

# 100GbE QSFP28 Direct Attach Copper Cable

MCP1600-Cxxx



Mellanox® direct attach copper (DAC) passive cable assemblies are high speed, cost-effective alternatives to fiber optics in 100Gb/s Ethernet applications.

Mellanox QSFP28 passive copper cable contains four high-speed copper pairs, each operating at data rates of up to 25Gb/s. Each QSFP28 connector includes 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.

Table 1 - Absolute Maximum Ratings

Parameter	Min	Max	Units
Supply voltage	-0.3	3.6	V
Data input voltage	-0.3	3.6	V
Control input voltage	-0.3	3.6	V

Table 2 - Operational Specifications

Parameter	Min	Typical	Max	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	Min	Typical	Max	Units
Characteristic Impedance	90	100	110	Ω
Time delay (informative)	--	--	4.5	ns/m

## HIGHLIGHTS

- Up to 100Gb/s data rate
- Ultra-low crosstalk for improved performance; BER better than 1E-15
- Serial number printed on each back-shell label
- Tested in an end-to-end system
- SFF-8665 compliant QSFP28
- Hot pluggable
- RoHS compliant
- Available in PVC (PolyVinal Chloride) or Low-Smoke Zero Halogen (LSZH) compliant
- SFF-8636 compliant I<sup>2</sup>C management interface

Table 4 - Cable Mechanical Specifications

AWG	Length (m)	Cable Diameter	Minimum Bend Radius <sup>1</sup>	Length Tolerance
30	0.5	6.9±0.3mm (PVC)	Single bend: 34.5mm Repetitive and assembly bend: 69mm	±25mm
	1			
	1.5			
	2			
	2.5			
28	3	7.4±0.3mm (PVC)	Single bend: 37mm Repetitive and assembly bend: 74mm	±50mm
26	3.5	9.6±0.3mm (PVC)	Single bend: 49mm Repetitive and assembly bend: 96mm	
30	0.5	7.2±0.3mm (LSZH)	Single bend: 36mm Repetitive and assembly bend: 72mm	±25mm
	1			
	1.5			
28	2	7.8±0.3mm (LSZH)	Single bend: 39mm Repetitive and assembly bend: 78mm	±50mm
26	2.5	8.8±0.3mm (LSZH)	Single bend: 44mm Repetitive and assembly bend: 88mm	
	3			
	5	8.8±0.3mm		

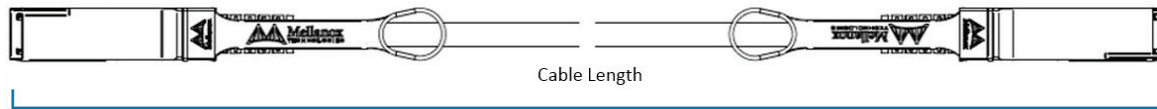
Note 1. The MCP1600 cables allow a tighter single time bend than the bend radius specification; therefore, the cables can be used in setups with smaller space requirements.

