

# Dynamix QSA™ QSFP+ to SFP+ Adapter



## MAM1Q00A-QSA

Mellanox Dynamix QSA™, QSFP+ to SFP+ adapter, enables a smooth cost-effective connection between a single lane transceiver/cable and a quad lane port. The QSA provides the option to connect an SFP+/SFP transceiver or cable to a QSFP+ port of an Nx40GbE switch or network interface card (NIC).

The QSA should be installed into a QSFP+ port, and is intended to either connect a switch QSFP+ port to a NIC SFP port or connect a NIC QSFP+ port to a switch SFP port. For example, an SFP-based cable can be connected to Mellanox's 40GbE ConnectX®-3 NIC and to the 48 x 10GbE SX1012 Ethernet switch.

The QSA conforms to the SFF8418/8419 for the SFP side and to SFF-8436 for the QSFP+ standards and is thoroughly tested to meet strict quality requirements. The adapter has a QSFP+ form factor with a receptacle for SFP+ transceiver/AOC/DAC connector. The QSA provides a solution for integrating systems using different vendors' equipment, since it is vendor agnostic and provides a direct path to the SFP unit's memory. The QSA interoperates with all major optical module and direct attach copper cable vendors.

Its design ensures minimum loss on the conversion path between the QSFP+ cage and the SFP receptacle. The RF (high speed data) channel of the SFP receptacle is connected to lane 1 of the QSFP+ connector. The three remaining RF channels on the QSFP+ connector are not connected. The QSA is qualified for 10GbE SFP+ and 1GbE SFP transceivers meeting the Small Form Factor Pluggable (SFP) Transceiver Multi-source Agreement (MSA).

Table 1 - Absolute Maximum Ratings

Parameter	Minimum	Maximum <sup>1</sup>	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

Note 1. Subject to the SFP's specifications.

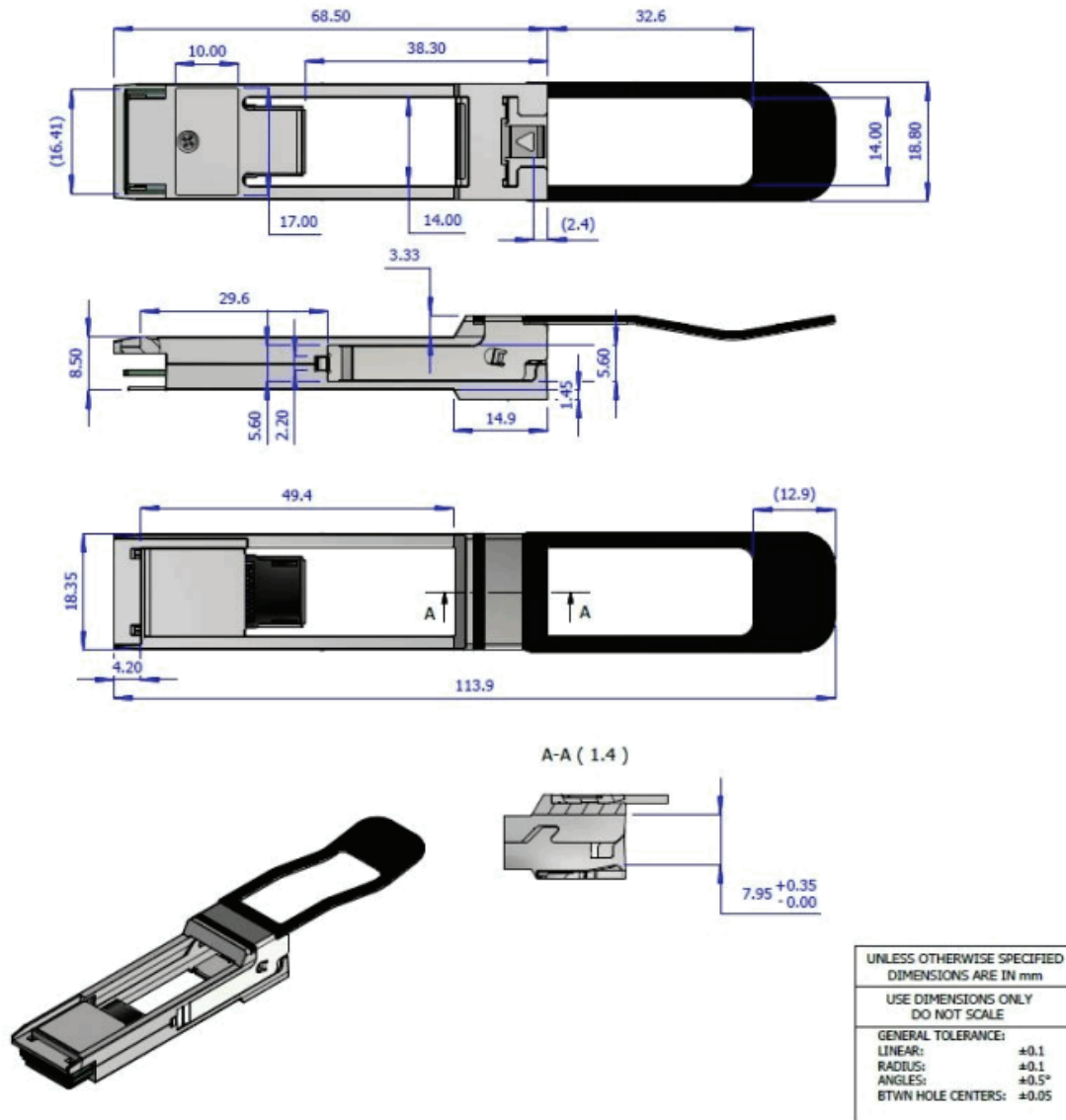
## HIGHLIGHTS

- Industry-leading price and performance
- Trouble-free installation and network bring-up
- Compliant to industry standards
  - QSFP+ MSA SFF-8436
  - SFP+ MSA SFF-8418/8419
- Low insertion loss
- Registered US patent #7,934,959
- Matched impedance
- Secure latching mechanism
- RoHS compliant
- SFF-8636 compliant I<sup>2</sup>C management interface for reading the SFP transceiver

