

MFA7A20-C003-SKY

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

Product Description

This is a 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 built to comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

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

Features:

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



Applications:

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

For your product safety, please read the following information carefully before any manipulation of the transceiver:



ESD

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 / JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.



LASER SAFETY

This is a Class1 Laser Product according to IEC 60825-1:2007. This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination.

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.

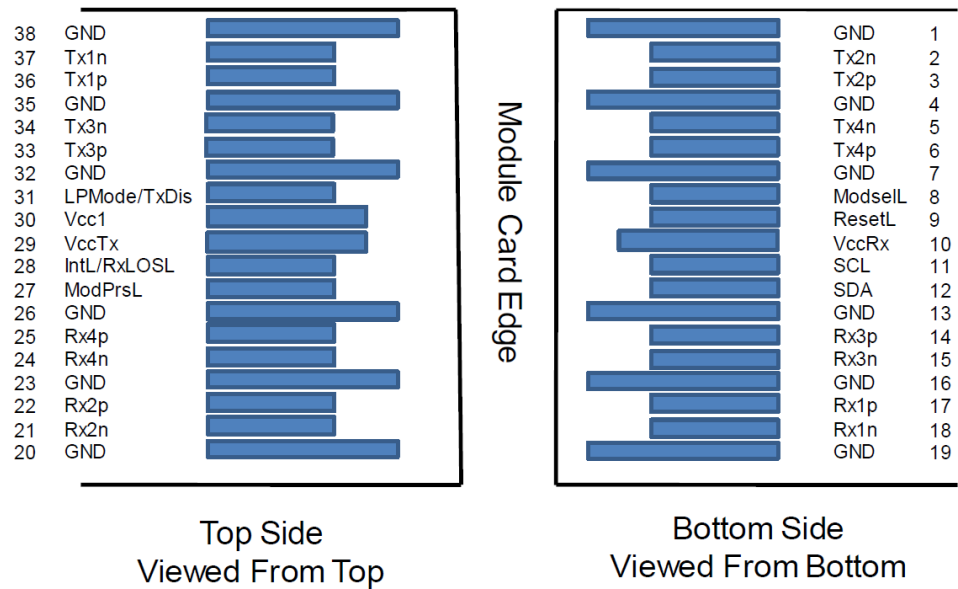
Pin Descriptions

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

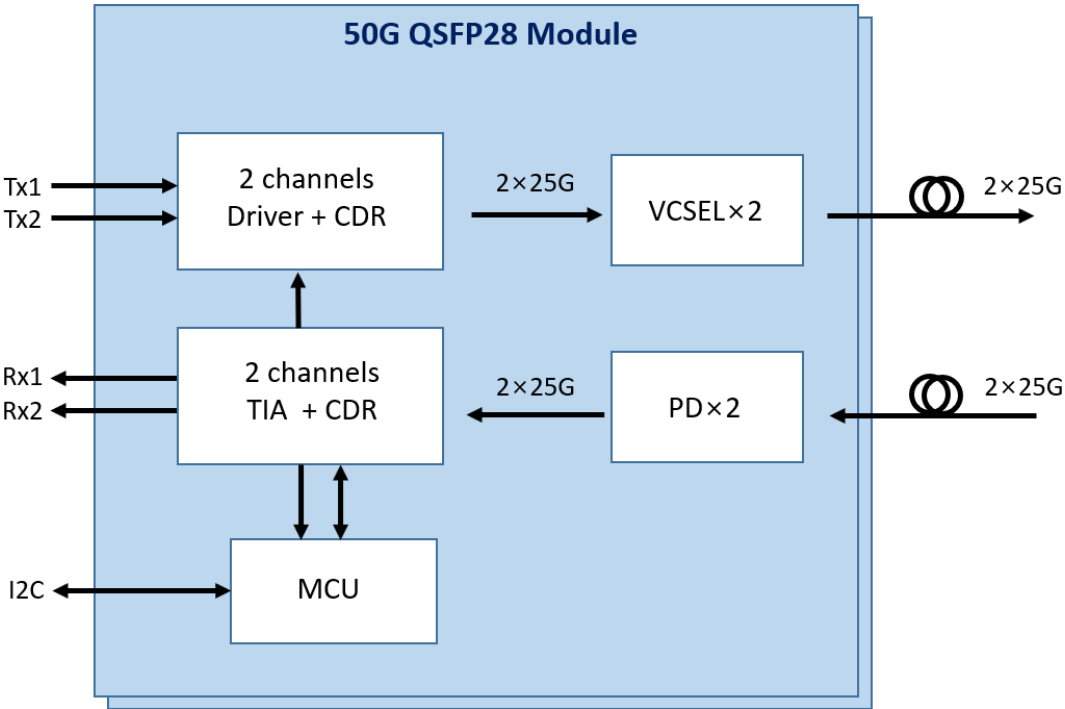
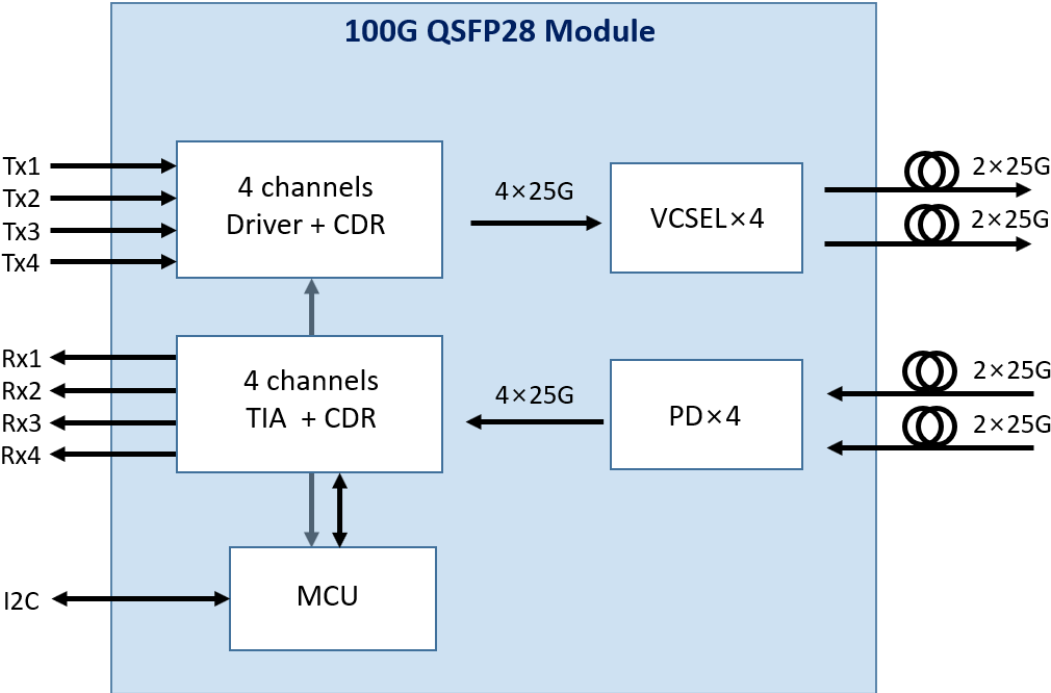
Notes:

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.

