407-BCHI-AO

Dell® 407-BCHI Compatible 25GBase-SR SFP28 Transceiver Dual Rate 10/25G Capable (MMF, 850nm, 100m, LC, DOM, -40 to 85C)

Features

- SFF-8402 and SFF-8472 Compliance
- Duplex LC Connector
- Extended Temperature -20 to 85 Celsius
- Multi-mode Fiber
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead Free

Applications

- 25GBase Ethernet
- Access and Enterprise

Product Description

This Dell® 407-BCHI compatible SFP28 transceiver provides 25GBase-SR throughput up to 100m over multi-mode fiber (MMF) using a wavelength of 850nm via an LC connector. It is guaranteed to be 100% compatible with the equivalent Dell® 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."

Rev. 010622

Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883E Method 3015.4
- ESD to the LC Receptacle: compatible with IEC 61000-4-3
- EMI/EMC compatible with FCC Part 15 Subpart B Rules, EN55022:2010
- Laser Eye Safety compatible with FDA 21CFR, EN60950-1& EN (IEC) 60825-1,2
- RoHS compliant with EU RoHS 2.0 directive 2015/863/EU

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Maximum Supply Voltage	Vcc	-0.3		4.0	V
Storage Temperature	TS	-40		85	°C
Operating Case Temperature	Tc	-20		85	°C
Relative Humidity	RH	0		85	%
Receiver Power	R_{MAX}	-10.3		2.4	dBm
Bit Rate	BR		25		Gbps
Bit Error Ratio	BER			5*10E-5	
Max Supported Link Length	L			100	m

Electrical Characteristics (TOP=25°C, Vcc=3.3Volts)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.14	3.30	3.46	V	
Power Supply Current	Icc			230	mA	
Power Consumption	P_{DISS}			800	mW	
Transmitter						
Single Ended data input swing	Vin	90		500	mVp-p	
Input differential impedance	Rin	80	100	120	Ω	1
Transmit Disable Voltage	VDIS	2		VCCHOST	V	
Transmit Enable Voltage	VEN	VEE		VEE+0.8	V	
Transmit Fault Assert Voltage	VFA	2		VCCHOST	V	
Transmit Fault De-Assert Voltage	VFDA	VEE		VEE+0.8	V	
Receiver						
Single Ended data output swing	VOD	200		500	mVp-p	
LOS Fault	VLOSFT	2		VCCHOST	V	
LOS Normal	VLOSNR	VEE		VEE+0.8	V	

Notes:

1. Differential between TD+ / TD–

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Nominal Wavelength	λ	840		860	nm	
Spectral Width	≀≀			0.6	nm	
Optical Modulation Amplitude	POMA	-6.4		3	dBm	
Optical Output Power	Pav	-8.4		2.4	dBm	
Extinction Ratio	ER	2			dB	
Transmitter and Dispersion Penalty	TDP			4.3	dB	
Average launch power of OFF transmitter	POFF			-30	dBm	
Receiver						
Center Wavelength	λ	840		860	nm	
Average Receiver Power	PAVG	-10.3		3	dBm	1
Stressed Receiver Sensitivity (OMA)	RSENSE			-5.2	dBm	2
Receiver Reflectance	RREFL			-12	dB	
Assert LOS	LOSA	-30			dBm	
De-Assert LOS	LOSD			-13	dBm	
LOS Hysteresis		0.5			dB	

Notes:

1. Sensitivity for 25G PRBS 231-1 and BER better than or equal to 5*10E-5.
2. The stressed sensitivity value in the table are for system level BER measurements which include the effects of CDR circuit.