Table 2 - Operational Information

Parameter	Minimum	Typical	Maximum	Units
Supply voltage (Vcc)	3.135	3.3	3.465	V
Power consumption	---	---	0.1	W
Operating case temperature for MAM1Q00A-QSA	0	---	70	°C
Operating case temperature for MAM1Q00A-QSA_E	-10	---	85	°C
Operating relative humidity	5	---	85	%
Characteristic impedance	90	100	110	Ω

## Mechanical Schematics (Option 1)

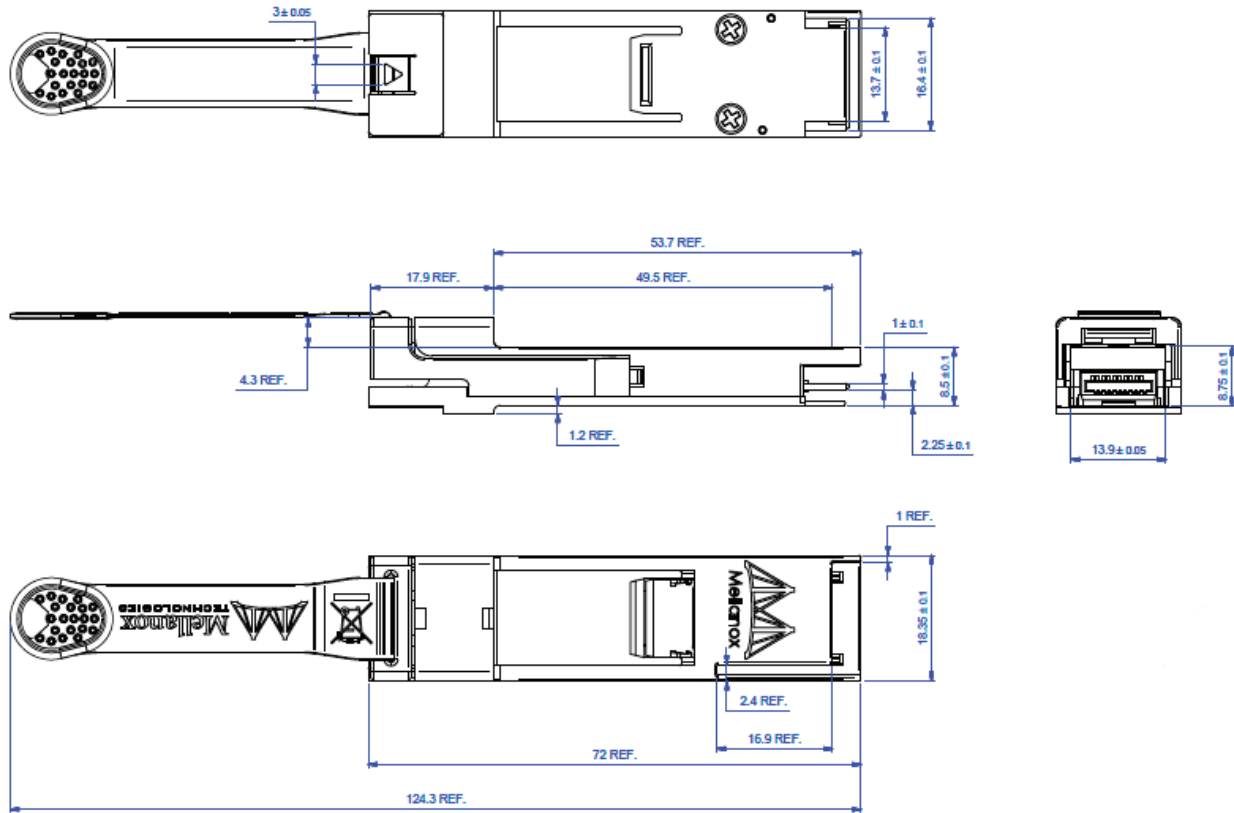


Note: The SFP+/SFP mating paddle card dimension A10 (length of component/solder mask keep-out area, refer to SFF-8071) shall be >6.0mm instead of >5.5mm.

The reason for this requirement is to prevent damaging the adapter when trying to insert an SFP upside down.

Note: Multiple options are specified to ensure supply chain robustness. The provided option depends on availability and may change from shipment to shipment.

# Mechanical Schematics (Option 2)



Note: The SFP+/SFP mating paddle card dimension A10 (length of component/solder mask keep-out area, refer to SFF-8071) shall be >6.0mm instead of >5.5mm.  
 The reason for this requirement is to prevent damaging the adapter when trying to insert an SFP upside down.  
 Note: Multiple options are specified to ensure supply chain robustness. The provided option depends on availability and may change from shipment to shipment.

**Table 3 - Part Number and Description**

OPN	Description
MAM1Q00A-QSA	Mellanox® cable module, ETH 10GbE, 40Gb/s to 10Gb/s, QSFP to SFP+
MAM1Q00A-QSA_E	Mellanox® cable module, ETH 10GbE, 40Gb/s to 10Gb/s, QSFP to SFP+, extended temperature. Note: This part number is only available for option 1.

## Warranty Information

Mellanox DynamiX QSA adapters include a 1-year limited hardware warranty, which covers parts repair or replacement.