SFP-10G-RA-1G-SX-OPC

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

Applications:

- 1000Base-SX Ethernet
- 1x Fibre Channel
- 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 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 Arista Networks®. 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.

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

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	
	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.

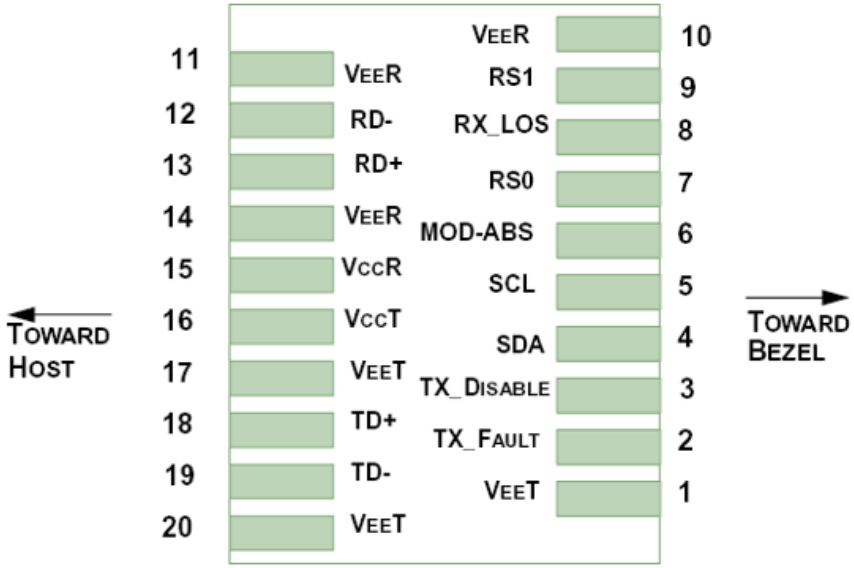
Pin Descriptions

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.	

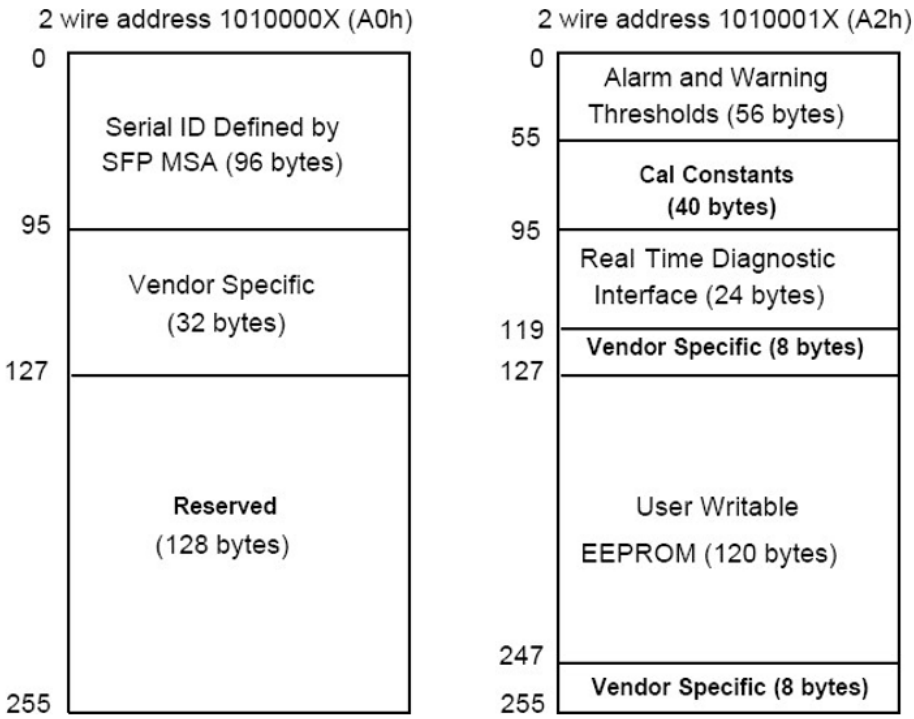
Notes:

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.

