

100Gb/s QSFP28 Direct Attach Copper Cable



MCP1600-xxxx

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

Mellanox QSFP28 passive copper cable contains four high-speed copper pairs, each operating at data rates of up to 25Gb/s. This cable is offered in two different versions for use in either 100GbE Ethernet (MCP1600-Cxxx) or in IB EDR (MCP1600-Exxx), offering versatile use in both Ethernet and InfiniBand based interconnects. 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 100 Gb/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
- LSZH (Low Smoke, Zero Halogen) jacket compliant (when applicable)
- MCP1600-Cxxx supports 100GE Ethernet protocol
- MCP1600-Exxx supports InfiniBand EDR protocol
- SFF-8636 compliant I²C management interface

Table 4 - Cable Mechanical Specifications

Max Data Rate	AWG	Length (m)	Cable Diameter	Minimum Bend Radius ¹	Length Tolerance			
100GbE	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								
EDR	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								

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

Max Data Rate	Part Number	Description
100GbE	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
	EDR	MCP1600-E00A
MCP1600-E001		Mellanox® Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1m 30AWG
MCP1600-E01A		Mellanox® Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1.5m 30AWG
MCP1600-E002		Mellanox® Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 2m 28AWG
MCP1600-E02A		Mellanox® Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 2.5m 26AWG
MCP1600-E003		Mellanox® Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 3m 26AWG

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

Mechanical Schematics

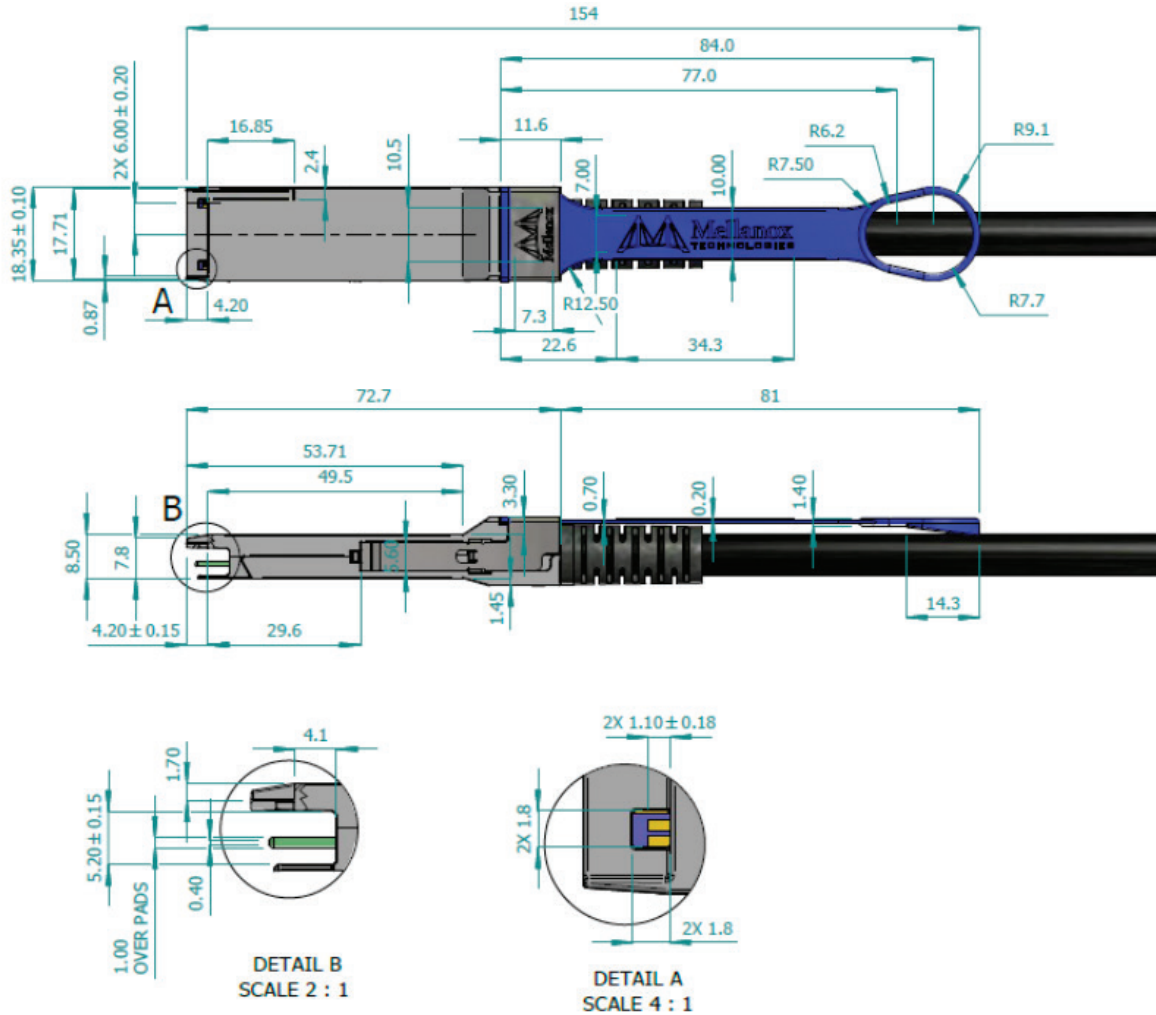
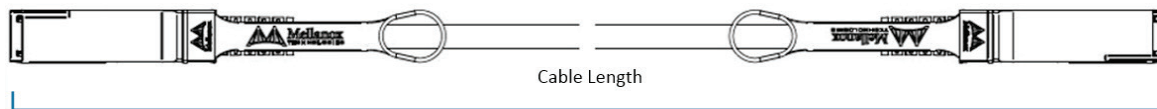


Figure 1. Cable Length Definition



Warranty Information

Mellanox LinkX 100Gb/s QSFP28 passive copper cables include a 1-year limited hardware warranty, which covers parts repair or replacement.