QSFP28-100GB-SR4-40M-MX-AO

NVIDIA® Compatible TAA 100GBase-SR4 QSFP28 Transceiver (MMF, 850nm, 40m w/Reduced FEC, MPO, DOM)

Features:

- Compliant with IEEE Std 802.3bm, 100G BASE SR4 Ethernet
- Management interface specifications per SFF-8636
- Compliant with QSFP28 MSA
- 4 channels 850nm VCSEL array
- 4 channels PIN photo detector array
- Single MPO connector receptacle
- Class 1 laser safety certified
- Up to 103.1Gb/s data rates
- RoHS Compliant and Lead-Free
- Commercial Temperature: 0 to 70 Celsius



Applications:

- 100GBase Ethernet
- Access and Enterprise

Product Description

This NVIDIA® compatible QSFP28 transceiver provides 100GBase-SR4 throughput up to 40m w/reduced FEC over OM4 multi-mode fiber (MMF) using a wavelength of 850nm via an MPO connector. It can operate at temperatures between 0 and 70C. Our transceiver is built to meet or exceed OEM specifications and is guaranteed to be 100% compatible with NVIDIA®. It has been programmed, uniquely serialized, and tested for data-traffic and application to ensure that it will initialize and perform identically. All of our transceivers comply with Multi-Source Agreement (MSA) standards to provide seamless network integration. Additional product features include Digital Optical Monitoring (DOM) support which allows access to real-time operating parameters. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

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

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S.-made or designated country end products."

TAA COMPLIANT

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	-0.5		4	V	
Storage Temperature	Tstg	-40		85	°C	
Case Operating Temperature	Tc	0	25	70	°C	
Relative Humidity	RH	5		95	%	
Data Rate	BR		25.78125		Gbps	
Transmission Distance	TD			40	m	1
Transmission Distance	TD			100	m	2

Notes:

1. On OM4 MMF without host FEC. Or up to 30m on OM3 MMF without host FEC.
2. On OM4 MMF with host Clause 91 (RS) FEC. Or up to 70m on OM3 MMF with host Clause 91 (RS) FEC.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.135	3.3	3.465	V	
Power Supply Current	Icc			750	mA	
Power Dissipation	P_D			2.5	W	
Transmitter						
Input Differential Impedance	ZIN		100		Ω	
Differential Data Input Swing	$V_{IN, P-P}$	180		900	mV_{P-P}	
Receiver						
Output Differential Impedance	ZO		100		Ω	
Differential Data Output Swing	$V_{OUT, P-P}$	300		850	mV_{P-P}	1
Transition Time (20% to 80%)	Tr,Tf	12			ps	

Notes:

1. Internally AC coupled but requires an external 100Ω differential load termination.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Center Wavelength	λC	840	850	860	nm	
Optical Launch Power	Po	-4.5		+2.4	dBm	1
Transmit OMA per Lane	OMA	-4.5		+3	dBm	
Extinction Ratio	EX	2			dB	2
Spectral Width (RMS)	Δλ			0.6	nm	
TDEC per Lane	TDEC			4.3	dB	
Optical Return Loss Tolerance	ORLT			12	dB	
Eye Diagram	IEEE Std 802.3bm compatible					
Receiver						
Receiver Wavelength	λ	840	850	860	nm	
Average Receiver Sensitivity (Pavg)	S			-7	dBm	3
Receiver Overload (Pavg)	POL	2.4			dBm	
Damage Threshold	POL	3.4			dBm	
Optical Reflectance	ORL			-12	dB	
LOS De-Assert	LOSD			-11	dBm	
LOS Assert	LOSA	-30			dBm	
LOS Hysteresis		0.5		5	dB	

Notes:

1. The optical power is launched into OM3 MMF.
2. Measured with a PRBS 2^{31}-1 test pattern @25.78125Gbps.
3. Measured with PRBS 2^{31}-1 test pattern, 25.78125Gb/s, BER<1E-12.