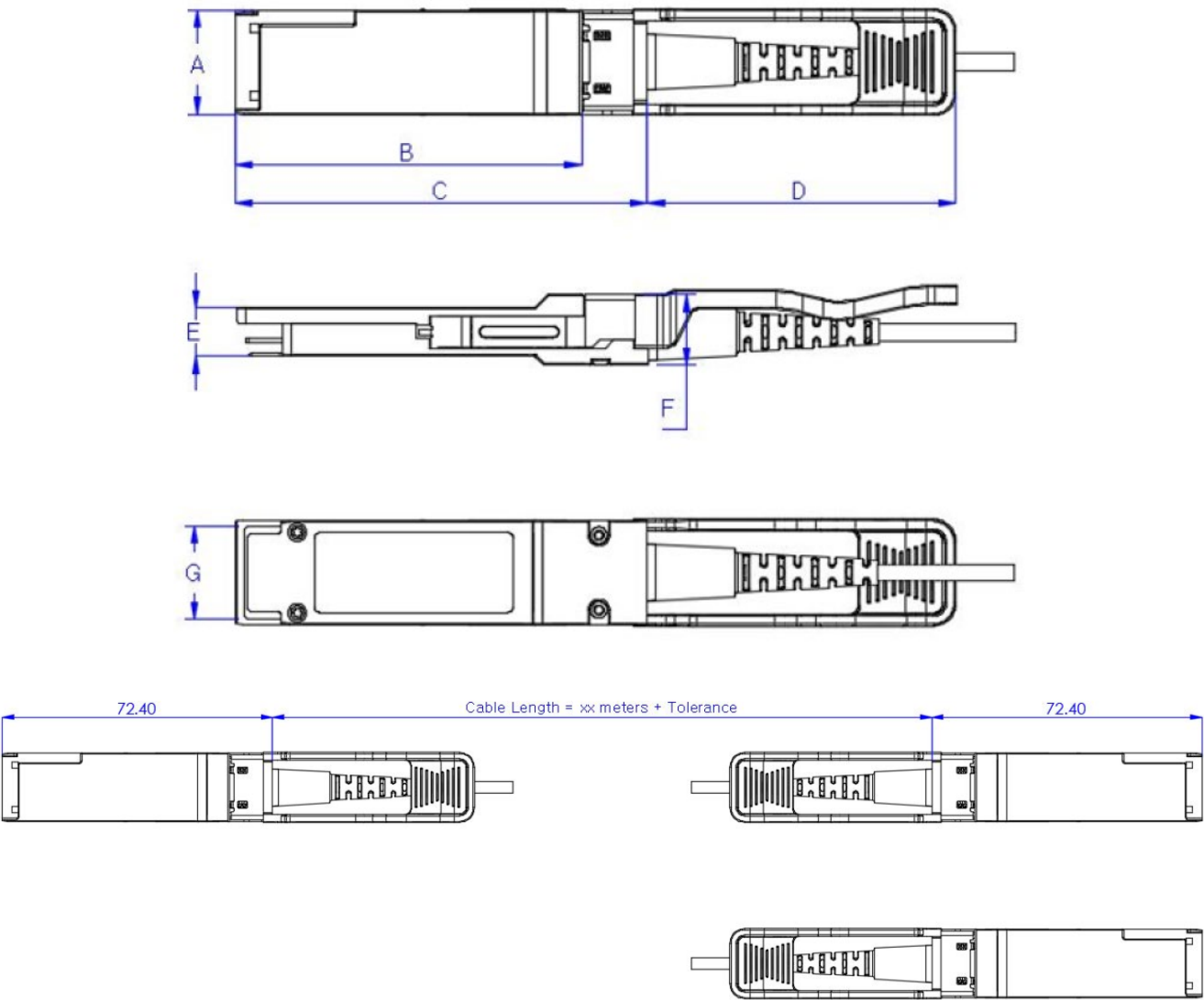
Electrical Pin-Out Details



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

About Skylane Optics

Skylane is a leading provider of transceivers for optical communication.

We offer an extensive portfolio for the enterprise, access, datacenter and metropolitan fiber optical market as well as for smart home applications and home networks.

We cover the European, South American and North American market with a strong partner network and have offices in Belgium, Brazil, Sweden and USA.

Our offerings are characterized by high quality and performance. In combination with our strong technical support, we enable our customers to build cost optimized network solutions.

We offer an extensive range of high-quality products including transceivers (Optical and copper), Active Optical Cable (AOC), Direct Attach Cable (DAC), Mux/Demux, Coding Box.

