SFP-10G-RA-1G-SX-AO

Arista Networks® SFP-10G-RA-1G-SX Compatible 1000Base-SX (media interface) to 10G (host) adapting SFP+ Transceiver (MMF, 850nm, 550m, LC, DOM)

Features

- Duplex LC Receptacle Optical Interface Compliant
- 850nm VCSEL Transmitter
- Built-In PHY Supporting XFI/USXGMII Interface
- Single 3.3V Power Supply
- Class 1 Laser Safety Certified
- Receiver Loss of Signal Output
- 550m on MMF
- Transmitter Disable Input
- RoHS Compliant and Lead-Free
- Operating Temperature: 0 to 70 Celsius

Applications

- 1x Fibre Channel
- 1000Base-SX Ethernet
- Access and Enterprise

Product Description

This Arista Networks® SFP-10G-RA-1G-SX compatible SFP+ transceiver provides 1000Base-SX throughput up to 550m over multi-mode fiber (MMF) using a wavelength of 850nm via an LC connector. It is guaranteed to be 100% compatible with the equivalent Arista Networks® 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. 071024

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Maximum Supply Voltage	Vcc			4.0	V	
Storage Temperature	Tstg	-40		85	°C	
Operating Case Temperature	Tc	0		70	°C	
Relative Humidity		0		95	%	
Power Supply Current	Icc			700	mA	
Power Supply Voltage	Vcc	3.10	3.30	3.47	V	
Power Dissipation	P_{DISS}			2.0	W	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Launch Optical Power	Po	-9.5		-3.0	dBm	1
Center Wavelength	λC	840		860	nm	
Extinction Ratio	ER	9.0			dB	
Spectral Width (RMS)	Δλ	nm		0.8	nm	
Eye Diagram	Complies with IEEE 802.3					
Mask Margin		10				
POUT of Off Transmitter	Poff			-30	dBm	
Receiver						
Center Wavelength	λC	770		860	nm	
Receiver Sensitivity	S			-17	dBm	2
Overload Input Optical Power	Pin	0			dBm	
LOS Optical De-Assert				-18	dBm	
LOS Optical Assert		-30			dBm	
LOS Hysteresis		0.5		5	dB	3

Notes:
1. With MMF.
2. Measured with BER<10E^{-12}.
3. The LOS Hysteresis to minimize "chatter" on the output line. In principle, Hysteresis alone does not guarantee chatter-free operation.

Pin Descriptions

| Pin	Symbol	Name/Description	Notes
1	VeeT	Transmitter Signal Ground. Connected to the signal ground on the host board.	
2	Tx_Fault	Transmitter Fault Out. OC.	1
3	Tx_Disable	Transmitter Disable In. LVTTL.	2
4	SDA	Module Definition Identifiers.	3
5	SCL	Module Definition Identifiers.	3
6	MOD_ABS	Module Definition Identifiers.	3
7	RS0	Receiver Rate Select. LVTTL. Transmitter Rate Select.	4
8	LOS	Loss of Signal Out. OC.	5
9	RS1	Receiver Rate Select. LVTTL. Transmitter Rate Select.	4
10	VeeR	Receiver Signal Ground. Connected to the signal ground on the host board.	
11	VeeR	Receiver Signal Ground. Connected to the signal ground on the host board.	
12	RD-	Receiver Negative Data Out. CML.	6
13	RD+	Receiver Positive Data Out. CML.	7
14	VeeR	Receiver Signal Ground. Connected to the signal ground on the host board.	
15	VccR	Receiver Power Supply.	8
16	VccT	Transmitter Power Supply.	8
17	VeeT	Transmitter Signal Ground. Connected to the signal ground on the host board.	
18	TD+	Transmitter Positive Data In. CML.	9
19	TD-	Transmitter Negative Data In. CML.	10
20	VeeT	Transmitter Signal Ground. Connected to the signal ground on the host board.	

Notes:

1. Logic "1" Output = Transmitter Fault. Logic "0" Output =Normal Operation. This pin is open collector compatible and should be pulled up to the Host_Vcc with 10kΩ.
2. Logic "1" Input (or No Connection) = Laser Off. Logic "0" Input = Laser On. This pin is internally pulled up to VccT with a 10kΩ resistor.
3. Serial ID with SFF-8472 Diagnostics Module Definition pins. Should be pulled up to the Host_Vcc with 10kΩ resistors.
4. These pins have an internal 33kΩ pull-down to ground. A signal on either of these pins will not affect module performance.
5. This pin is open collector compatible and should be pulled up to the Host_Vcc with 10kΩ.
6. Light On = Logic "0" Output Receiver. Data output is internally AC coupled and series terminated with a 50Ω resistor.
7. Light on = Logic "1" output Receiver. Data output is internally AC coupled and series terminated with a 50Ω resistor.
8. This pin should be connected to a filtered +3.3V power supply on the host board.
9. Logic "1" Input = Light On Transmitter. Data inputs are internally AC coupled and terminated with a differential 100Ω resistor.
10. Logic "0" Input = Light On Transmitter. Data inputs are internally AC coupled and terminated with a differential 100Ω resistor.
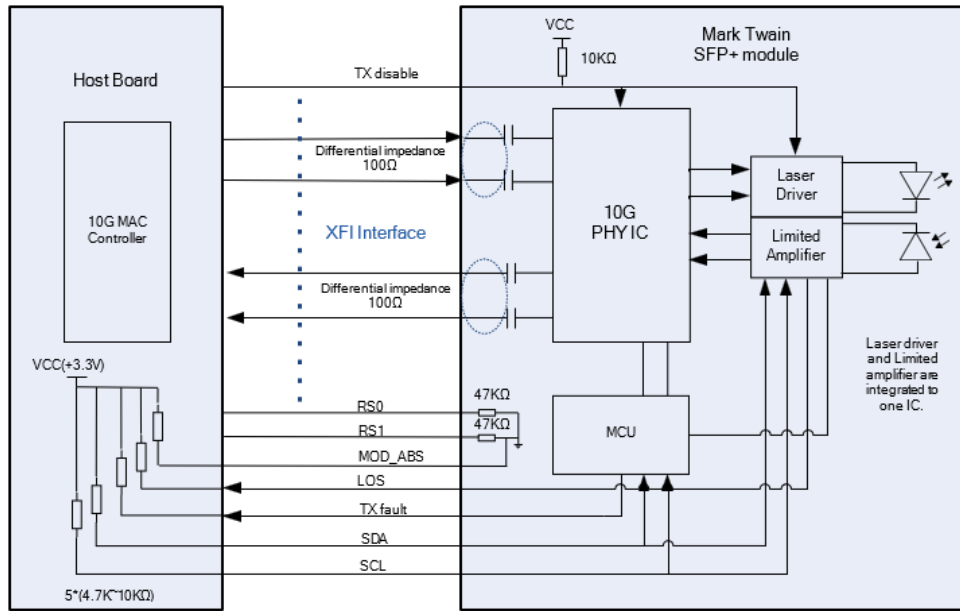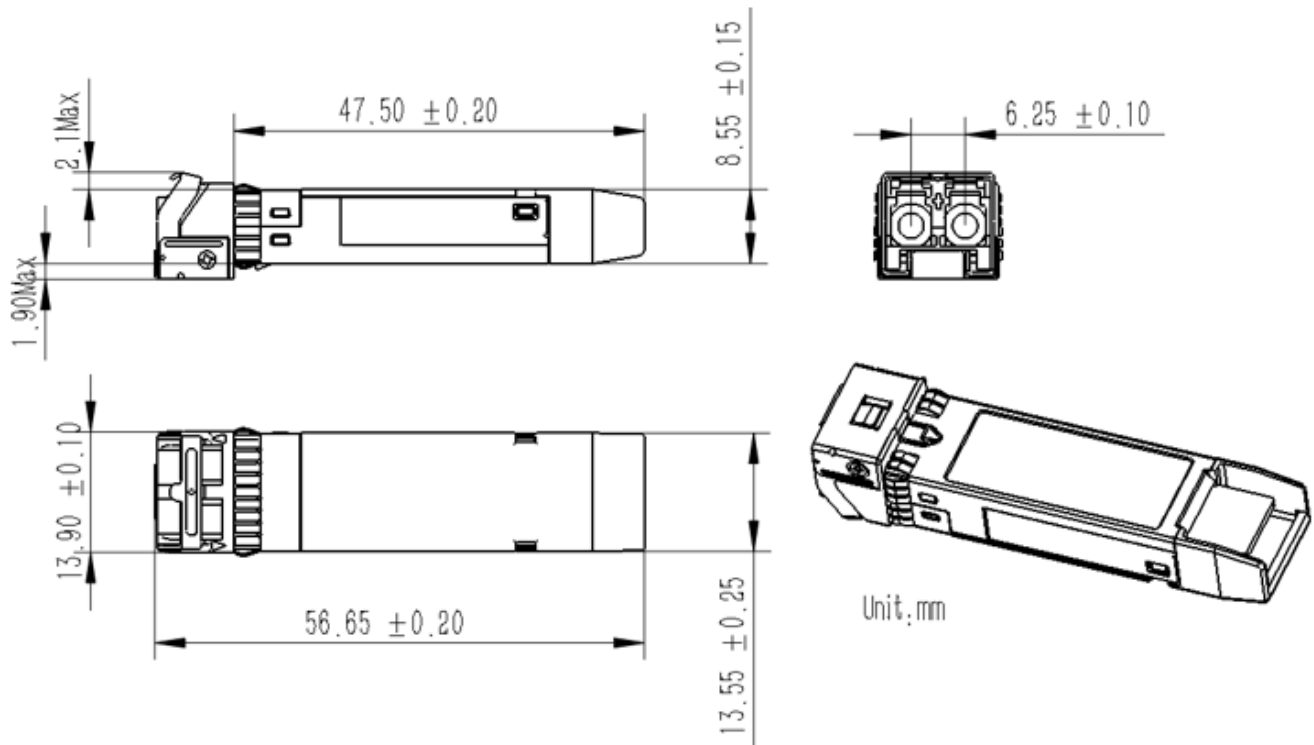
Electrical Pin-Out Details
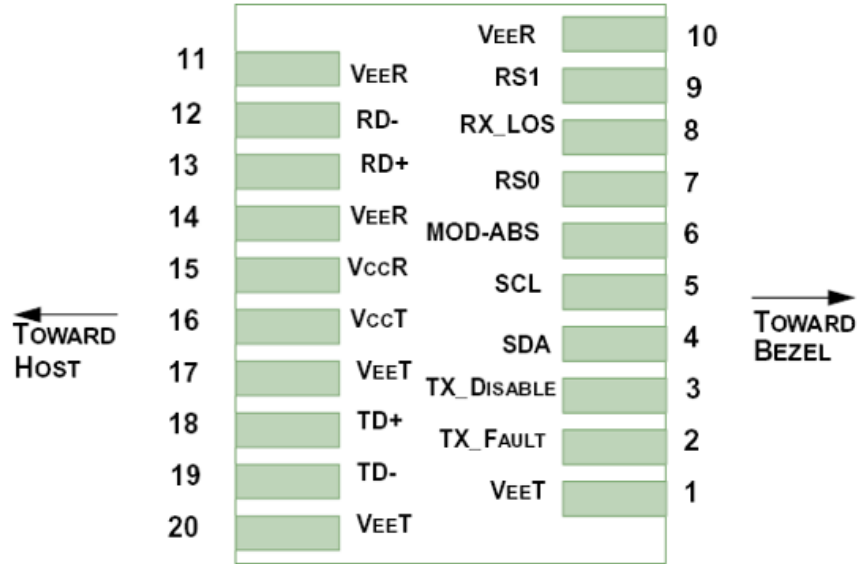
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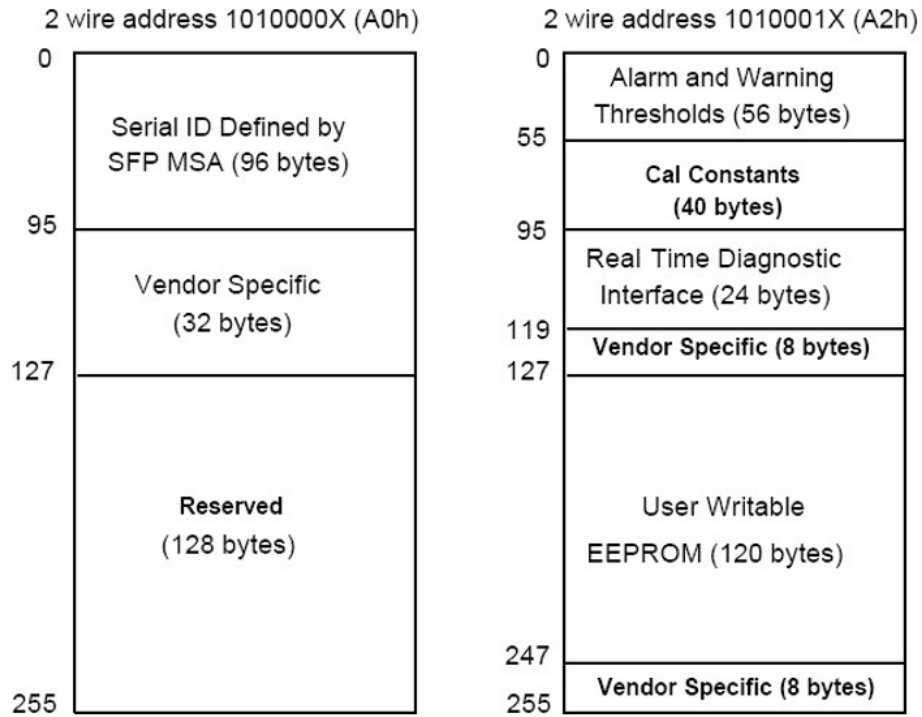
Recommended Interface Circuit

Mechanical Specifications

Unit:mm

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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