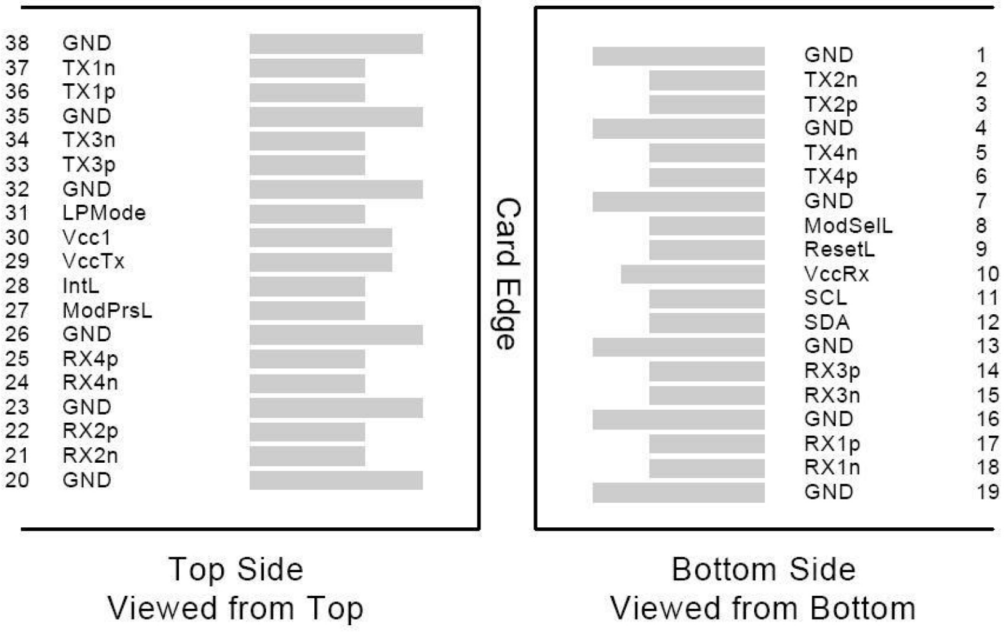
Pin Descriptions

Pin	Logic	Symbol	Name/Descriptions	Ref.
1		GND	Transmitter Ground. (Common with Receiver Ground.)	1
2	CML-I	Tx2-	Transmitter Inverted Data Input.	
3	CML-I	Tx2+	Transmitter Non-Inverted Data Input.	
4		GND	Transmitter Ground. (Common with Receiver Ground.)	1
5	CML-I	Tx4-	Transmitter Inverted Data Input.	
6	CML-I	Tx4+	Transmitter Non-Inverted Data Input.	
7		GND	Transmitter Ground. (Common with Receiver Ground.)	1
8	LVTTL-I	MODSEIL	Module Select.	2
9	LVTTL-I	ResetL	Module Reset.	2
10		VccRx	+3.3V Receiver Power Supply.	
11	LVCMOS-I	SCL	2-Wire Serial Interface Clock.	2
12	LVCMOS-I/O	SDA	2-Wire Serial Interface Data.	2
13		GND	Transmitter Ground. (Common with Receiver Ground.)	1
14	CML-O	Rx3+	Receiver Non-Inverted Data Output.	
15	CML-O	Rx3-	Receiver Inverted Data Output.	
16		GND	Transmitter Ground. (Common with Receiver Ground.)	1
17	CML-O	Rx1+	Receiver Non-Inverted Data Output	
18	CML-O	Rx1-	Receiver Inverted Data Output.	
19		GND	Transmitter Ground. (Common with Receiver Ground.)	1
20		GND	Transmitter Ground. (Common with Receiver Ground.)	1
21	CML-O	Rx2-	Receiver Inverted Data Output.	
22	CML-O	Rx2+	Receiver Non-Inverted Data Output.	
23		GND	Transmitter Ground. (Common with Receiver Ground.)	1
24	CML-O	Rx4-	Receiver Inverted Data Output.	
25	CML-O	Rx4+	Receiver Non-Inverted Data Output.	
26		GND	Transmitter Ground. (Common with Receiver Ground.)	1
27	LVTTL-O	ModPrsL	Module Present. Internally pulled down to GND.	
28	LVTTL-O	IntL	Interrupt output should be pulled up on the host board.	2
29		VccTx	+3.3V Transmitter Power Supply.	
30		Vcc1	+3.3V Power Supply.	
31	LVTTL-I	LPMode	Low-Power Mode.	2
32		GND	Transmitter Ground. (Common with Receiver Ground.)	1
33	CML-I	Tx3+	Transmitter Non-Inverted Data Input.	
34	CML-I	Tx3-	Transmitter Inverted Data Input.	
35		GND	Transmitter Ground. (Common with Receiver Ground.)	1
36	CML-I	Tx1+	Transmitter Non-Inverted Data Input.	
37	CML-I	Tx1-	Transmitter Inverted Data Input.	
38		GND	Transmitter Ground. (Common with Receiver Ground.)	1

