49Y7884-AO

IBM® 49Y7884 Compatible TAA 40GBase-SR4 QSFP+ Transceiver (MMF, 850nm, 150m, MPO, DOM)

Features

- SFF-8436 Compliance
- MPO Connector
- Commercial Temperature 0 to 70 Celsius
- Multi-mode Fiber
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead Free

Applications

- 4x10G Breakout Option
- 40GBase Ethernet
- Access and Enterprise

Product Description

This IBM® 49Y7884 compatible QSFP+ transceiver provides 40GBase-SR4 throughput up to 150m over multi-mode fiber (MMF) using a wavelength of 850nm via an MPO connector. It is guaranteed to be 100% compatible with the equivalent IBM® transceiver. This easy to install, hot swappable transceiver has been programmed, uniquely serialized and data-traffic and application tested to ensure that it will initialize and perform identically. Digital optical monitoring (DOM) support is also present to allow 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

Rev. 030723

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc	-0.5		4.0	V
Storage Temperature	Tstg	-40		85	°C
Operating Case Temperature	Tc	0	25	70	°C
Relative Humidity	RH	5		95	%
Data Rate Per Channel			10.3125		Gbps

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	Vcc	3.135	3.3	3.465	V	
Module Supply Current	Icc			430	mA	
Power Dissipation	P_{DISS}			1.5	W	
Transmitter						
Input Differential Impedance	ZIN		100		Ω	
Differential Data Input Swing	VIN,pp	180		900	mVp-p	
Receiver						
Output Differential Impedance	ZOUT		100		Ω	
Differential Data Output Swing	VOUT,pp	300		850	mVp-p	1
Data Output Rise Time/Fall Time	Tr/Tf	28			ps	2

Notes:

1. Internally AC coupled but requires an external 100Ω differential load termination.
2. 20 – 80 %.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Launch Optical Power	Po	-7.6		+2.4	dBm	1
Center Wavelength Range	λC	830	850	860	nm	
Extinction Ratio	ER	3			dB	2
Spectral Width (RMS)	Δλ			0.65	nm	
Transmitter and Dispersion Penalty	TDP			3.2	dB	
Optical Return Loss Tolerance	ORLT			12	dB	
Eye Diagram	IEEE Std 802.3ba Compatible					
Receiver						
Center Wavelength	λC	830	850	860	nm	
Receiver Sensitivity (P_{avg})	S			-9.5	dBm	3
Damage Threshold	P_{OL}	2.5			dBm	3
Optical Return Loss	ORL	12			dB	
LOS Assert	LOSA	-30			dBm	
LOS De-Assert	LOSD			-11	dBm	
LOS Hysteresis		0.5			dB	

Notes:

1. The optical power is launched into OM3 MMF.
2. Measured with a PRBS 2^{31}-1 test pattern @10.3125Gbps.
3. Measured with PRBS 2^{31}-1 test pattern, 10.3125Gbps, and BER<10^{-12}.

Pin Descriptions

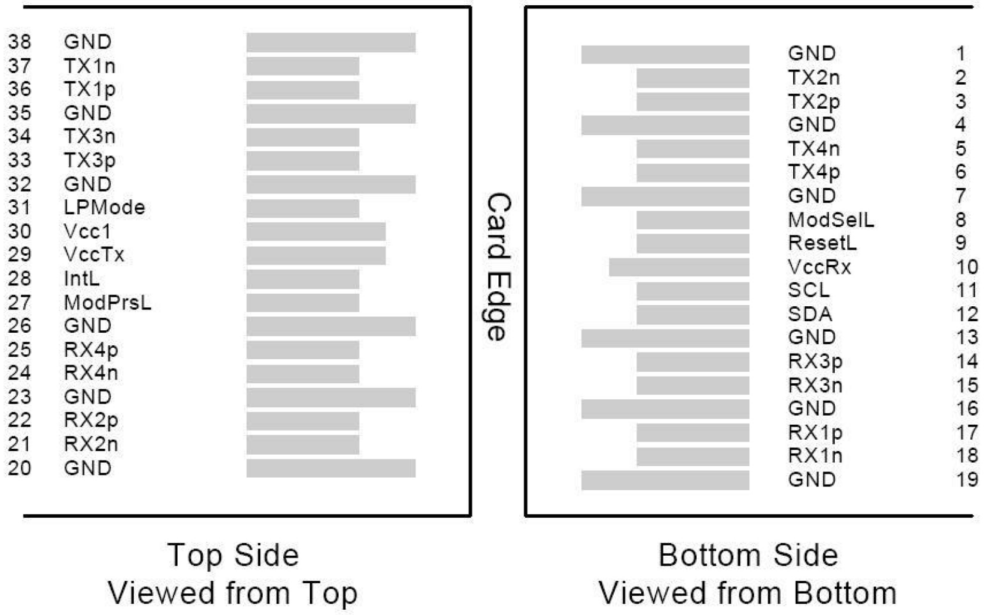
Pin	Logic	Symbol	Name/Descriptions	Notes
1		GND	Module Ground.	1
2	CML-I	Tx2-	Transmitter Inverted Data Input.	
3	CML-I	Tx2+	Transmitter Non-Inverted Data Input.	
4		GND	Module Ground.	1
5	CML-I	Tx4-	Transmitter Inverted Data Input.	
6	CML-I	Tx4+	Transmitter Non-Inverted Data Input.	
7		GND	Module Ground.	1
8	LVTTL-I	ModSelL	Module Select.	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	Module Ground.	1
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. 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	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