Table 5 - Part Numbers and Descriptions

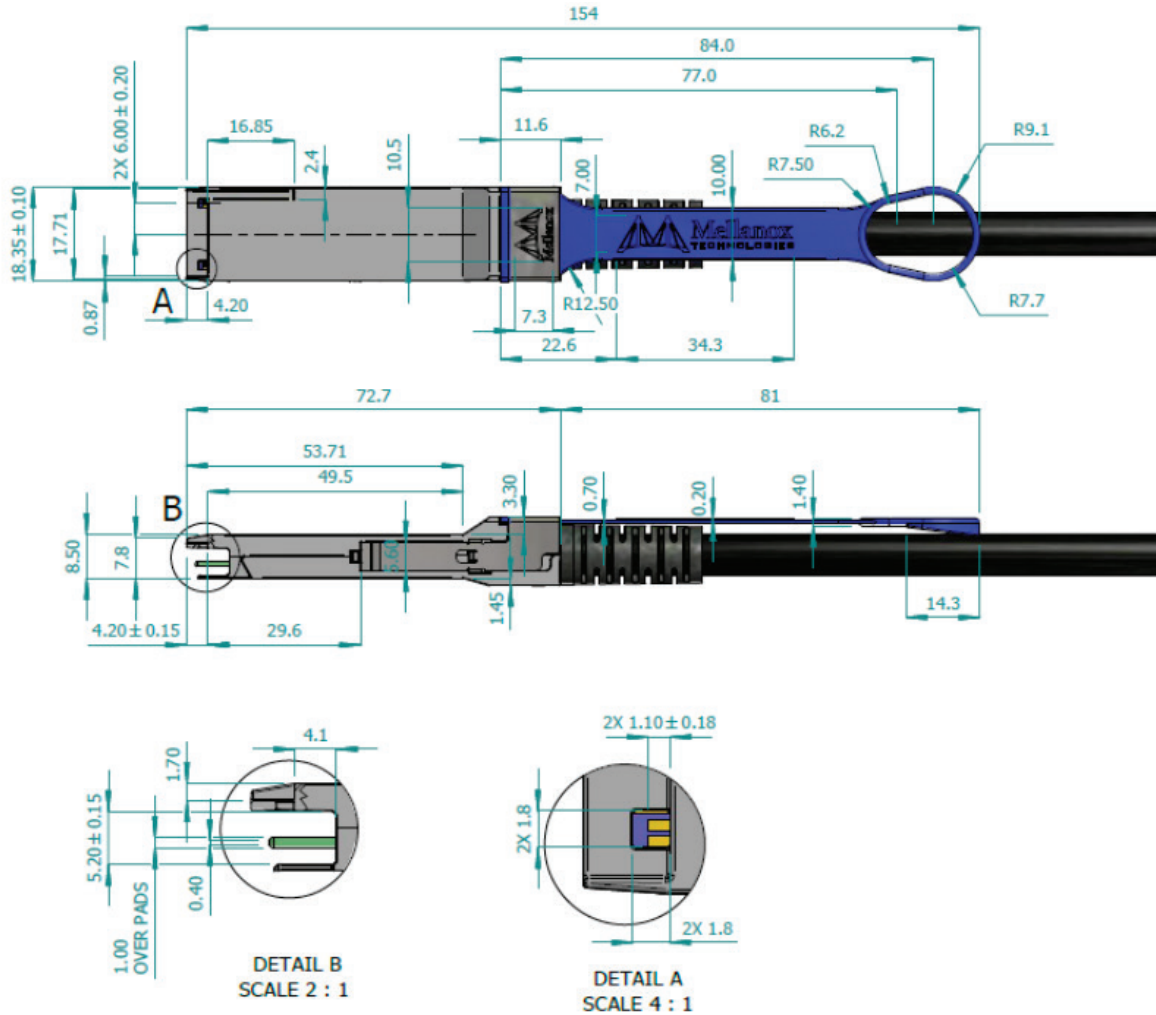
Part Number	Description
MCP1600-C00A	Mellanox® Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 0.5m 30AWG
MCP1600-C00ALZ	Mellanox® Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, 0.5m, LSZH, 30AWG
MCP1600-C001	Mellanox® Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 1m 30AWG
MCP1600-C001LZ	Mellanox® Passive Copper Cable, ETH 100GbE, 100Gb/s, QSFP, 1m, LSZH, 30AWG
MCP1600-C01A	Mellanox® Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 1.5m 30AWG
MCP1600-C01ALZ	Mellanox® Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, 1.5m, LSZH, 30AWG
MCP1600-C002	Mellanox® Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 2m 30AWG
MCP1600-C002LZ	Mellanox® Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, 2m, LSZH, 28AWG
MCP1600-C02A	Mellanox® Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 2.5m 30AWG
MCP1600-C02ALZ	Mellanox® Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, 2.5m, LSZH, 26AWG
MCP1600-C003	Mellanox® Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 3m 28AWG
MCP1600-C003LZ	Mellanox® Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, 3m, LSZH 26AWG
MCP1600-C03A	Mellanox® Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 3.5m 26AWG
MCP1600-C005E26L	Mellanox® Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 5m, Black, 26AWG, CA-L

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

Figure 1. Cable Length Definition



# Mechanical Schematics



## Warranty Information

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