R0R42A-AO

HP® R0R42A Compatible TAA 25GBase-SR SFP28 Transceiver (MMF, 850nm, 40m, LC, DOM, No FEC)

Features

- Up to 25.78Gbps Bi-Directional Data Links
- Electrical Interface Specifications Per SFF-8431
- Built-In CDR with 25.78Gbps Operation
- Uncooled 850nm VCSEL Laser
- 3.3V Power Supply Lines
- SFP28 MSA Package with Duplex LC Connector
- Metal Enclosure for Lower EMI
- Class 1 Laser Safety Certified
- Operating Temperature: 0 to 70 Celsius
- Up to 40M on OM4 MMF with No FEC
- RoHS Compliant and Lead-Free

Applications

- 25GBase Ethernet
- Access and Enterprise

Product Description

This HP® R0R42A compatible SFP28 transceiver provides 25GBase-SR throughput up to 40m over multi-mode fiber (MMF) using a wavelength of 850nm via an LC connector. It is guaranteed to be 100% compatible with the equivalent HP® 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

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Maximum Supply Voltage	Vcc	-0.5		4	V	1
Storage Temperature	Tstg	-40		85	°C	
Operating Case Temperature	Tc	0	25	70	°C	
Relative Humidity	RH	5		85	%	
Data Rate	DR		25.78		Gbps	

Electrical Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Module Supply Voltage		Vcc	3.135	3.3	3.465	V	
Module Supply Current		Icc			290	mA	
Power Dissipation		P_{DISS}			1000	W	
Transmitter							
Input Differential Impedance		ZIN		100		Ω	
Differential Data Input Swing		VIN,pp	180		700	mVp-p	
Tx_Fault	**Transmitter Fault**	VOH	2		Vcc	V	
	Normal Operation	VOL	0		0.8	V	
Tx_Disable	**Transmitter Disable**	VIH	2		Vcc	V	
	Transmitter Enable	VIL	0		0.8	V	
Receiver							
Output Differential Impedance		ZOUT		100		Ω	
Differential Data Output Swing		VOUT,pp	300		850	mVp-p	1
Data Output Rise/Fall Time		Tr/Tf		30		ps	2
Rx_LOS	**Loss of Signal (LOS)**	VOH	2.0		Host_Vcc	V	3
	Normal Operation	VOL	0		0.8	V	3

Notes:

1. Internally AC coupled but requires an external 100Ω differential load termination.
2. 20-80%.
3. LOS is an open collector output and should be pulled up with 4.7kΩ on the host board.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Launch Optical Power	Po	-2.5		2.4	dBm	1
Extinction Ratio	ER	2			dB	
Center Wavelength Range	λC	840	850	860	nm	
Transmitter and Dispersion Eye Closure	TDEC			4.3	dB	
Spectral Width	Δλ			0.6	nm	
Optical Return Loss Tolerance	ORLT			12	dB	
POUT @Tx_Disable Asserted	Poff			-20	dBm	1
Receiver						
Center Wavelength	λC	840		860	nm	
Receiver Sensitivity (Pavg)	RxSens			-7	dBm	2
Receiver Sensitivity (OMA)				-7	dBm	2
Receiver Overload (Pavg)	POL	2.4			dBm	
Optical Return Loss	ORL	12			dB	
LOS De-Assert	LOSD			-11	dBm	
LOS Assert	LOSA	-30			dBm	
LOS Hysteresis		0.5			dB	

Notes:

1. 50/125μm fiber with NA = 0.2.
2. Measured with PRBS 2^{31}-1 with $1E^{-12}$ BER @25.78Gbps.

