

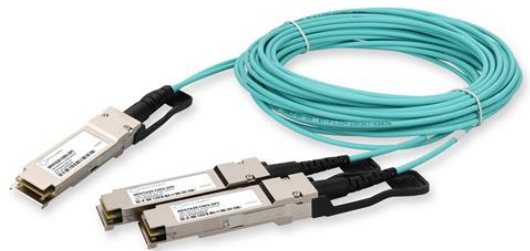


MFA7A20-C003-OPC

Mellanox® MFA7A20-C003 Compatible TAA Compliant 100GBase-CU QSFP28 to 2x50G QSFP28 Active Optical Cable (850nm, MMF, 3m)

Features

- Single 3.3V Power Supply
- Up to 25.78 Gbps per channel
- Low power consumption: 1.65W on 100G end
- 0.95W on 50G end with all CDRs enabled
- Operating temperature: 0 to 70 Celsius
- Hot Pluggable
- RoHS compliant and Lead Free



Applications:

- 50/100G Ethernet
- Data center: Switches, servers, storages and NIC adapters

Product Description

This is an Mellanox® MFA7A20-C003 compatible 100GBase-AOC QSFP28 to 2x50G QSFP28 active optical cable that operates over multi-mode fiber with a maximum reach of 3.0m (9.8ft). At a wavelength of 850nm, it has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. This active optical cable is TAA (Trade Agreements Act) compliant, and is built to comply with MSA (Multi-Source Agreement) standards. 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
Storage Temperature	Tstg	-40		85	°C	1
Operating Case Temperature	Tc	0		70		
Power Supply Voltage	Vcc	0		3.6	V	
Relative Humidity	RH	0		85	%	
Data Rate (Per Lane)	DR		25.78		Gbps	
Minimum Bend Radius		30			mm	2
		60			mm	3
Length Tolerance		30m: +500mm/-0mm				

Notes:

1. Ambient.
2. Without tension.
3. Under maximum tension.

Electrical Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage		Vcc	3.13	3.3	3.47	V	
Power Supply Current	100G End	Icc		500		mA	1
	50G End			290			
Power Consumption	100G End			1.65	1.73	W	1
	50G End			0.95	1		
Transmitter							
Input Differential Impedance		RIN	90	100	110	Ω	
Differential Data Input Voltage		VIN,pp	200		900	mV	
Receiver							
Output Differential Impedance		ROUT	90	100	110	Ω	
Differential Data Output Voltage		VOUT,pp		800		mV	
Bit Error Ratio					10 ⁻⁸		2

Notes:

