

56Gb/s QSFP+ Active Optical Cable

MC220731V-xxx

Mellanox® MC220731V is a family of VCSEL-based (Vertical Cavity Surface-Emitting Laser) QSFP+ active optical cable (AOC) designed for use in 40GbE Ethernet and 56Gb/s Virtual Port Interconnect (VPI) systems. This family of AOCs offers high port density and configurability, as well as a longer reach than passive copper cables in data centers. Since the AOC is hot pluggable, it is easy to install and replace.

The MC220731V family has a standard SFF-8685 compliant QSFP+ port on the electrical side towards the host system.

MC220731V AOCs contain four multi-mode fibers (MMF) optical transceivers per end, each operating at data rates of up to 14.0625Gb/s. The transmitters have input equalizers compensating for signal attenuation across the host PCB, and the receivers have 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	3.6	V
Data input voltage	-0.5	V _{cc} +0.3	V
Control input voltage	-0.3	V _{cc} +0.3	V
Storage temperature	-10	70	°C

Table 2 - Operational Specifications

Parameter	Minimum	Typical	Maximum	Units
Supply voltage (V _{cc})	3.15	3.3	3.45	V
Power consumption	---	0.8	1	W
Supply noise tolerance	66	---	---	mV
Operating case temperature	0	---	70	°C
Operating relative humidity	5	---	85	%



HIGHLIGHTS

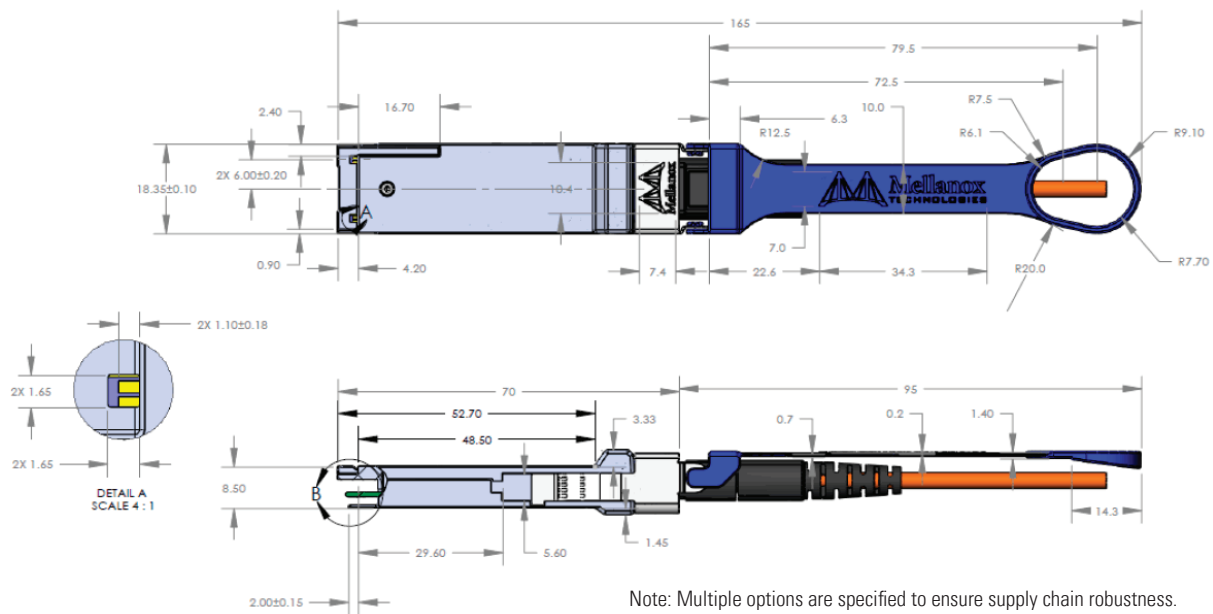
- Up to 56Gb/s data rate
- 1W maximum power consumption
- SFF-8685 and SFF-8436 compliant
- Operating case temperature of 0-70°C
- 3.3V power supply
- BER better than 1E-15
- Hot pluggable
- Up to 100 meters in length
- Standard multimode fiber
- RoHS compliant
- Plenum rated (OFNP)