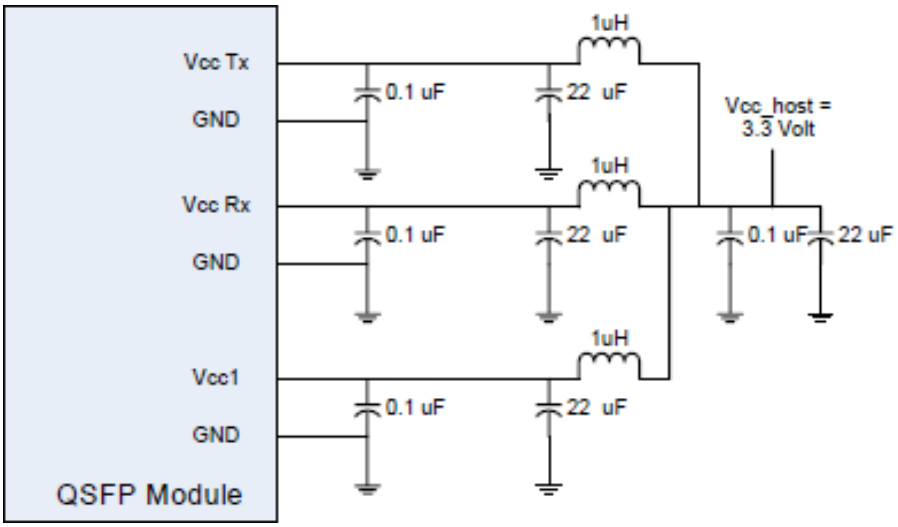
Notes:

1. The module signal grounds are isolated from the module case.
2. This is open collector/drain output that on the host board requires a 4.7KΩ to 10KΩ pull-up resistor to VccHost.