1. Per end.
2. Pre-FEC Bit Error Ratio with a PRBS 2³¹ – 1 test pattern.

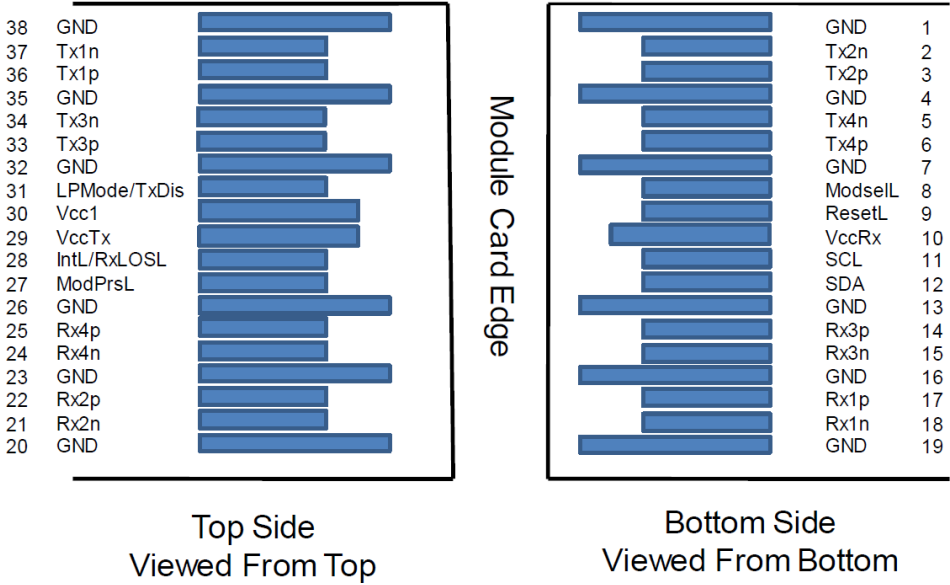
Pin Descriptions

Pin	Symbol	Name/Description	Notes
1	GND	Module Ground.	1
2	Tx2-	Transmitter Inverted Data Input.	
3	Tx2+	Transmitter Non-Inverted Data Input.	
4	GND	Module Ground.	1
5	Tx4-	Transmitter Inverted Data Input.	
6	Tx4+	Transmitter Non-Inverted Data Input.	
7	GND	Module Ground.	1
8	ModSelL	Module Select.	
9	ResetL	Module Reset.	
10	VccRx	+3.3V Receiver Power Supply.	2
11	SCL	2-Wire Serial Interface Clock.	
12	SDA	2-Wire Serial Interface Data.	
13	GND	Module Ground.	1
14	Rx3+	Receiver Non-Inverted Data Output.	
15	Rx3-	Receiver Inverted Data Output.	
16	GND	Module Ground.	1
17	Rx1+	Receiver Non-Inverted Data Output.	
18	Rx1-	Receiver Inverted Data Output.	
19	GND	Module Ground.	1
20	GND	Module Ground.	1
21	Rx2-	Receiver Inverted Data Output.	
22	Rx2+	Receiver Non-Inverted Data Output.	
23	GND	Module Ground.	1
24	Rx4-	Receiver Inverted Data Output.	
25	Rx4+	Receiver Non-Inverted Data Output.	
26	GND	Module Ground.	1
27	ModPrsL	Module Present.	
28	IntL	Interrupt.	
29	VccTx	+3.3V Transmitter Power Supply.	2
30	Vcc1	+3.3V Power Supply.	2
31	LPMODE	Low-Power Mode.	3
32	GND	Module Ground.	1
33	Tx3+	Transmitter Non-Inverted Data Input.	
34	Tx3-	Transmitter Inverted Data Input.	
35	GND	Module Ground.	1
36	Tx1+	Transmitter Non-Inverted Data Input.	
37	Tx1-	Transmitter Inverted Data Input.	
38	GND	Module Ground.	1