Table 3 - Cable Mechanical Specifications

Parameter	Value	Units
Diameter	3.3	mm
Minimum bend radius	35	mm
Length tolerance	Length < 5m: +300mm /-0 5m < Length < 50m: +500mm /-0 50m < Length: +1000mm /-0	m
Cable color	Length ≤ 30m: (OM2) Orange Length > 30m: (OM3) Aqua	m

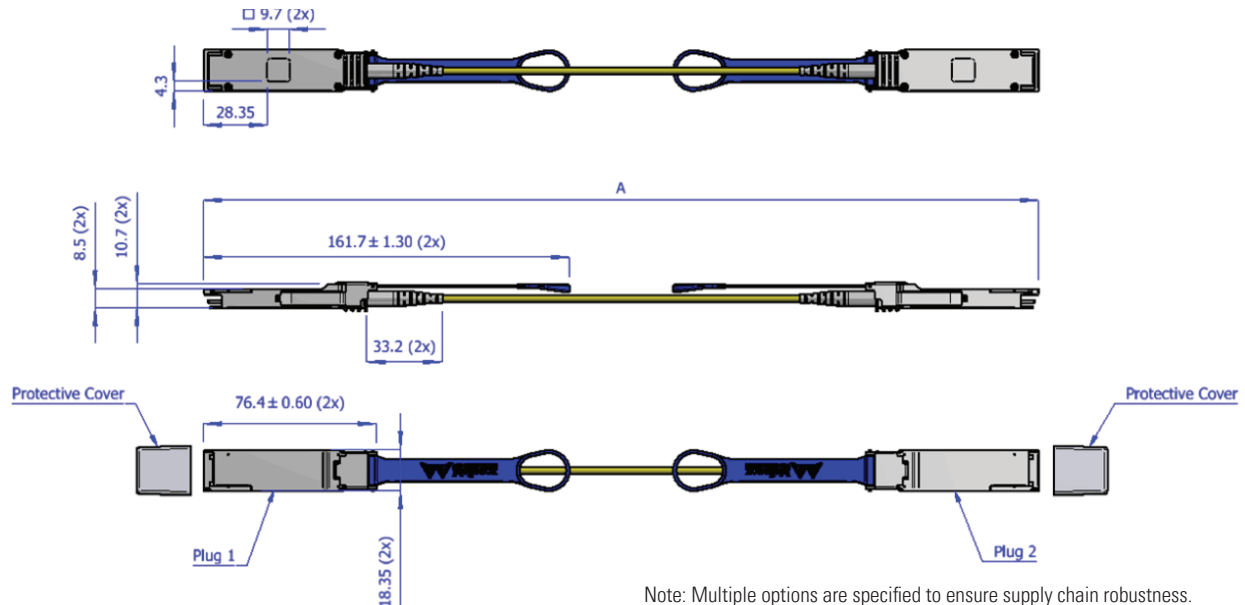
Note 1. See Figure 1 for the cable length definition.

Mechanical Schematics (Option 1)



