



25GbE SFP28 Active Optical Cable



MFA2P10-Axxx | SFP25G-AOCxxM-TG

Mellanox® MFA2P10-Axxx and SFP25G-AOCxxM-TG are SFP28 Active Optical Cables (AOC) designed for use in 25GbE Ethernet systems. These AOCs incorporate Mellanox integrated circuit technology in order to provide high performance at low power.

The 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.

The AOC has a standard SFF-8402 compliant SFP28 port on the electrical side towards the host system. It contains one fiber optic transceiver per end, operating at data rates of up to 25Gb/s.

The AOC offers selectable retiming for both its optical transmitter and receiver for the 25Gb/s rate, but it also supports lower bit rates without retiming. The transmitter has programmable input equalizers and input squelch function, while the receiver has programmable output amplitude and pre-emphasis.

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	3.465	V
Data input voltage	-0.3	3.465	V
Control input voltage	-0.3	4	V
Storage temperature	-40	85	°C

Table 2 - Operational Specifications

Parameter	Minimum	Typical	Maximum	Units
Supply voltage (Vcc)	3.135	3.3	3.465	V
Power dissipation (no retiming)	---	0.45	0.5	W
Power dissipation (retiming on)	---	0.7	0.8	W
Supply noise tolerance (10Hz-10MHz)	---	---	66	mVpp
Operating case temperature	0	---	70	°C
Operating relative humidity	5	---	85	%

HIGHLIGHTS

- 0.5W power consumption (typ, each end, with retiming)
- Programmable Tx input equalizer
- Selectable retiming
- SFF-8402 compliant
- 3.3V power supply
- SFP28 power level 1
- BER better than 1E-15
- Hot pluggable
- RoHS compliant
- IEEE 802.3 25GBASE-SR compliant
- IEEE 802.3 10GBASE-SR compliant
- SFF-8472 compliant I²C management interface
- 25G to 10G rate selection by turning off CDR

Table 3 - Cable Mechanical Specifications

Parameter	Value	Units
Diameter	3	mm
Minimum bend radius	30	mm
Length tolerance	Length < 5m: +300mm /-0 5m < Length < 50m: +500mm / -0 50m < Length: +1000mm /-0	m
Cable color	Aqua	---

Note 1. See Figure 1 for the cable length definition.

Mechanical Schematics

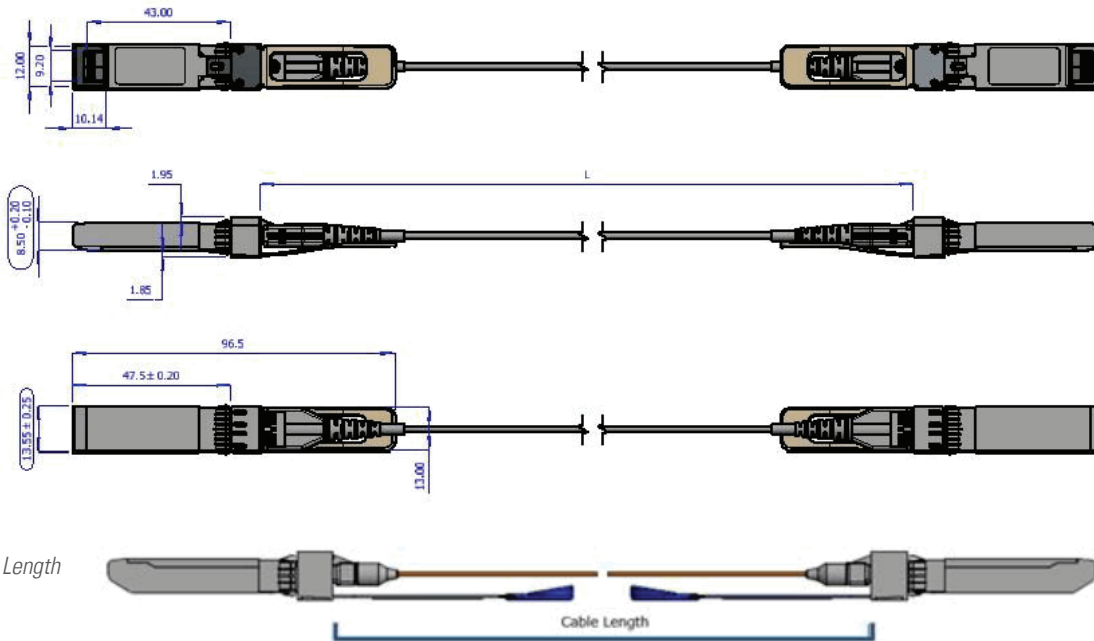


Figure 1. Cable Length

Table 4 - Part Numbers and Descriptions

OPN	Description	OPN	Description
MFA2P10-A003	Mellanox® active optical cable 25GbE, SFP28, 3m	SFP25G-AOC03M-TG	Mellanox® customized active optical cable 25GbE, SFP28, 3m, Aqua
MFA2P10-A005	Mellanox® active optical cable 25GbE, SFP28, 5m	SFP25G-AOC05M-TG	Mellanox® customized active optical cable 25GbE, SFP28, 5m, Aqua
MFA2P10-A007	Mellanox® active optical cable 25GbE, SFP28, 7m	SFP25G-AOC07M-TG	Mellanox® customized active optical cable 25GbE, SFP28, 7m, Aqua
MFA2P10-A010	Mellanox® active optical cable 25GbE, SFP28, 10m	SFP25G-AOC10M-TG	Mellanox® customized active optical cable 25GbE, SFP28, 10m, Aqua
MFA2P10-A015	Mellanox® active optical cable 25GbE, SFP28, 15m	SFP25G-AOC20M-TG	Mellanox® customized active optical cable 25GbE, SFP28, 20m, Aqua
MFA2P10-A020	Mellanox® active optical cable 25GbE, SFP28, 20m	SFP25G-AOC30M-TG	Mellanox® customized active optical cable 25GbE, SFP28, 30m, Aqua
MFA2P10-A030	Mellanox® active optical cable 25GbE, SFP28, 30m		
MFA2P10-A050	Mellanox® active optical cable 25GbE, SFP28, 50m		
MFA2P10-A100	Mellanox® active optical cable 25GbE, SFP28, 100m		

Note: The SFP25G-AOCxxM-TG family supports only 25G operation.



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Warranty Information

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