200GbE to 4x50GbE (QSFP56 to 4xSFP56) Direct Attach Copper Splitter Cable

MCP7H70-V0xxRyy

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Mellanox® MCP7H70-V0xxRyy DAC splitter cables are a high speed, cost-effective 200GbE to 4x50GbE Ethernet connectivity solution, designed to meet the growing needs for higher bandwidth in data centers.

MCP7H70-V0xxRyy cables provide connectivity between systems with a QSFP56 port on one side and up to four different SFP56 ports on the other side. The cable connects data signals from each of the four copper pairs on the QSFP56 end to the single pair of each of the SFP56 ends. Each QSFP56/SFP56 port comprises an EEPROM providing product information, which can be read by the host system.

Mellanox's unique quality passive copper cable solutions provide power-efficient connectivity for short distance interconnects. They enable higher port bandwidth, density and configurability at a low cost and reduced power requirement in the data centers.

Rigorous cable production testing ensures best out-of-the-box installation experience, performance and durability.

HIGHLIGHTS

- 200GbE to 4x50GbE data rate
- IEEE 802.3cd PAM4 200GAUI-4, 100GAUI-2 and 50GAUI-1 compliant
- SFF-8636 compliant I²C management interface
- Operating case temperature 0-70°C
- Single 3.3V supply voltage
- BER (Bit Error Rate) better than 1E-15 with Mellanox end-to-end interconnect
- Hot pluggable
- RoHS compliant
- Low Smoke Zero Halogen (LSZH) jacket
- LF (Lead Free) HF (Halogen Free) PCB

Table 1 - Absolute Maximum Ratings

Parameter	Minimum	Maximum	Units
Supply voltage	-0.3	3.6	V
Data input voltage	-0.3	3.6	V
Control input voltage	-0.3	3.6	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 consumption	---	---	0.1	W
Operating case temperature	0	---	70	°C
Operating relative humidity	5	---	85	%

Table 3 - Electrical Specifications

Parameter	Minimum	Typical	Maximum	Units
Characteristic impedance	90	100	110	Ω
Time propagation delay (informative)	---	---	4.5	ns/m

†For illustration only. Actual products may vary.

Table 4 - Cable Mechanical Specifications

Ordering Part No.	Length Tolerance	AWG	Single Cable Diameter	Minimum Bend Radius	Cable Color
MCP7H70-V001R30	1m ± 0.025mm	30	4.8 ± 0.2mm (LSZH)	Single bend: 24mm Assembly/repeated bend: 48mm	Black
MCP7H70-V01AR30	1.5m ± 0.025mm				
MCP7H70-V002R26	2m ± 0.050mm	26	5.1 ± 0.3mm	Single bend: 25.5mm Assembly/repeated bend: 51mm	
MCP7H70-V02AR26	2.5m ± 0.050mm				
MCP7H70-V003R26	3m ± 0.050mm				

Note: The minimum assembly bending radius (close to the connector) is 10x the cable's outer diameter. The repeated bend (far from the connector) is also 10x the cable's outer diameter.
The single bend (far from the connector) is 5x the cable's outer diameter.
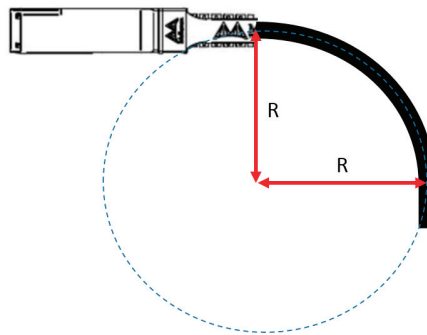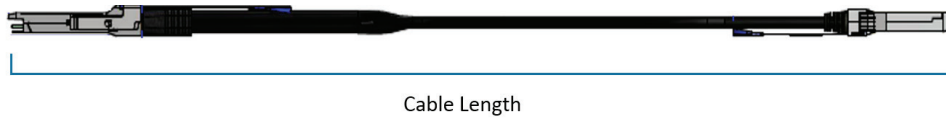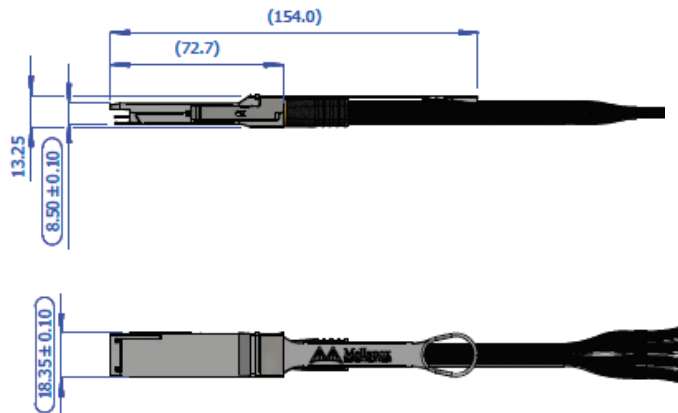
Figure 1. *Assembly Bending Radius*