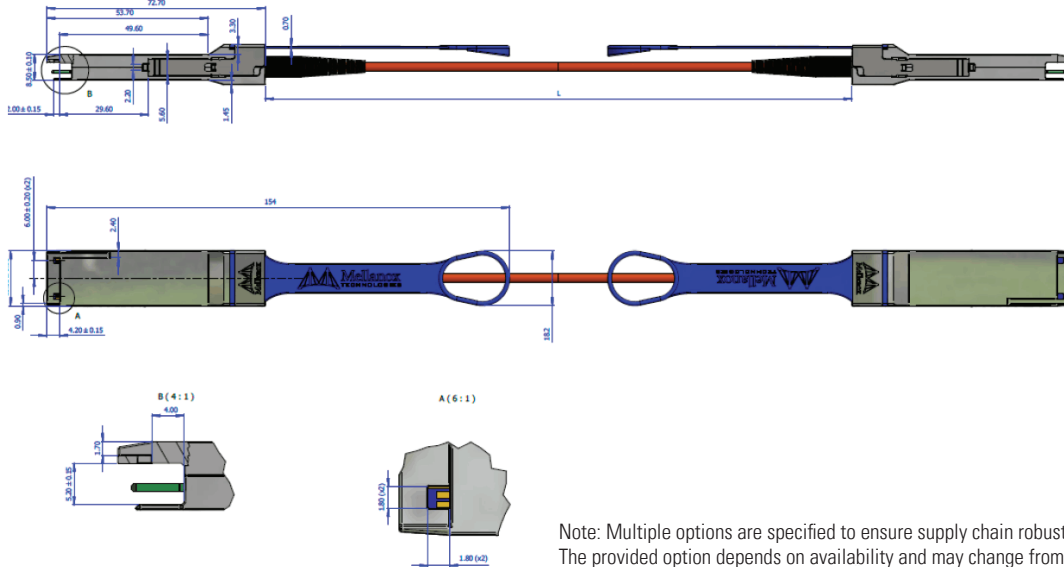
Note: Multiple options are specified to ensure supply chain robustness. The provided option depends on availability and may change from shipment to shipment.

Mechanical Schematics (Option 2)



Note: Multiple options are specified to ensure supply chain robustness. The provided option depends on availability and may change from shipment to shipment.

Mechanical Schematics (Option 3)



Note: Multiple options are specified to ensure supply chain robustness. The provided option depends on availability and may change from shipment to shipment.

Figure 1. Cable Length

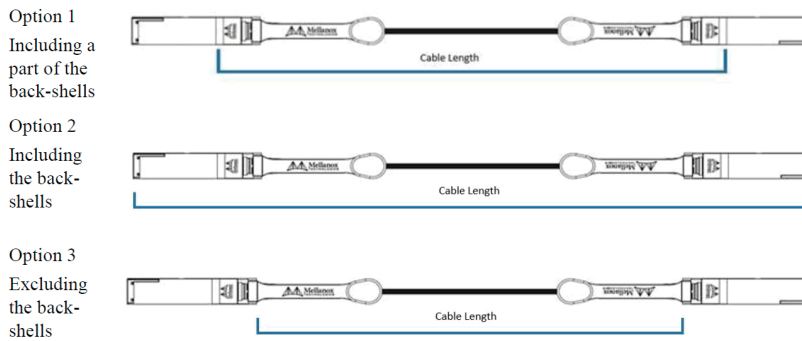


Table 4 - Part Numbers and Descriptions

OPN	Description
MC220731V-003	Mellanox® active fiber cable, VPI, up to FDR/56 GbE, QSFP+, 3m
MC220731V-005	Mellanox® active fiber cable, VPI, up to FDR/56 GbE, QSFP+, 5m
MC220731V-010	Mellanox® active fiber cable, VPI, up to FDR/56 GbE, QSFP+, 10m
MC220731V-015	Mellanox® active fiber cable, VPI, up to FDR/56 GbE, QSFP+, 15m
MC220731V-020	Mellanox® active fiber cable, VPI, up to FDR/56 GbE, QSFP+, 20m
MC220731V-025	Mellanox® active fiber cable, VPI, up to FDR/56 GbE, QSFP+, 25m
MC220731V-030	Mellanox® active fiber cable, VPI, up to FDR/56 GbE, QSFP+, 30m
MC220731V-050	Mellanox® active fiber cable, VPI, up to FDR/56 GbE, QSFP+, 50m
MC220731V-100	Mellanox® active fiber cable, VPI, up to FDR/56 GbE, QSFP+, 100m

Warranty Information

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



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