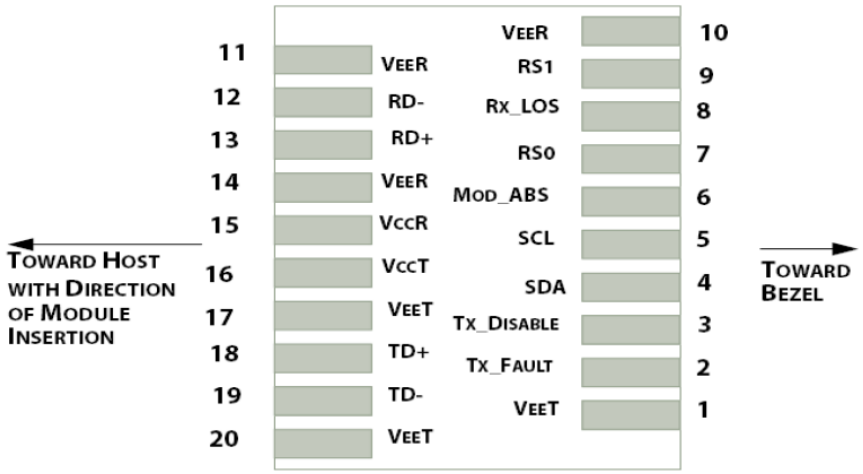
Pin Descriptions

Pin	Symbol	Name/Description	Notes
1	VeeT	Transmitter Ground.	1
2	Tx_Fault	Transmitter Fault. LVTTL-O. “High” indicates a fault condition.	2
3	Tx_Disable	Transmitter Disable. LVTTL-I. “High” or “open” disables the transmitter.	3
4	SDA	2-Wire Serial Interface Data. LVCMOS-I/O. MOD-DEF2.	4
5	SCL	2-Wire Serial Interface Clock. LVCMOS-I/O. MOD-DEF1.	4
6	MOD_ABS	Module Absent (Output). Connected to the VeeT or VeeR in the module.	5
7	RS0	Rate Select 0. Not Used. Presents high input impedance.	
8	Rx_LOS	Receiver Loss of Signal. LVTTL-O.	2
9	RS1	Rate Select 1. Not Used. Presents high input impedance.	
10	VeeR	Receiver Ground.	1
11	VeeR	Receiver Ground.	1
12	RD-	Inverse Received Data Out. CML-O. AC Coupled.	
13	RD+	Received Data Out. CML-O. AC Coupled.	
14	VeeR	Receiver Ground.	
15	VccR	+3.3V Receiver Power.	
16	VccT	+3.3V Transmitter Power.	
17	VeeT	Transmitter Ground.	1
18	TD+	Transmitter Data In. CML-I. AC Coupled.	
19	TD-	Inverse Transmitter Data In. CML-I. AC Coupled.	
20	VeeT	Transmitter Ground.	1

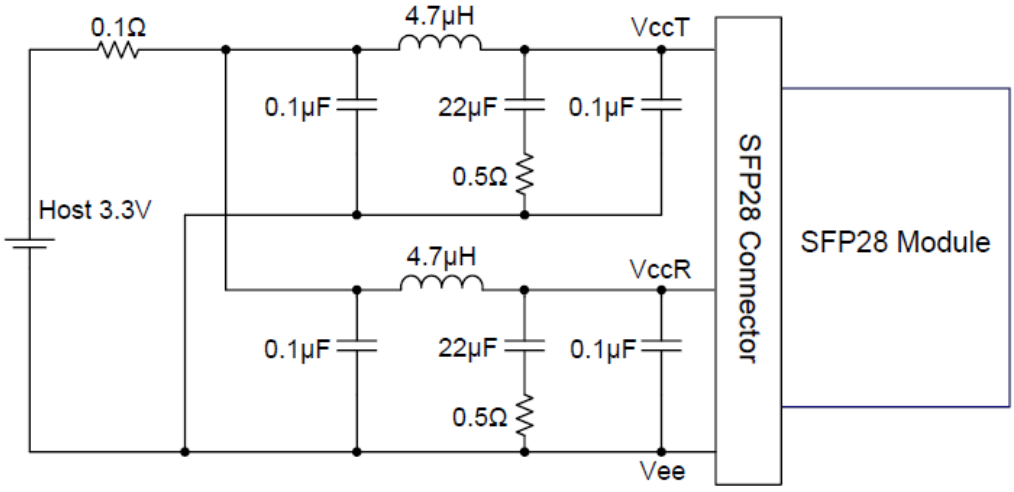
Notes:

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 to 10kΩ pull-up resistor to the Host_Vcc.
3. This input is internally biased “high” with a 4.7kΩ to 10kΩ pull-up resistor to the VccT.
4. 2-Wire Serial Interface Clock and Data lines require an external pull-up resistor dependent on the capacitance load.
5. This is a ground return that, on the host board, requires a 4.7kΩ to 10kΩ pull-up resistor to the Host_Vcc.