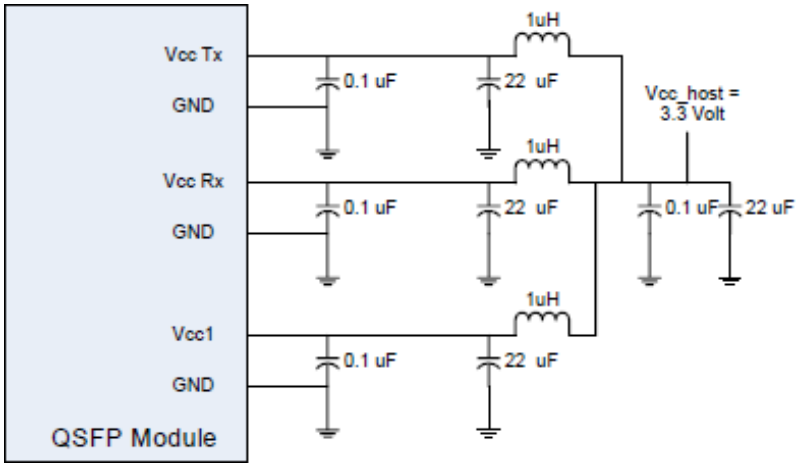
Notes:

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

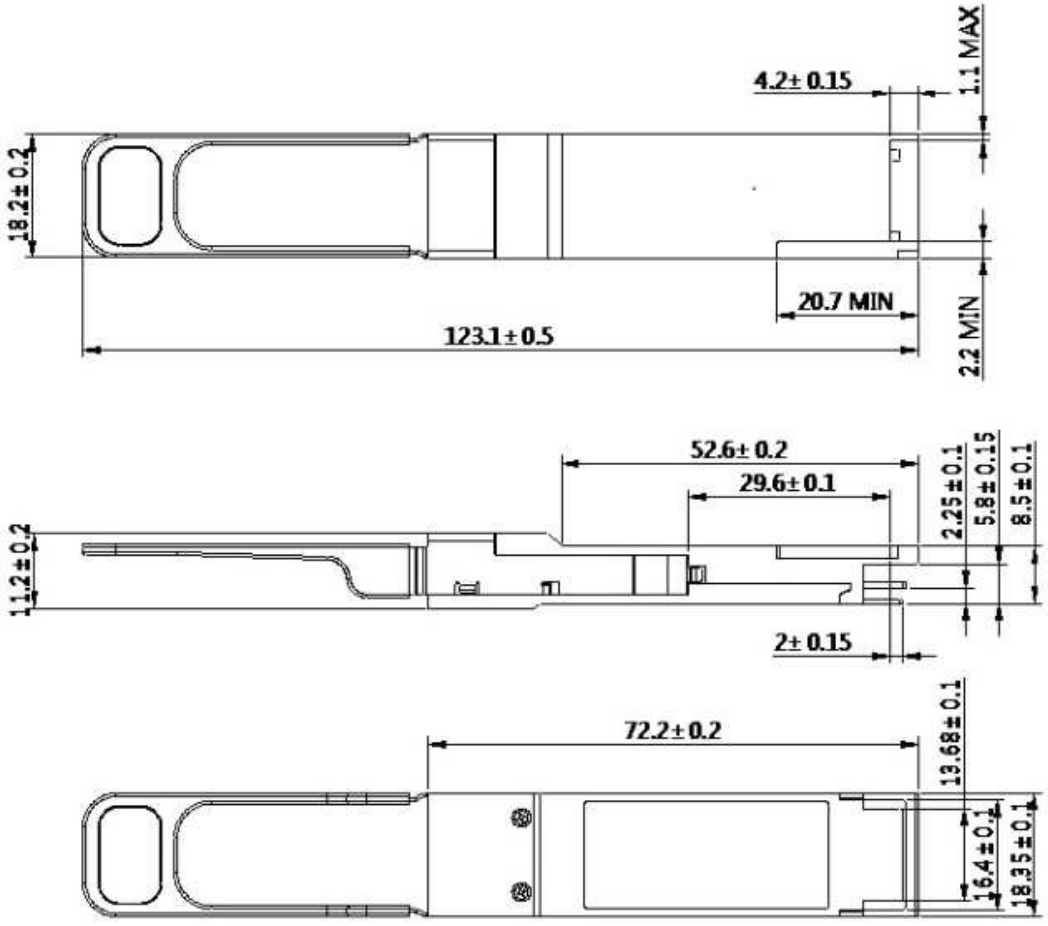
Electrical Pin-Out Details



Recommended Host Board Power Supply Filter Network



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 in engrained 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 from ranging from NEBS Level 3 to ISO 9001:2005 with every new development while maintaining the signature reliability of its products.

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