200Gb/s HDR to 2x100Gb/s HDR100 (QSFP56 to 2xQSFP56) Direct Attach Copper Splitter Cable

MCP7H50-H0xxRyy

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Mellanox® MCP7H50-H0xxRyy DAC splitter cables[1] are high-speed, cost-effective alternatives to fiber optics in 200Gb/s InfiniBand HDR applications.

MCP7H50-H0xxEyy cables provide connectivity between system units with a 200Gb/s HDR QSFP56 port on one side and two 100Gb/s HDR100 QSFP56 ports on the other side. The cable connects the data signals from each of the 2 dual copper pairs on the single QSFP56 (pair 1&2, 3&4) end to the dual copper pair of each of the QSFP56 (pair 1&2) ends on the multi-port side. Each QSFP56 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. It enables 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

- IBTA InfiniBand HDR compliant
- 200Gb/s HDR to 2x100Gb/s HDR100 data rate
- 4x 50Gb/s PAM4 modulation
- SFF-8665 compliant
- Operating case temperature 0-70°C
- Single 3.3V supply voltage
- BER (Bit Error Rate) better than 1E-15 with Mellanox InfiniBand HDR systems
- Hot pluggable
- RoHS compliant
- LSZH (Low Smoke Zero Halogen) jacket
- LF (Lead Free) HF (Halogen Free) PCB
- SFF-8636 compliant I²C management interface

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

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

†For illustration only. Actual products may vary.

Table 4 - Cable Mechanical Specifications

Ordering Part No.	Length (m)	AWG	Single Cable Diameter	Minimum Bend Radius
MCP7H50-H001R30	1 ± 0.025mm	30	5.2 ± 0.3mm	Single bend: 26mm Assembly/repeated bend: 52mm
MCP7H50-H01AR30	1.5 ± 0.025mm			
MCP7H50-H002R26	2 ± 0.050mm	26	6.8 ± 0.3mm	Single bend: 34mm Assembly/repeated bend: 68mm

Note 1. 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.
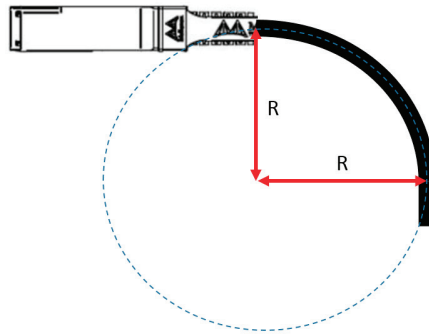
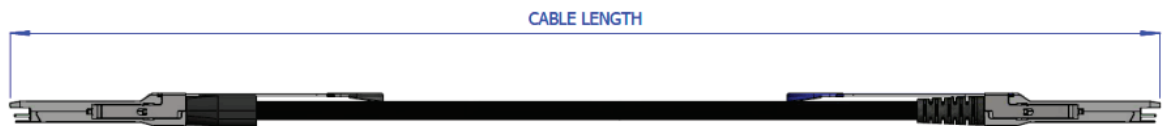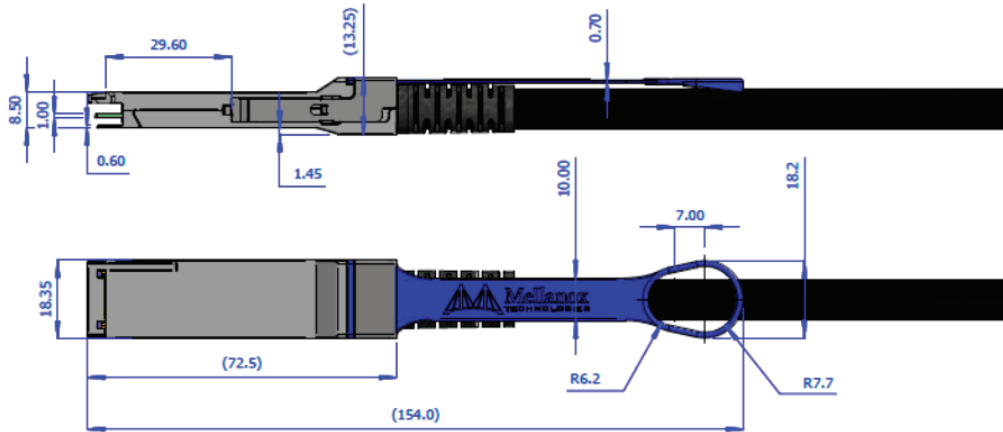**Figure 1.** *Assembly Bending Radius*
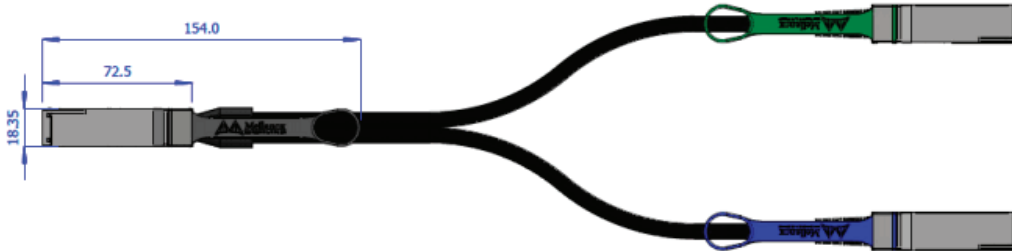

Figure 2. *Cable Length*

Mechanical Schematics

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN mm

USE DIMENSIONS ONLY
DO NOT SCALE

GENERAL TOLERANCE:
LINEAR: ±0.1
RADIUS: ±0.1
ANGLES: ±0.5
BTWN HOLE CENTERS: ±0.1

Splitting Point

Table 5 - Part Numbers and Descriptions

Part Number	Description
MCP7H50-H001R30	Mellanox® passive copper hybrid cable, IB HDR 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, colored, 1m, 30AWG
MCP7H50-H01AR30	Mellanox® passive copper hybrid cable, IB HDR 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, colored, 1.5m, 30AWG
MCP7H50-H002R26	Mellanox® passive copper hybrid cable, IB HDR 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, colored, 2m, 26AWG

Note: xx = reach; R = rainbow pulltab color; yy = wire gauge

Warranty Information

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

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