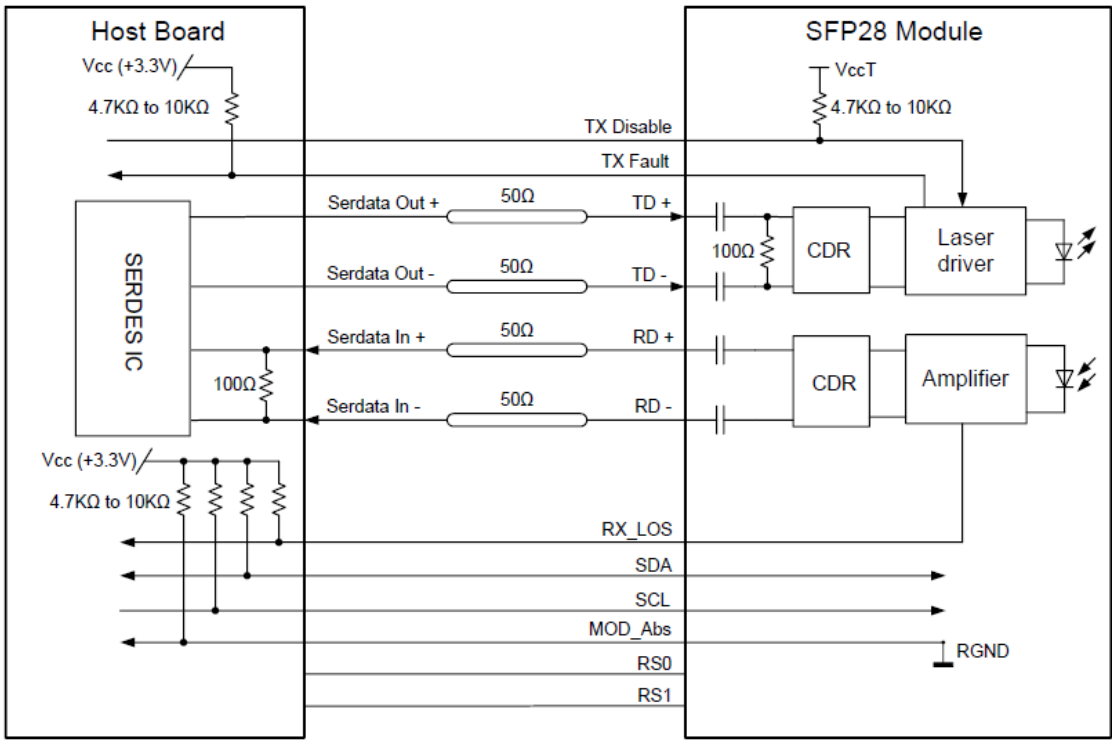
Electrical Pin-Out Details



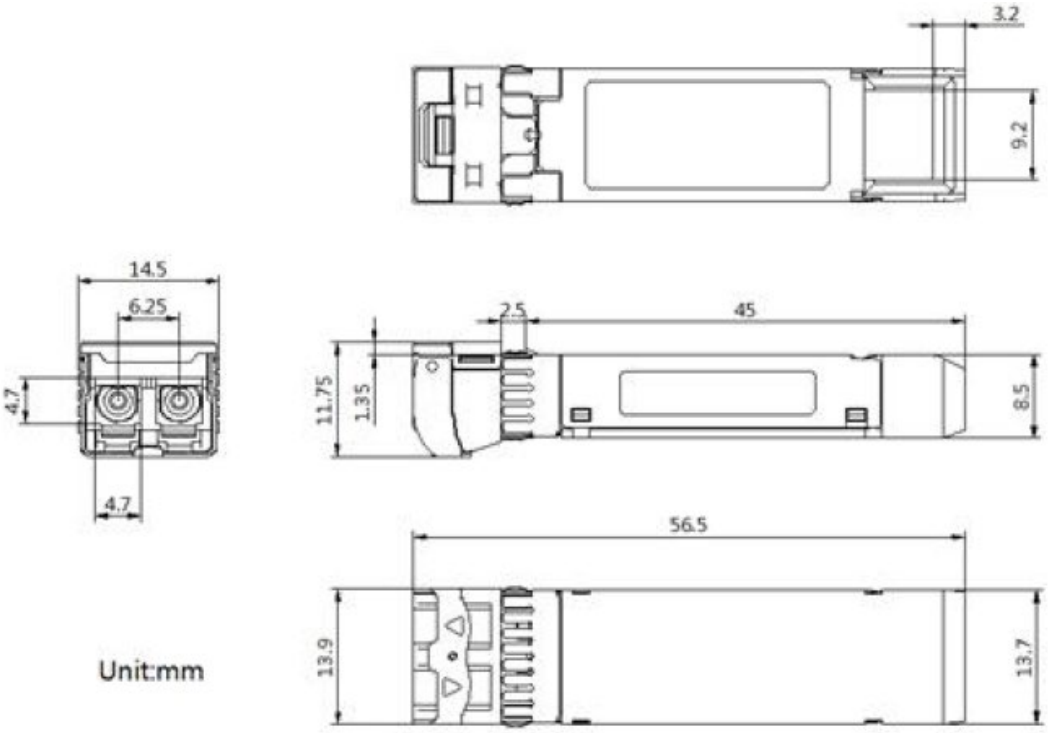
Host Board Power Supply Filter Network



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 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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