



# 100GbE to 4x25GbE (QSFP28 to 4xSFP28) Direct Attach Copper Splitter Cable

## MCP7F00-A0xxRyyz

Mellanox® MCP7F00-A0xxRyyz DAC splitter cables are a high speed, cost-effective 100GbE to 4 x 25GbE Ethernet connectivity solution, designed to meet the growing needs for higher bandwidth in data centers.

MCP7F00-A0xxRyyz cables are compliant with SFF-8402 SFP28 and SFF-8665 QSFP28 standard specifications and provide connectivity between system units with a QSFP28 port on one side and up to four different SFP28 ports on the other. The cable connects data signals from each of the 4 copper pairs on the QSFP28 end to the single pair of each of the SFP28 ends. Each QSFP28/SFP28 port comprises an EEPROM providing product information, which can be read by the host system.

MCP7F00-A0xxRyyz cables up to 2m support IEEE 802.3by CA-25G-N (Cable Assembly No-FEC) with low latency. Cables from 3m to 5m support IEEE 802.by CA-25G-L (Cable Assembly Long) with RS-FEC (Reed Solomon Forward Error Correction) enabled. For 2.5m and 3m cables there are two versions supporting either CA-25G-N or CA-25G-L.

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.

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	%

## HIGHLIGHTS

- 100GbE to 4x25GbE data rate
- 40GbE to 4x10GbE data rate
- SFF-8402 SFP28 compliant
- SFF-8665 QSFP28 compliant
- Operating case temperature 0-70°C
- Single 3.3V supply voltage
- Bit Error Rate (BER) better than 1E-15 with Mellanox systems
- Hot pluggable
- RoHS compliant
- LSZH (Low Smoke Zero Halogen) jacket
- LF (Lead Free) HF (Halogen Free) PCB
- SFF-8636 compliant I<sup>2</sup>C management interface

Table 3 - Electrical Specifications

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

Note 1. Minimum insertion loss for up to 1m cable length is 6dB @ 12.89GHz.

Table 4 - Cable Mechanical Specifications

OPN (see Table 5)	AWG	Cable Length	Single Cable Diameter	Minimum Bend Radius	Length Tolerance
MCP7F00-A001R30N	30	1	4.5 ± 0.2 mm (LSZH)	Single bend: 21mm Repeated bend: 45mm	± 25mm
MCP7F00-A01AR30N		1.5			
MCP7F00-A002R30N		2			
MCP7F00-A02AR30L		2.5			
MCP7F00-A003R30L		3			
MCP7F00-A02AR26N	26	2.5	5.8 ± +0.3mm/-1.0mm	Single bend: 29mm Repeated bend: 58mm	± 50mm
MCP7F00-A003R26N		3			
MCP7F00-A03AR26L		3.5			
MCP7F00-A005R26L		5			

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

Table 5 - Part Numbers and Descriptions

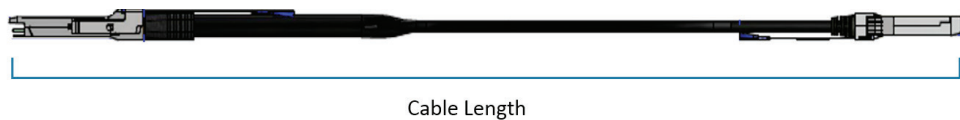
OPN	Description
MCP7F00-A001R30N	Mellanox® passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 1m, Colored, 30AWG, CA-N
MCP7F00-A01AR30N	Mellanox® passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 1.5m, Colored, 30AWG, CA-N
MCP7F00-A002R30N	Mellanox® passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 2m, Colored, 30AWG, CA-N
MCP7F00-A02AR30L	Mellanox® passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 2.5m, Colored, 30AWG, CA-L
MCP7F00-A02AR26N	Mellanox® passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 2.5m, Colored, 26AWG, CA-N
MCP7F00-A003R30L	Mellanox® passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 3m, Colored, 30AWG, CA-L
MCP7F00-A003R26N	Mellanox® passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 3m, Colored, 26AWG, CA-N
MCP7F00-A03AR26L	Mellanox® passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 3.5m, Colored, 26AWG, CA-L
MCP7F00-A005R26L	Mellanox® passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 5m, Colored, 26AWG, CA-L

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

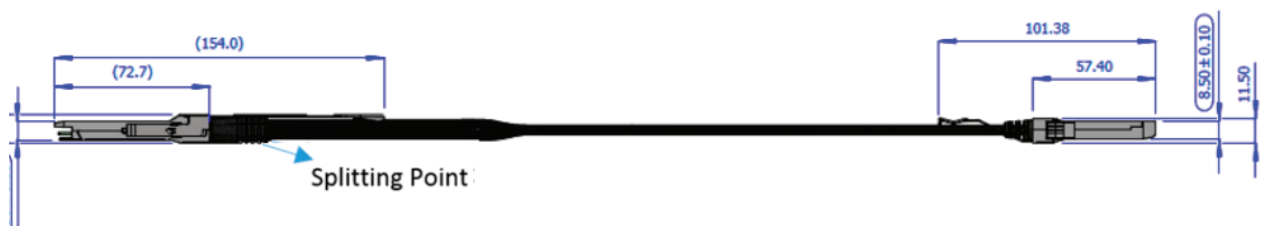
Note 2. Raw cables are provided from different sources to ensure supply chain robustness.

