SPP85C55180D283

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

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.

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

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:

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

For your product safety, please read the following information carefully before any manipulation of the transceiver:

ESD

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 /JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.

LASER SAFETY

This is a Class1 Laser Product according to IEC 60825-1:2007. This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination.

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.

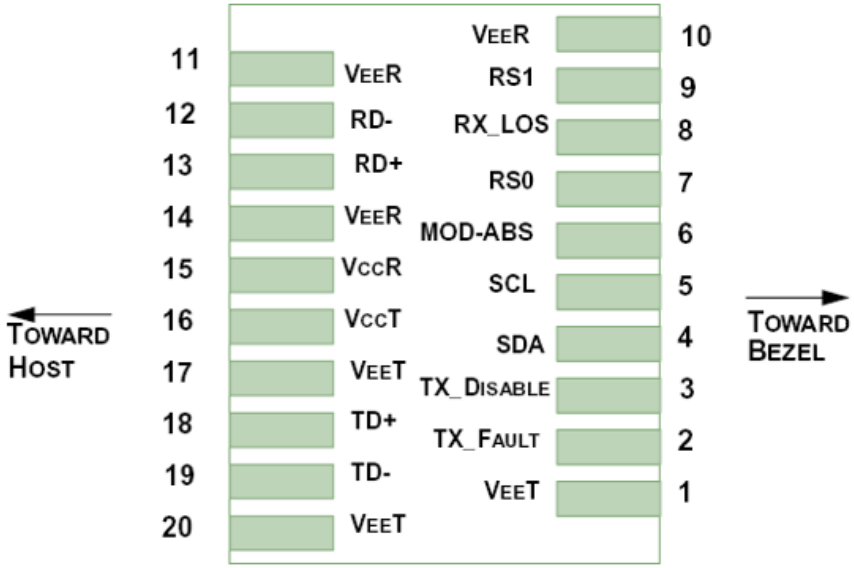
Pin Descriptions

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.	

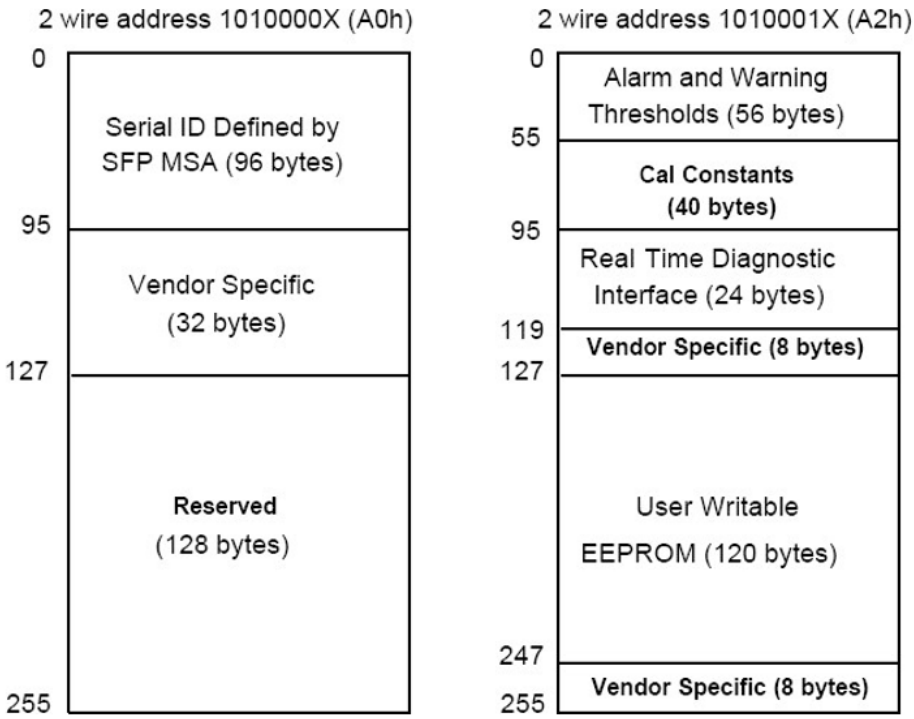
Notes:

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.