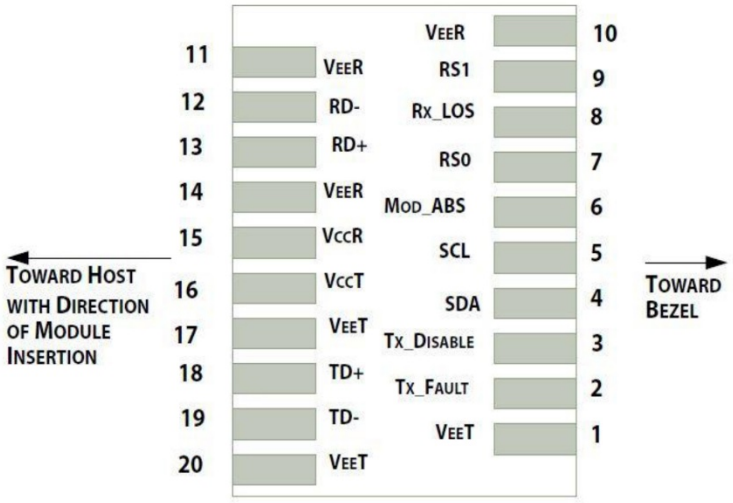
Pin Descriptions

Pin	Symbol	Name/Descriptions	Ref.
1	VeeT	Transmitter Ground (Common with Receiver Ground).	1
2	TX Fault	Transmitter Fault. LVTTL-O	2
3	TX Disable	Transmitter Disable. Laser output disabled on high or open. LVTT-I.	3
4	SDA	2-Wire Serial Interface Data Line (Same as MOD-DEF2 in INF-8074i). LVTTL-I/O.	
5	SCL	2-Wire Serial Interface Data Line (Same as MOD-DEF2 in INF-8074i). LVTTL-I.	
6	MOD_ABS	Module Absent, Connect to VeeT or VeeR in Module.	4
7	RS0	Rate Select 0, optionally controls SFP28 module receiver LVTTL-I.	5
8	LOS	Loss of Signal indication. Logic 0 indicates normal operation. LVTTL-O.	2
9	RS1	Rate Select 1, optionally controls SFP28 module transmitter. LVTTL-I.	5
10	VeeR	Receiver Ground (Common with Transmitter Ground).	1
11	VeeR	Receiver Ground (Common with Transmitter Ground).	1
12	RD-	Receiver Inverted DATA out. AC Coupled. CML-O.	
13	RD+	Receiver Non-inverted DATA out. AC Coupled. CML-O.	
14	VeeR	Receiver Ground (Common with Transmitter Ground).	1
15	VccR	Receiver Power Supply.	
16	VccT	Transmitter Power Supply.	
17	VeeT	Transmitter Ground (Common with Receiver Ground).	1
18	TD+	Transmitter Non-Inverted DATA in. AC Coupled. CML-I.	
19	TD-	Transmitter Inverted DATA in. AC Coupled. CML-O.	
20	VeeT	Transmitter Ground (Common with Receiver Ground).	1

Notes:

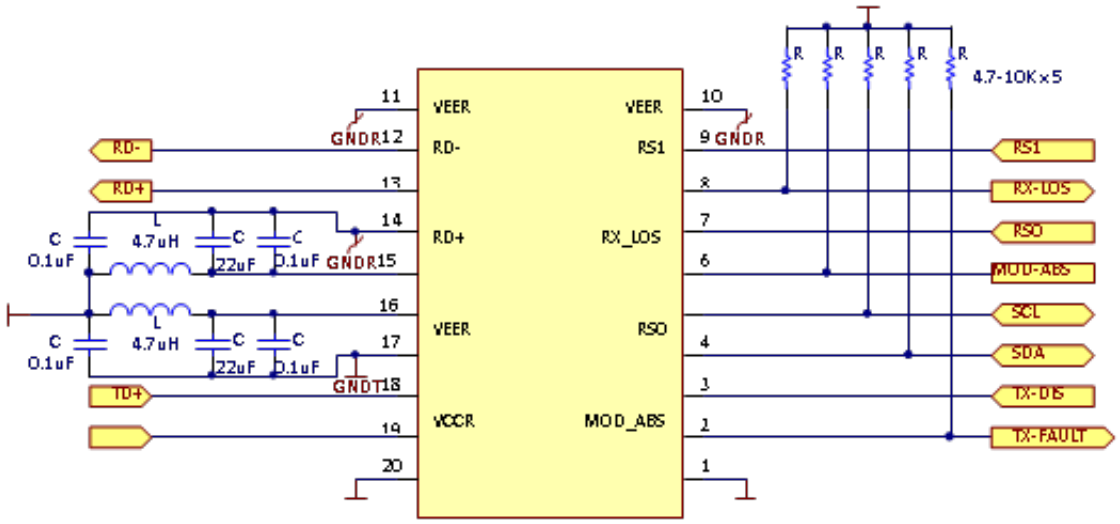
1. The module signal ground contacts, VeeR and VeeT, should be isolated from the module case.
2. This contact is an open collector/drain output and should be pulled up to the Vcc_Host with resister in the range 4.7KΩ to 10KΩ. Pull ups can be connected to one or several power supplies, however the host board design shall ensure that no module contract has voltage exceeding module VccT/R +0.5.V.
3. Tx_Disable is an input contact with a 4.7KΩ to 10KΩ pull-up resistor to VccT inside module.
4. Mod_ABS is connected to VeeT or VeeR in the SFP28 module. The host may pull the contract up to Vcc_Host with a resistor in the range from 4.7KΩ to 10KΩ. Mod_ABS is asserted “High” when the SFP28 module is physically absent from a host slot.
5. RS0 and RS1 are module inputs and are pulled low to VeeT with >30K resistors in the module. RS0 optionally selects the optical receive signaling rate coverage. RS1 optionally selects the optical transmit signaling rate coverage.
   These contacts can also be used for RS0 and RS1 if implementing SFF8079. See SFF8079 for details. RS1 is commonly connected to VeeT or VeeR in the classic SFP modules. The host needs to ensure that it will

