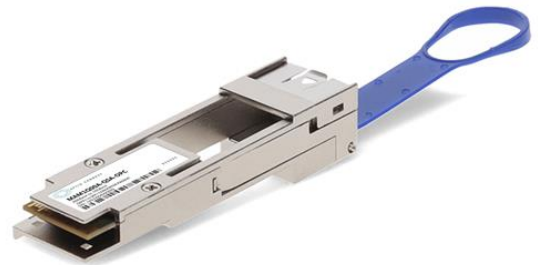**MAM1Q00A-QSA-OPC**

Mellanox® MAM1Q00A-QSA Compatible 10GBase-Converter QSFP+ Transceiver (QSFP+ to SFP+ Converter, Passive)

Features

- 1 Independent Duplex Channel Operating at 25Gbps,
Also Supports 10Gbps & 5Gbps Data Rates
- All-Metal Housing for Superior EMI Performance
- Low Insertion Loss
- Low Crosstalk
- Secure Latching Mechanism
- Single 3.3 Power Supply
- Operating Temperature: 0 to 85 Celsius
- RoHS Compliant and Lead-Free

Applications:

- 10GBase Ethernet
- Access and Enterprise

Product Description

This Mellanox MAM1Q00A-QSA compatible QSFP+ to SFP+ converter provides conversion from QSFP+ to SFP+ form factors. It is guaranteed to be 100% compatible with the equivalent Mellanox® transceiver. It is built to MSA standards and is uniquely serialized and data-traffic and application tested to ensure that it will integrate into your network seamlessly. It is built to meet or exceed the specifications of MSA Compliant, as well as to comply with MSA (Multi-Source Agreement) standards to ensure seamless network integration. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

OptioConnect's transceivers are RoHS compliant and lead-free.

Absolute Maximum Ratings

| Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Maximum Supply Voltage	Vcc	3.15		3.45	V	
Storage Temperature	Tstg	-40		85	°C	
Operating Temperature	Tc	-40	25	85	°C	
Relative Humidity	RH			85	%	
Power Consumption				0.3	W	
Characteristic Impedance	IM	90	100	110	Ω	
Data Rate		1		25	Gbps	

Notes:

1. Average.
2. Testing by data rate; NRZ @25.78125Gbps, mark ratio 50%, and PRBS=2^{31}-1.

SFP Pin Descriptions

Pin	Logic	Symbol	Name/Description	Notes
1		VeeT	Module Transmitter Ground.	1
2	LVTTL-O	Tx_Fault	Transmitter Fault.	2
3	LVTTL-I	Tx_Disable	Transmitter Disable.	3
4	LVTTL-I/O	SDA	MOD-DEF2. 2-Wire Serial Interface Data.	4
5	LVTTL-I/O	SCL	MOD-DEF1. 2-Wire Serial Interface Clock.	4
6		MOD_ABS	Module Absent.	5
7	LVTTL-I	RS0	Rate Select Zero.	
8	LVTTL-O	Rx_LOS	Module Receiver Loss of Signal.	2
9	LVTTL-I	RS1	Rate Select One.	
10		VeeR	Module Receiver Ground.	1
11		VeeR	Module Receiver Ground.	1
12	CML-O	RD-	Receiver Inverted Data Output.	
13	CML-O	RD+	Receiver Non-Inverted Data Output.	
14		VeeR	Module Receiver Ground.	1
15		VccR	Module Receiver +3.3V Supply.	
16		VccT	Module Transmitter +3.3V Supply.	
17		VeeT	Module Transmitter Ground.	1
18	CML-I	TD+	Transmitter Non-Inverted Data Input.	
19	CML-I	TD-	Transmitter Inverted Data Input.	
20		VeeT	Module Transmitter Ground.	1