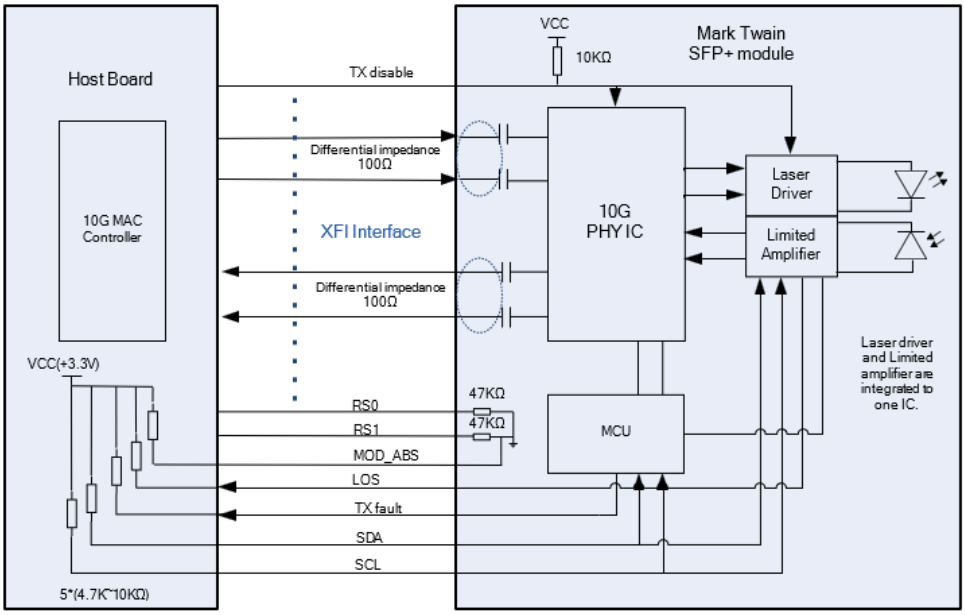
Electrical Pin-Out Details



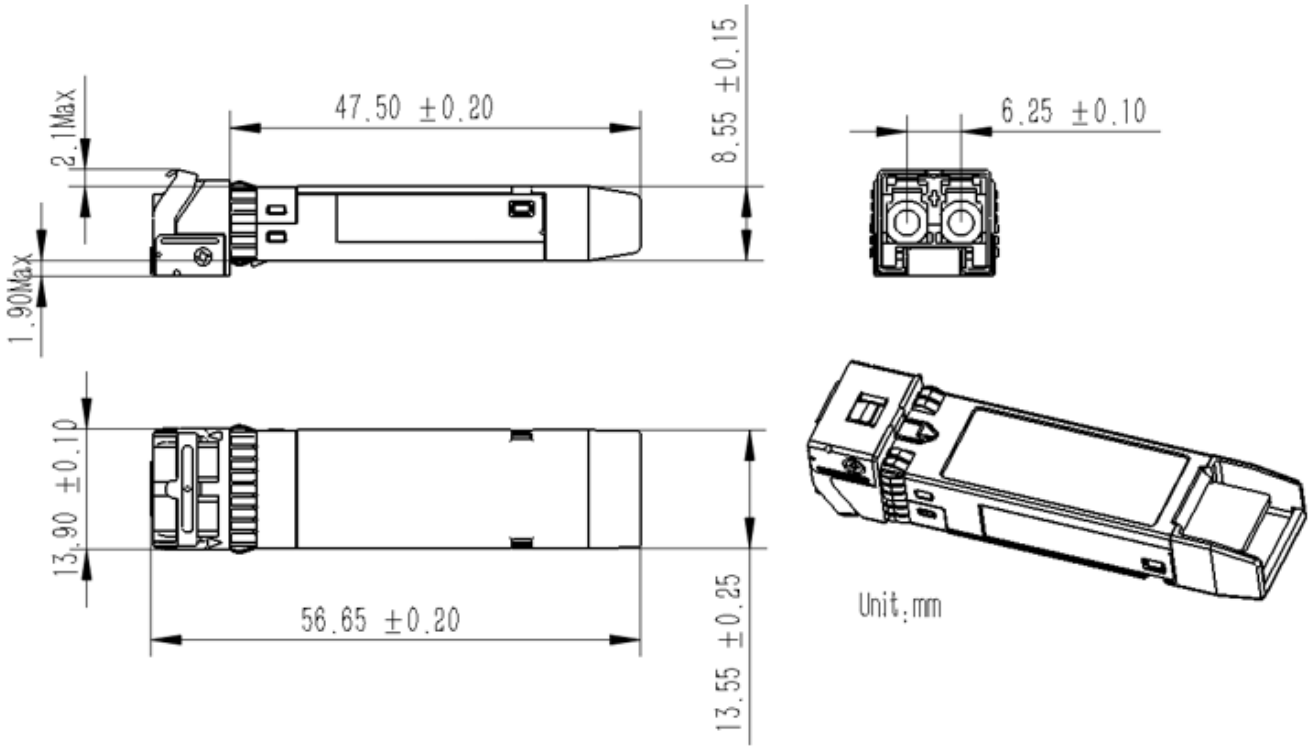
EEPROM



Recommended Interface Circuit



Mechanical Specifications



About Skylane Optics

Skylane is a leading provider of transceivers for optical communication.

We offer an extensive portfolio for the enterprise, access, datacenter and metropolitan fiber optical market as well as for smart home applications and home networks.

We cover the European, South American and North American market with a strong partner network and have offices in Belgium, Brazil, Sweden and USA.

Our offerings are characterized by high quality and performance. In combination with our strong technical support, we enable our customers to build cost optimized network solutions.

We offer an extensive range of high-quality products including transceivers (Optical and copper), Active Optical Cable (AOC), Direct Attach Cable (DAC), Mux/Demux, Coding Box.