Note 3. xx = reach; R = rainbow pulltab color; yy = wire gauge; z = link code

Figure 1. Cable Length Definition

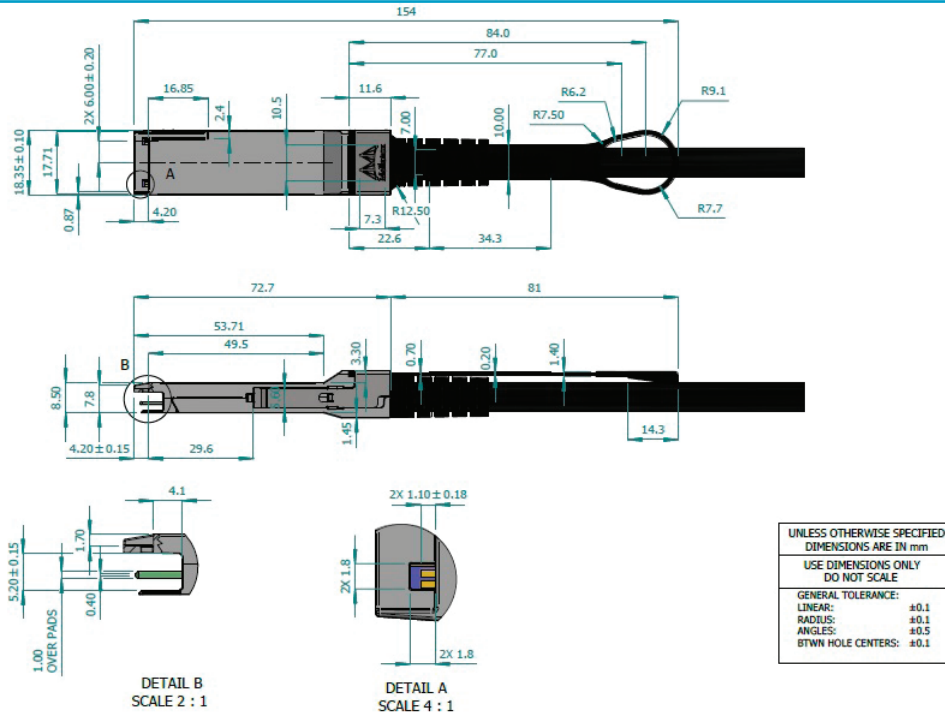


## Mechanical Schematics

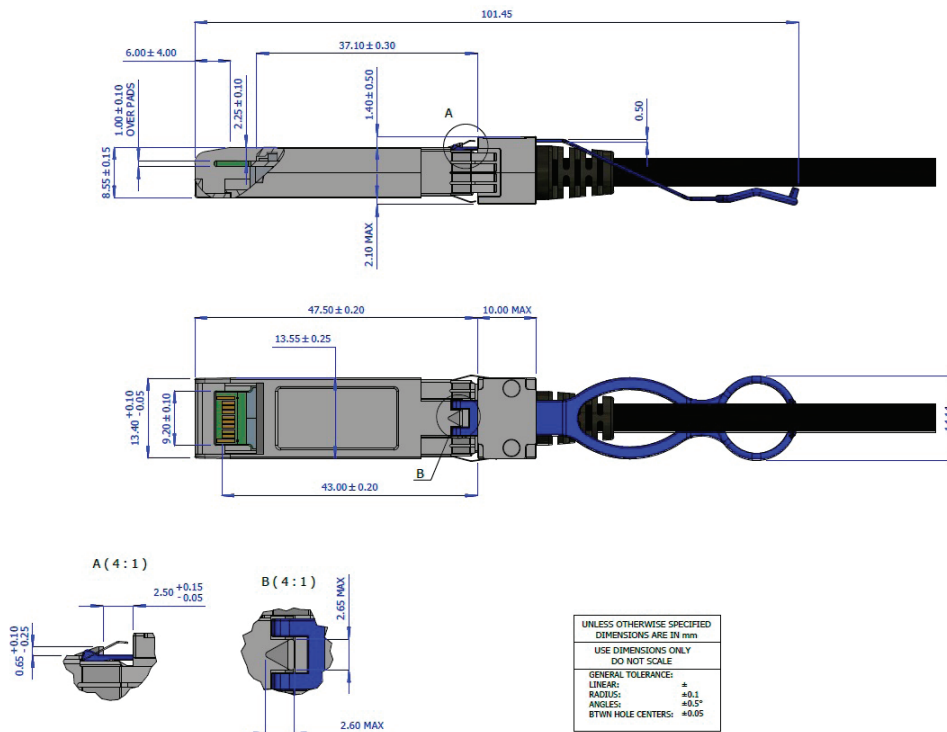


# Mechanical Schematics (cont.)

## QSFP28 End



## SFP28 End



## Warranty Information

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