Notes:
1. The module signal grounds, VeeR and VeeT, shall be isolated from the module case.
2. This is an open collector/drain output and shall be pulled up with 4.7kΩ to 10kΩ to the Host_Vcc on the host board. Pull-ups can be connected to multiple power supplies; however, the host board design shall ensure that no module has a voltage exceeding the module VccT/R+0.5V.
3. This is an open collector/drain input and shall be pulled up with 4.7kΩ to 10kΩ to the VccT in the module.
4. See the 2-wire electrical specifications.
5. This shall be pulled up with 4.7kΩ to 10kΩ to the Host_Vcc on the host board.
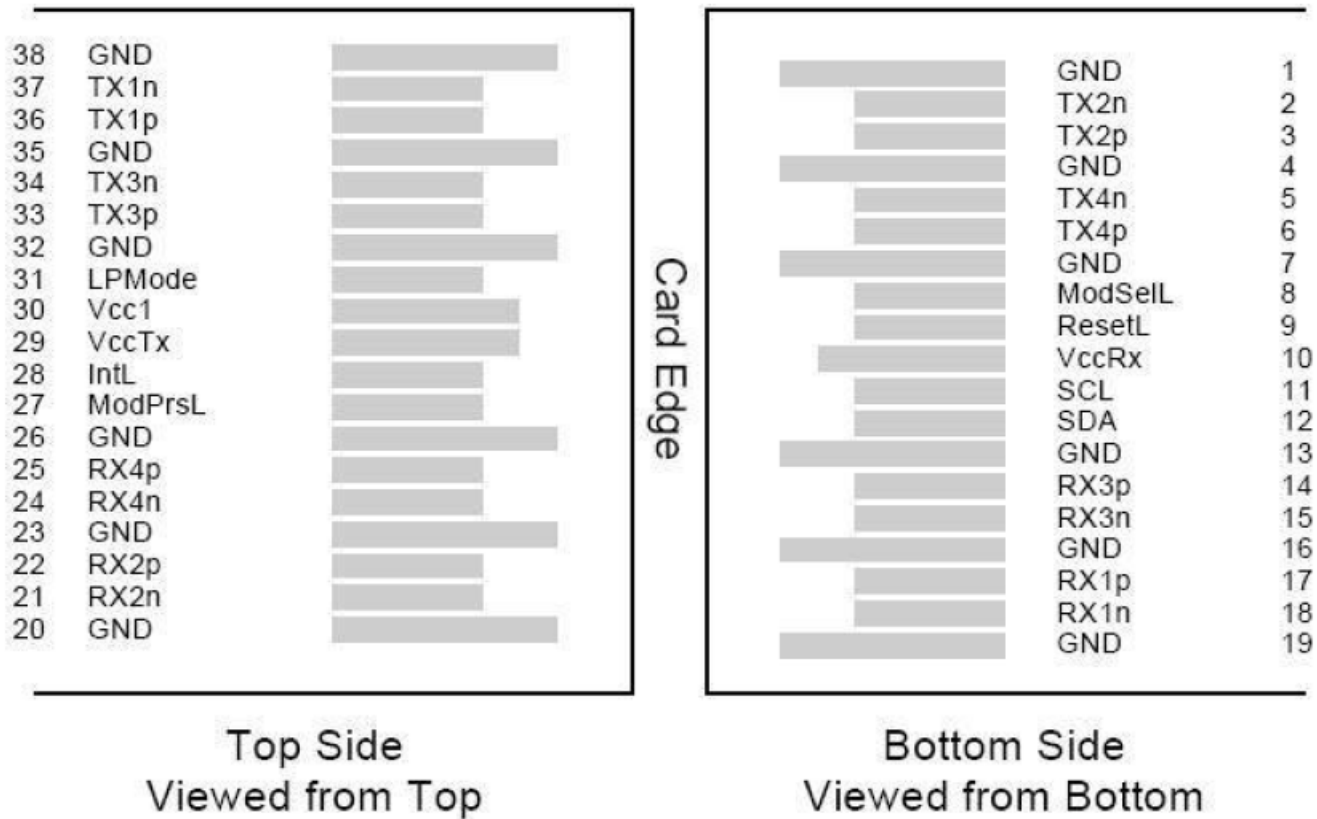
Electrical Pad Layout
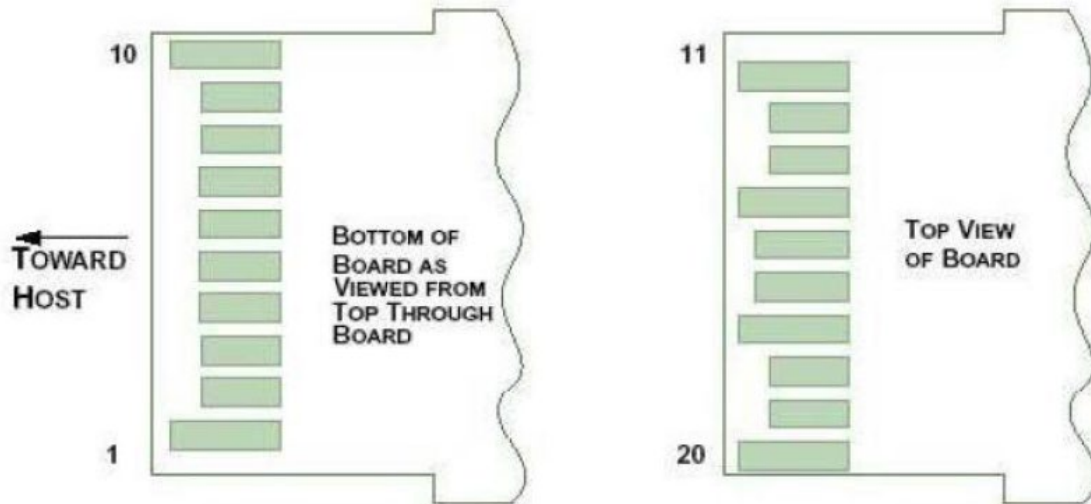
QSFP Pin Descriptions