not be damaged if this contact is connected to VeeT or VeeR in the module.
The SFP28 module provides two inputs RS0 and RS1 that can optionally be used for rate selection. RS0 controls the receive path signaling rate compatibility, and RS1 controls the transmit path signaling rate compatibility. The host and module may choose to use either, both, or none of these functions. Because contact 9 in the classic SFP INF-8074i is connected to VeeR, and SFP28 host utilizing RS1 must provide short circuit protection.
This rate select functionality can also be controlled by software as defined by SFF-8472. Optionally the rate select methods of Part 2 SFF-8079 may be used instead of the method described here by setting the management declaration bit (A0h byte 93 bit 2) to 1, see SFF-8472.

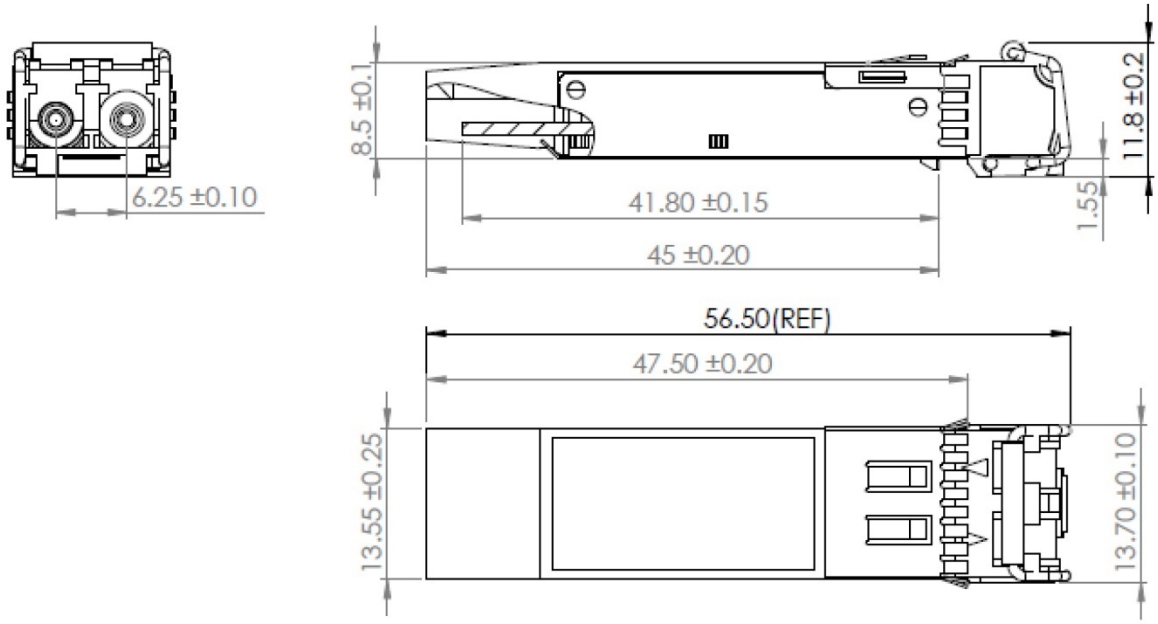


Pin-out of connector Block on Host board

Typical Application Circuit

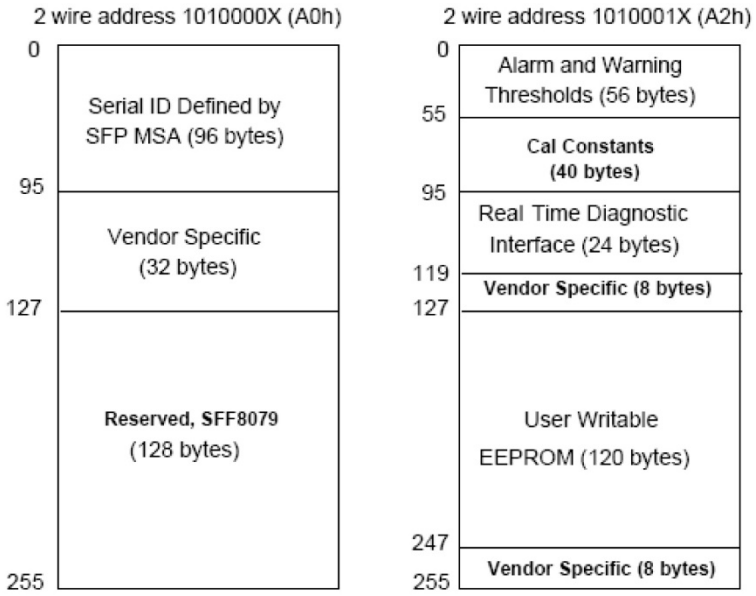


Mechanical Specifications



EEPROM Information

EEPROM memory map specific data field description is as below:



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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