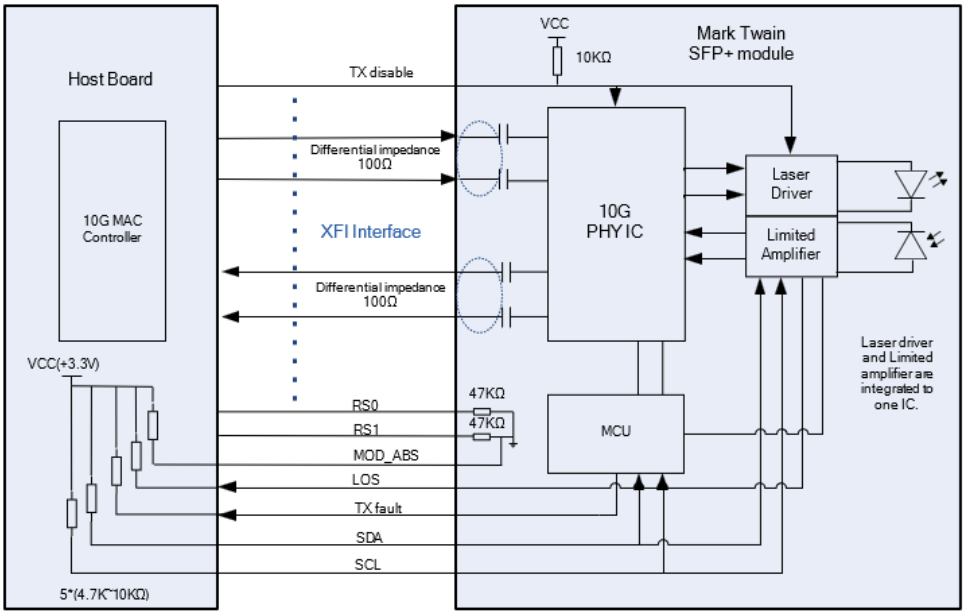
Electrical Pin-Out Details



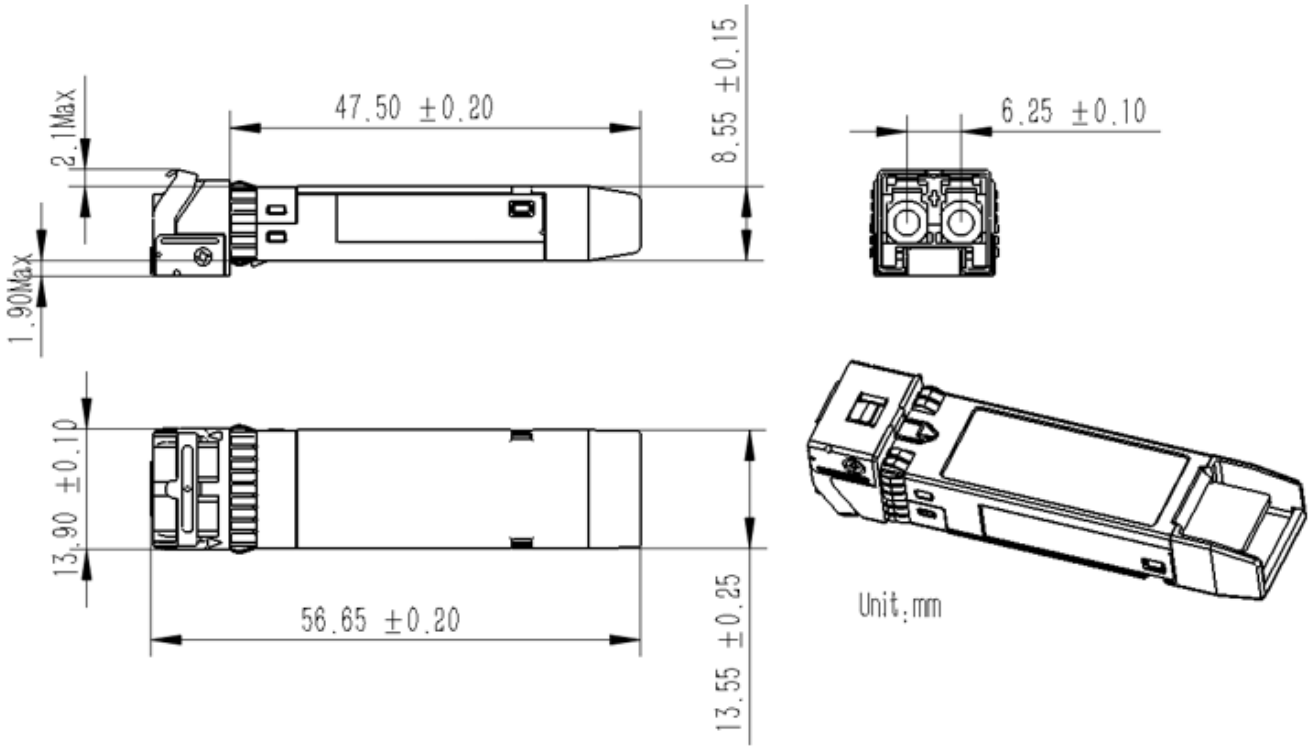
EEPROM



Recommended Interface Circuit



Mechanical Specifications



OptioConnect
Innovation for the Future of High-Speed Networking

Who We Are
OptioConnect is reshaping the landscape of communication and high-speed networking through intelligent technology. With a core focus on cutting edge technology, we deliver smarter fiber optic solutions for enterprise networks, data centers, and next-gen telecom infrastructures.

What We Do
At OptioConnect, we fuse advanced engineering with intelligent automation to drive the future of networking. Our AI-integrated solutions are designed to optimize performance and streamline operations with:

- Superior Performance
- Network and traffic optimization
- Intelligent energy management
- Seamless OEM compatibility
- Scalable cost-efficiency

Smarter Networks by Design
Innovation isn't just a goal—it's our process. We embed AI and machine learning across our R&D and product lines, enabling adaptive performance, automated tuning, and faster deployment cycles. The result? Networks that don't just work—they learn, evolve, and outperform.

Our Team
Our engineers, data scientists, and network architects bring decades of experience and a future-focused mindset. We provide hands-on support with intelligent insights that turn complex challenges into simple solutions.

Our Mission
To deliver AI-enhanced connectivity that reduces cost, increases speed, and maximizes efficiency—empowering our partners to operate at the forefront of a rapidly evolving digital world.

Let's Connect
Discover how OptioConnect's intelligent infrastructure solutions can power your network's next leap forward.
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