Pin	Logic	Symbol	Name/Description	Notes
1		GND	Module Ground.	1
2	CML-I	Tx2-	Transmitter Inverted Data Input.	
3	CML-I	Tx2+	Transmitter Non-Inverted Data Input.	
4		GND	Module Ground.	1
5	CML-I	Tx4-	Transmitter Inverted Data Input.	
6	CML-I	Tx4+	Transmitter Non-Inverted Data Input.	
7		GND	Module Ground.	1
8	LVTTL-I	ModSelL	Module Select.	
9	LVTTL-I	ResetL	Module Reset.	
10		VccRx	+3.3V Receiver Power Supply.	2
11	LVCMOS-I/O	SCL	2-Wire Serial Interface Clock.	
12	LVCMOS-I/O	SDA	2-Wire Serial Interface Data.	
13		GND	Module Ground.	
14	CML-O	Rx3+	Receiver Non-Inverted Data Output.	
15	CML-O	Rx3-	Receiver Inverted Data Output.	
16		GND	Module Ground.	1
17	CML-O	Rx1+	Receiver Non-Inverted Data Output.	
18	CML-O	Rx1-	Receiver Inverted Data Output.	
19		GND	Module Ground.	1
20		GND	Module Ground.	1
21	CML-O	Rx2-	Receiver Inverted Data Output.	
22	CML-O	Rx2+	Receiver Non-Inverted Data Output.	
23		GND	Module Ground.	1
24	CML-O	Rx4-	Receiver Inverted Data Output.	1
25	CML-O	Rx4+	Receiver Non-Inverted Data Output.	
26		GND	Module Ground.	1
27	LVTTL-O	ModPrsL	Module Present.	
28	LVTTL-O	IntL	Interrupt.	
29		VccTx	+3.3V Transmitter Power Supply.	2
30		Vcc1	+3.3V Power Supply.	2
31	LVTTL-I	LPMode	Low-Power Mode.	
32		GND	Module Ground.	1
33	CML-I	Tx3+	Transmitter Non-Inverted Data Input.	
34	CML-I	Tx3-	Transmitter Inverted Data Input.	
35		GND	Module Ground.	1