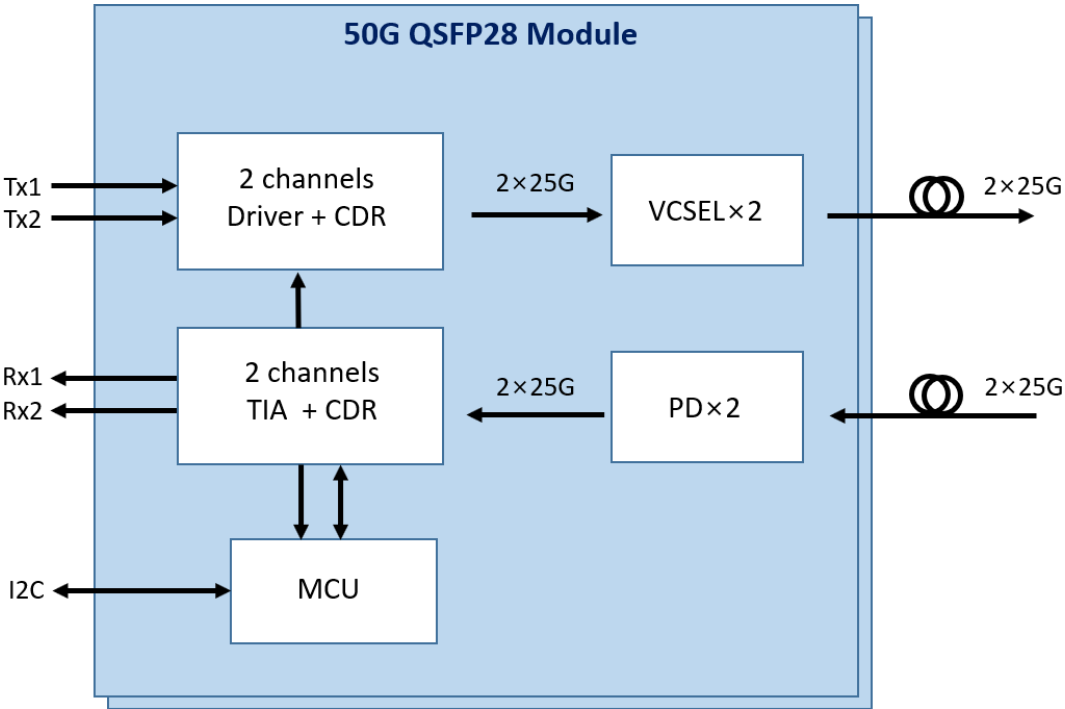
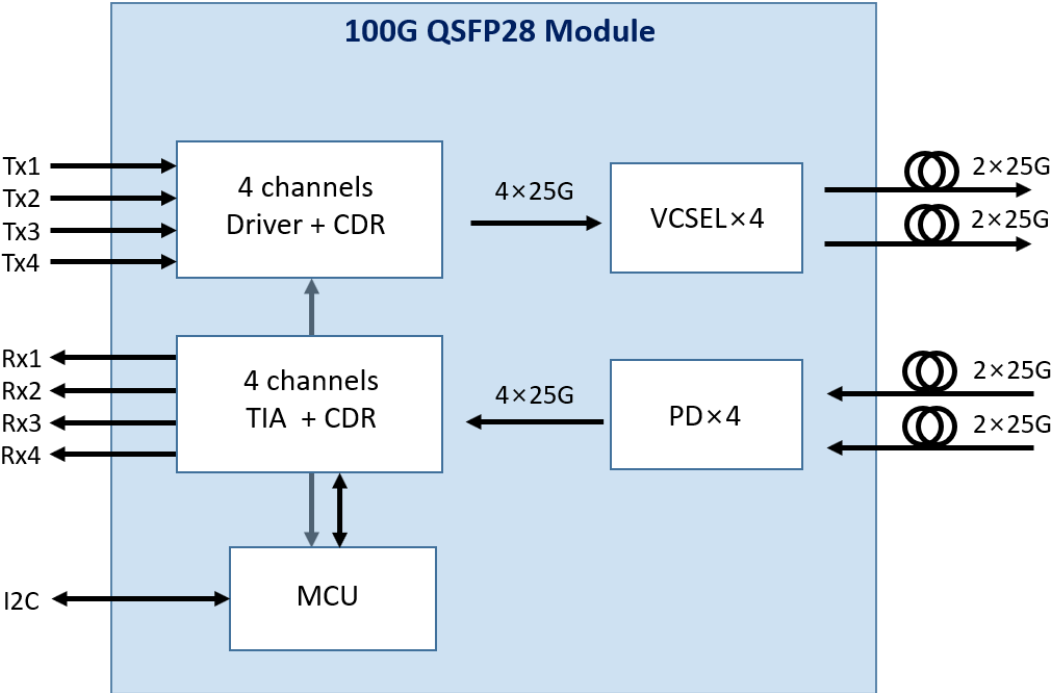
Notes:

1. GND is the symbol for signal and supply (power) common for the QSFP module. All are common within the QSFP module, and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal-common ground plane.
2. VccRx, Vcc1, and VccTx are the receiver and transmitter power supplies and shall be applied concurrently. 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.
3. Not in use.

