



# 200GbE to 2x100GbE (QSFP56 to 2xQSFP56) MMF Active Optical Splitter Cable



## MFS1S50-VxxxE

Mellanox® MFS1S50-VxxxE is a QSFP56 VCSEL-based (Vertical Cavity Surface-Emitting Laser), cost-effective 200GbE to 2 x 100GbE active optical splitter cable (AOC) designed for use in 200GbE Ethernet systems.

The MFS1S50-VxxxE cable is compliant with SFF-8665 for the QSFP56 pluggable solution. It provides connectivity between system units with a 200GbE connector on one side and two separate 100GbE connectors on the other side, such as a switch and two servers. The cable connects data signals from each of the 4 MMF (Multi Mode Fiber) pairs on the single QSFP56 end to the dual pair of each of the QSFP56 multiport ends. Each QSFP56 end of the cable contains an EEPROM providing product and status monitoring information, which can be read by the host system.

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

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

Table 1 - Absolute Maximum Ratings

Parameter	Minimum	Maximum	Units
Supply voltage	-0.3	3.6	V
Data input voltage	-0.3	3.465	V
Control input voltage	-0.3	4.0	V
Damage threshold	3.4	---	dBm
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 dissipation 200Gb/s end	---	4.35	4.55	W
Power dissipation 100Gb/s end	---	2.50	2.75	W
Supply noise tolerance (10Hz-10MHz)	66	---	---	mVpp
Operating case temperature	0	---	70 <sup>(1)</sup>	°C
Operating relative humidity	5	---	85	%

Note 1. Internal temperature readout through DDMI of up to 75°C is allowed.

## HIGHLIGHTS

- 200GbE to 2x100GbE data rate
- 4x 50Gb/s PAM4 modulation
- Programmable Rx output amplitude and pre-emphasis
- SFF-8665 compliant QSFP56 port
- Single 3.3V power supply
- 4.35W power dissipation (typ., 200G end)
- Bit Error Rate (BER) better than 1E-15 with Mellanox systems
- Up to 30m length
- Hot pluggable
- RoHS compliant
- IEEE 802.3 200GBASE-SR4 and 100GBASE-SR2 compliant
- SFF-8636 compliant I<sup>2</sup>C management interface

Table 3 - Cable Mechanical Specifications

Parameter	Value	Units
Diameter	3 ± 0.2	mm
Minimum bend radius	30	mm
Length tolerance	Length < 5m: +300mm / -0 5m ≤ Length < 50m: +500mm / -0 50m ≤ Length: +1000mm / -0	m, mm
Cable color	Aqua	---

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

## Mechanical Schematics

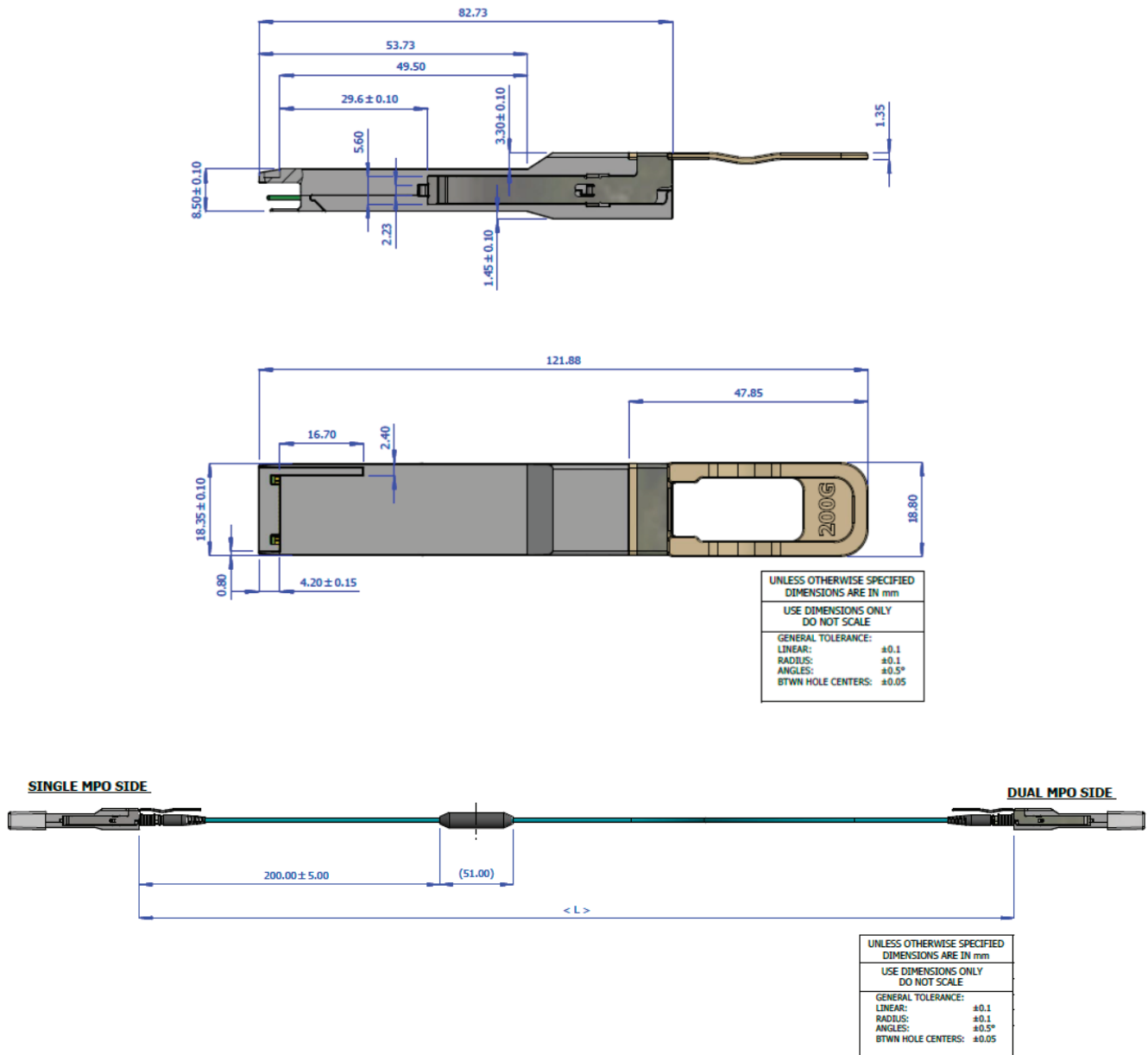


Figure 1. Splicing Point and Cable Length

Table 4 - Part Numbers and Descriptions

Part Number	Description
MFS1S50-V003E	Mellanox® active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, 3m
MFS1S50-V005E	Mellanox® active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, 5m
MFS1S50-V010E	Mellanox® active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, 10m
MFS1S50-V015E	Mellanox® active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, 15m
MFS1S50-V020E	Mellanox® active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, 20m
MFS1S50-V030E	Mellanox® active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, 30m

## Warranty Information

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