Figure 2. *Cable Length*

Cable Length

Mechanical Schematics – QSFP56 End
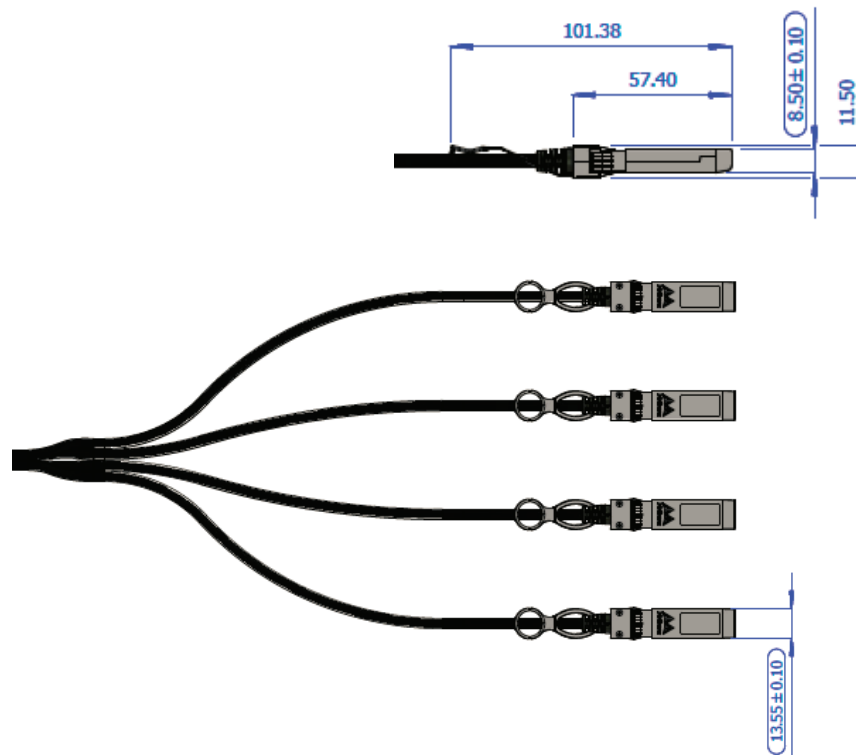
Mechanical Schematics – SFP56 End

Table 5 - Part Numbers and Descriptions

Part Number	Description
MCP7H70-V001R30	Mellanox® passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4xSFP56, colored, 1m, 30AWG
MCP7H70-V01AR30	Mellanox® passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4xSFP56, colored, 1.5m, 30AWG
MCP7H70-V002R26	Mellanox® passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4xSFP56, colored, 2m, 26AWG
MCP7H70-V02AR26	Mellanox® passive copper hybrid cable, 200GbE 200Gb/s to4x50Gb/s, QSFP56 to 4xSFP56, colored, 2.5m, 26AWG
MCP7H70-V003R26	Mellanox® passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4x4SFP56, colored, 3m, 26AWG

Notes: xx = reach; yy = wire gauge

　　　Raw cables are provided from different sources to ensure supply chain robustness.

Warranty Information

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

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