Emitting Laser) active optical cables designed for use in 100Gb/s Ethernet systems.

MFA1A00-Cxxx AOC offers high port density and configurability, and a much longer reach than passive copper cables in the data centers. Since the AOC is hot pluggable, it is easy to install and replace.

MFA1A00-Cxxx has a standard SFF-8665 compliant QSFP28 port on the electrical side towards the host system. It contains four multi-mode fibers (MMF) optic transceivers per end, each operating at data rates of up to 25Gb/s.

MFA1A00-Cxxx offers selectable retiming per lane for both its optical transmitters and receivers for the 25Gbp/s rates, but the AOC also supports lower bit rates without retiming. The transmitters have programmable input equalizers and input squelch function, while the receivers have programmable output amplitude and pre-emphasis.

Mellanox's unique, quality, active, fiber, cable solutions provide power-efficient connectivity for data center interconnects. They enable higher port bandwidth, density and configurability at a low cost and reduced power requirement in the data centers. Rigorous production testing ensures the best out-of-the-box installation experience, performance and durability.

Table 1 - Absolute Maximum Ratings

Parameter	Minimum	Maximum	Units
Supply voltage	-0.3	3.6	V
Data input voltage	-0.3	3.465	V
Control input voltage	-0.3	4.0	V
Damage threshold	3.4	---	dBm

Table 2 - Operational Specifications

Parameter	Minimum	Typical	Maximum	Units
Supply voltage (Vcc)	3.135	3.3	3.465	V
Power dissipation (each end, no retiming)	---	1.5	1.8	W
Power dissipation (each end, retiming on all lanes)	---	2.2	2.5	W
Supply noise tolerance (10Hz-10MHz)	66	---	---	mVpp
Operating case temperature	0	---	70	°C
Operating relative humidity	5	---	85	%



HIGHLIGHTS

- Up to 100Gb/s data rate
- 4x25G NRZ
- 2.2W power dissipation (typ, each end, with retiming)
- Programmable Rx output amplitude and pre-emphasis
- Programmable Tx input equalizer
- Selectable retiming
- SFF-8665 compliant QSFP28 port
- Single 3.3V power supply
- BER better than 1E-15
- Up to 100m length
- Hot pluggable
- RoHS compliant
- SFF-8636 compliant I²C management interface

Mechanical Schematics

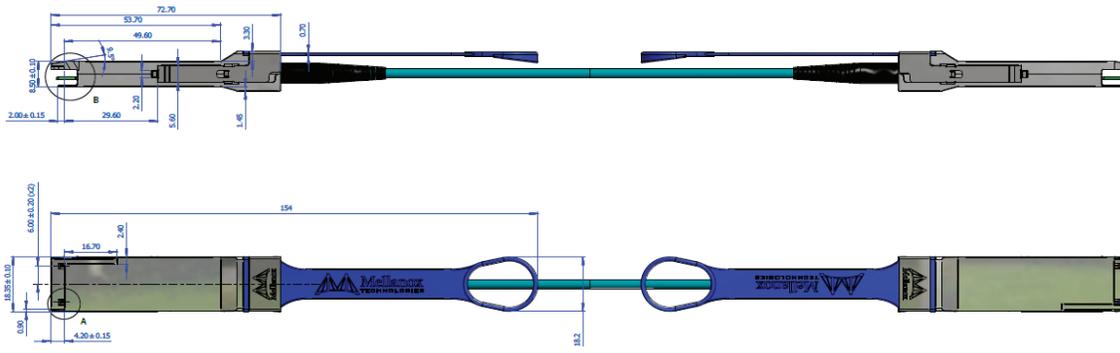


Figure 1. Cable Length

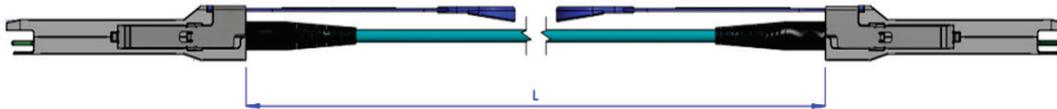


Table 3 - Part Numbers and Descriptions

OPN	Description
MFA1A00-C003	Mellanox® active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 3m
MFA1A00-C005	Mellanox® active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 5m
MFA1A00-C010	Mellanox® active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 10m
MFA1A00-C015	Mellanox® active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 15m
MFA1A00-C020	Mellanox® active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 20m
MFA1A00-C030	Mellanox® active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 30m
MFA1A00-C050	Mellanox® active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 50m
MFA1A00-C100	Mellanox® active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 100m

Note 1. See Figure 1 for the cable length definition. Note 2. LSZH is an abbreviation for Low Smoke, Zero Halogen jacket.

Warranty Information

Mellanox LinkX AOC cables include a 1 year limited hardware warranty, which covers parts repair or replacement.



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