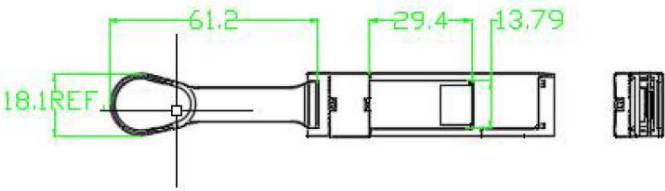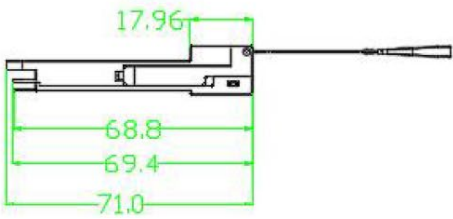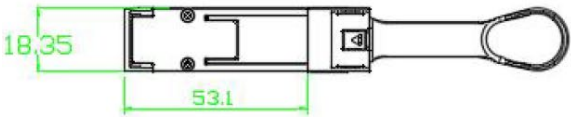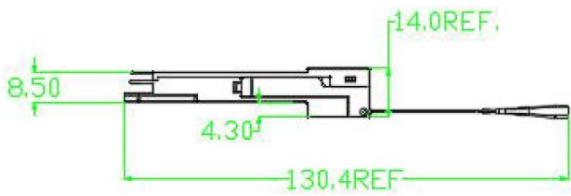| 36	CML-I	Tx1+	Transmitter Non-Inverted Data Input.	
37	CML-I	Tx1-	Transmitter Inverted Data Input.	
38		GND	Module Ground.	1

Notes:

1. GND is the symbol for signal and supply (power) common for QSFP modules. All are common within the QSFP module, and all module voltages are referenced to this potential otherwise noted. Connect these directly to the host board signal common ground plane.

2. VccRx, Vcc1, and VccTx are the receiver and transmitter power suppliers and shall be applied concurrently. Recommended host board power supply filtering is shown below. VccRx, Vcc1, and VccTx may be internally connected within the QSFP transceiver module in any combination. The connector pins are each rated for a maximum current of 500mA.

Electrical Pad Layout

Top Side	Bottom Side

38	GND
37	TX1n
36	TX1p
35	GND
34	TX3n
33	TX3p
32	GND
31	LPMode
30	Vcc1
29	VccTx
28	IntL
27	ModPrsL
26	GND
25	RX4p
24	RX4n
23	GND
22	RX2p
21	RX2n
20	GND

Card Edge

GND	1
TX2n	2
TX2p	3
GND	4
TX4n	5
TX4p	6
GND	7
ModSelL	8
ResetL	9
VccRx	10
SCL	11
SDA	12
GND	13
RX3p	14
RX3n	15
GND	16
RX1p	17
RX1n	18
GND	19

Top Side
Viewed from Top

Bottom Side
Viewed from Bottom

Mechanical Specifications
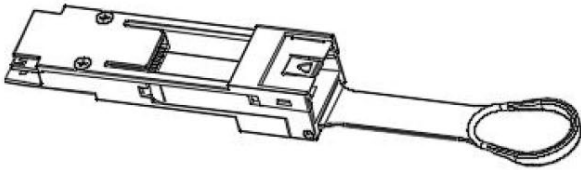
OptioConnect
Innovation for the Future of High-Speed Networking

Who We Are

OptioConnect is reshaping the landscape of communication and high-speed networking through intelligent technology. With a core focus on cutting edge technology, we deliver smarter fiber optic solutions for enterprise networks, data centers, and next-gen telecom infrastructures.

What We Do

At OptioConnect, we fuse advanced engineering with intelligent automation to drive the future of networking. Our AI-integrated solutions are designed to optimize performance and streamline operations with:

- Superior Performance
- Network and traffic optimization
- Intelligent energy management
- Seamless OEM compatibility
- Scalable cost-efficiency

Smarter Networks by Design

Innovation isn't just a goal—it's our process. We embed AI and machine learning across our R&D and product lines, enabling adaptive performance, automated tuning, and faster deployment cycles. The result? Networks that don't just work—they learn, evolve, and outperform.

Our Team

Our engineers, data scientists, and network architects bring decades of experience and a future-focused mindset. We provide hands-on support with intelligent insights that turn complex challenges into simple solutions.

Our Mission

To deliver AI-enhanced connectivity that reduces cost, increases speed, and maximizes efficiency—empowering our partners to operate at the forefront of a rapidly evolving digital world.

Let's Connect

Discover how OptioConnect's intelligent infrastructure solutions can power your network's next leap forward.
www.optioconnect.com | info@optioconnect.com