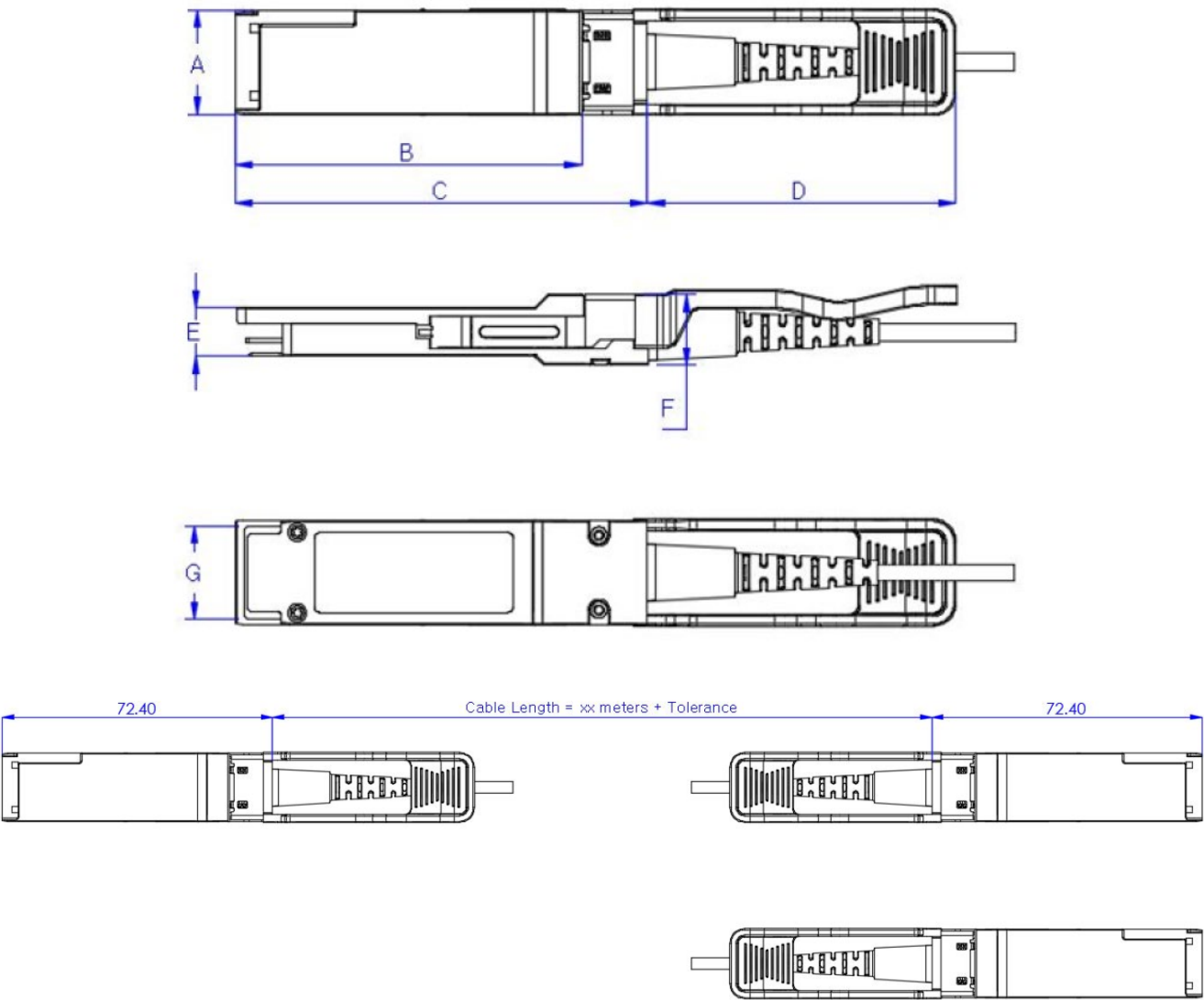
Electrical Pin-Out Details



Recommended Power Supply Filter



Mechanical Specifications



Num.	DIM (mm)	TOL (mm)
A	18.35	±0.10
B	60.90	±0.20
C	72.40	±0.20
D	53.80	±0.30
E	8.50	±0.10
F	12.55	±0.20
G	16.40	±0.10

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.

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