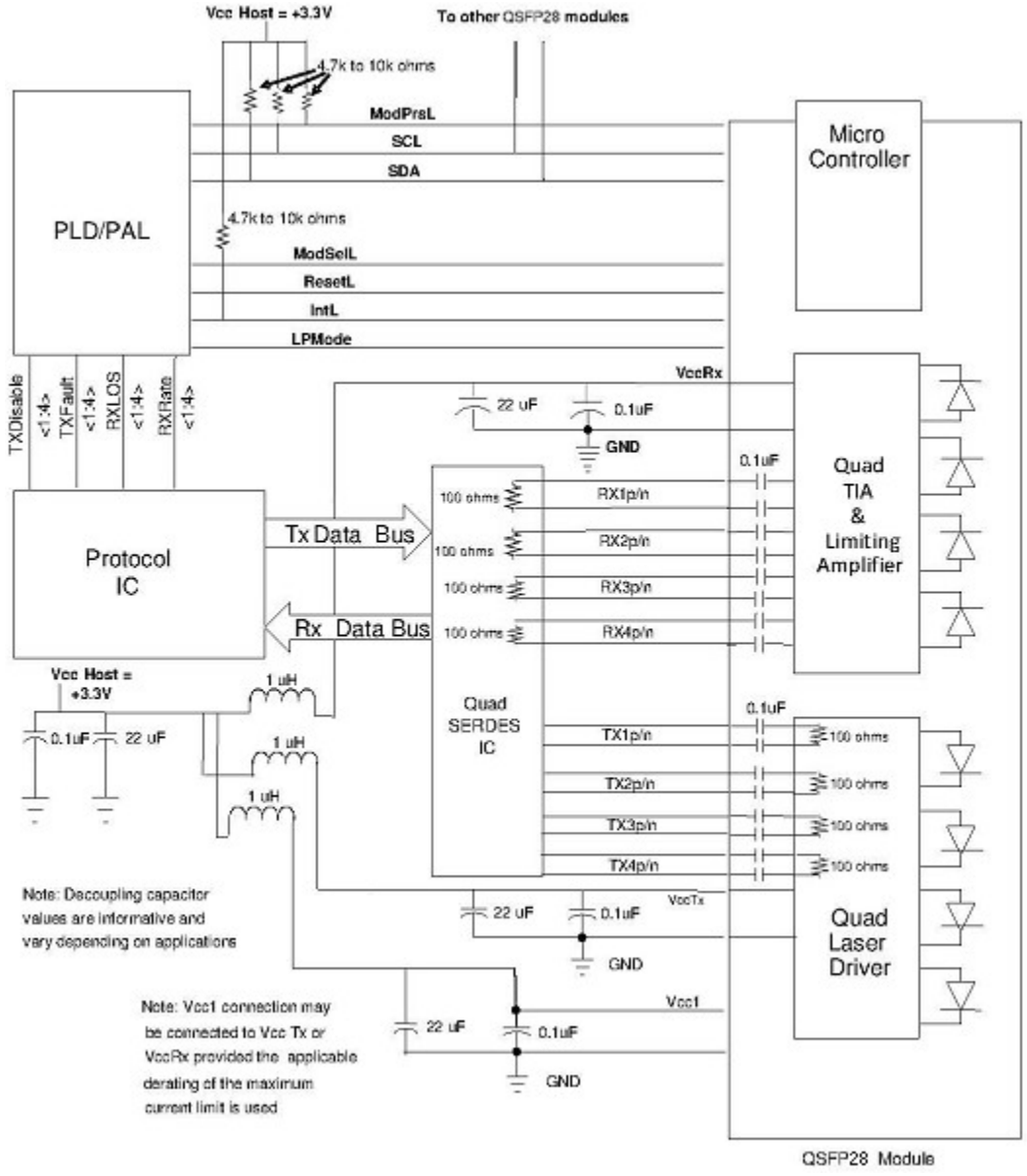
Electrical Pin-Out Details



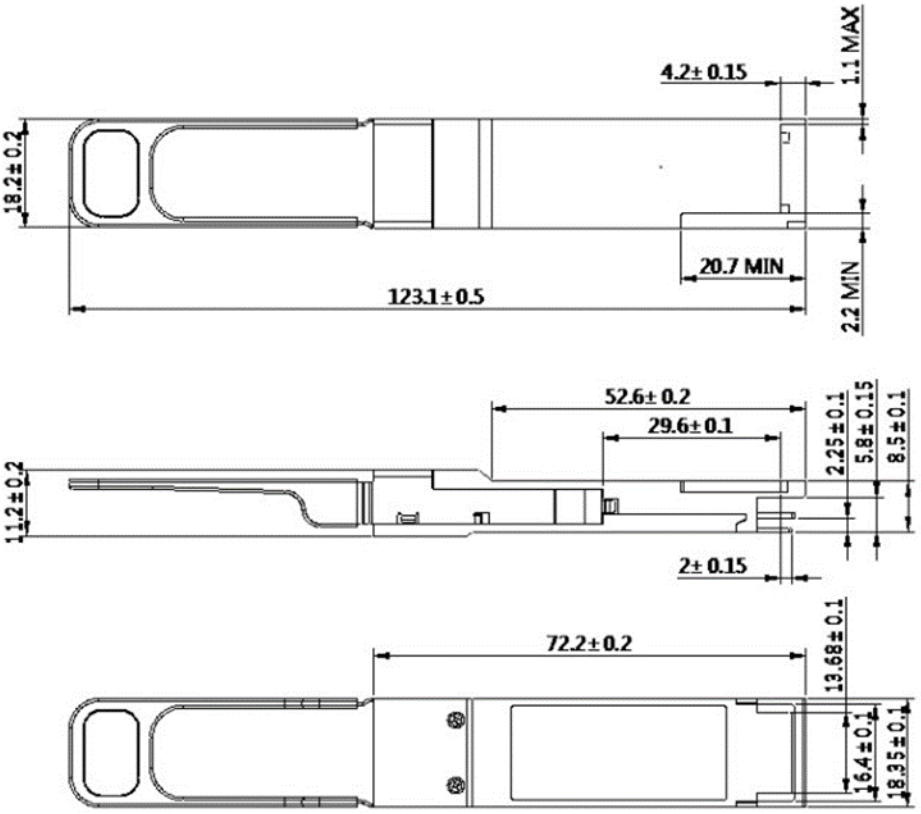
Recommended Host Board Power Supply Filter Network



Transceiver Interface Block Diagram



Mechanical Specifications



About AddOn Networks

In 1999, AddOn Networks entered the market with a single product. Our founders fulfilled a severe shortage for compatible, cost-effective optical transceivers that compete at the same performance levels as leading OEM manufacturers. Adhering to the idea of redefining service and product quality not previously had in the fiber optic networking industry, AddOn invested resources in solution design, production, fulfillment, and global support.

Combining one of the most extensive and stringent testing processes in the industry, an exceptional free tech support center, and a consistent roll-out of innovative technologies, AddOn has continually set industry standards of quality and reliability throughout its history.

Reliability is the cornerstone of any optical fiber network and is ingrained in AddOn's DNA. It has played a key role in nurturing the long-term relationships developed over the years with customers. AddOn remains committed to exceeding industry standards with certifications ranging from NEBS Level 3 to ISO 9001:2015 with every new development while maintaining the signature reliability of its products.



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