

SFP-2.5GMLC-T-AO

Moxa® SFP-2.5GMLC-T Compatible TAA 2.5GBase-SX SFP Transceiver (MMF, 850nm, 550m, LC, -40 to 85C)

Features

- SFF-8074i and SFF-8472 Compliance
- Duplex LC Connector
- VCSEL Transmitter and PIN Receiver
- Multi-Mode Fiber
- Hot Pluggable
- Industrial Temperature: -40 to 85 Celsius
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead-Free



Applications

- 2.5GBase Ethernet
- Access and Enterprise

Product Description

This Moxa® SFP transceiver provides 2.5GBase-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 Moxa® 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."



Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Maximum Supply Voltage	Vcc	-0.5		4.0	V	1
Storage Temperature	Tstg	-40		85	°C	2
Operating Case Temperature	Tc	-40		85	°C	3
Data Rate	DR		2.5		Gbps	4
Bit Error Rate	BER			10 ⁻¹²		

Notes:

1. For the electrical power interface.
2. Ambient temperature.
3. Case temperature.
4. IEEE 802.3.

Link Distances

Data Rate	Fiber Type	Distance Range (m)
2.5Gbps	62.5/125µm MMF	300
2.5Gbps	50/125µm MMF	500

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.15	3.30	3.43	V	
Power Supply Current	Icc		130	180	mA	
Transmitter						
Input Differential Impedance	RIN	80	100	120	Ω	
Single-Ended Data Input Swing	VIN,pp	250		1200	mV	
Transmit Disable Voltage	VD	2		Vcc	V	
Transmit Enable Voltage	VEN	Vee		Vee+0.8	V	
Receiver						
Single-Ended Data Output Swing	VOOUT,pp	250	350	550	mV	
LOS Fault	VLOSA			Host_Vcc	V	
LOS Normal	VLOSD	Vee		Vee+0.5	V	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Output Optical Power	P _{TX}	-9		-3	dBm	1
Optical Center Wavelength	λ_C	830	850	860	nm	
Extinction Ratio	ER	8.2			dB	
Spectral Width (RMS)	$\Delta\lambda$			0.85	nm	
Optical Rise/Fall Time (20-80%)	T _r /T _f			150	ps	
Receiver						
Receiver Overload	P _{OL}	0			dBm	2
Optical Center Wavelength	λ_C	770		860	nm	
Receiver Sensitivity	RXSEN			-17	dBm	2
Optical Return Loss	ORL	27			dB	
LOS Assert	LOSA	-35			dBm	
LOS De-Assert	LOSD			-18	dBm	
LOS Hysteresis	LOSH	0.5	3	5	dB	

Notes:

1. Class 1 product.
2. Measured with worst ER, 2⁷-1 PRBS, and BER<10⁻¹².

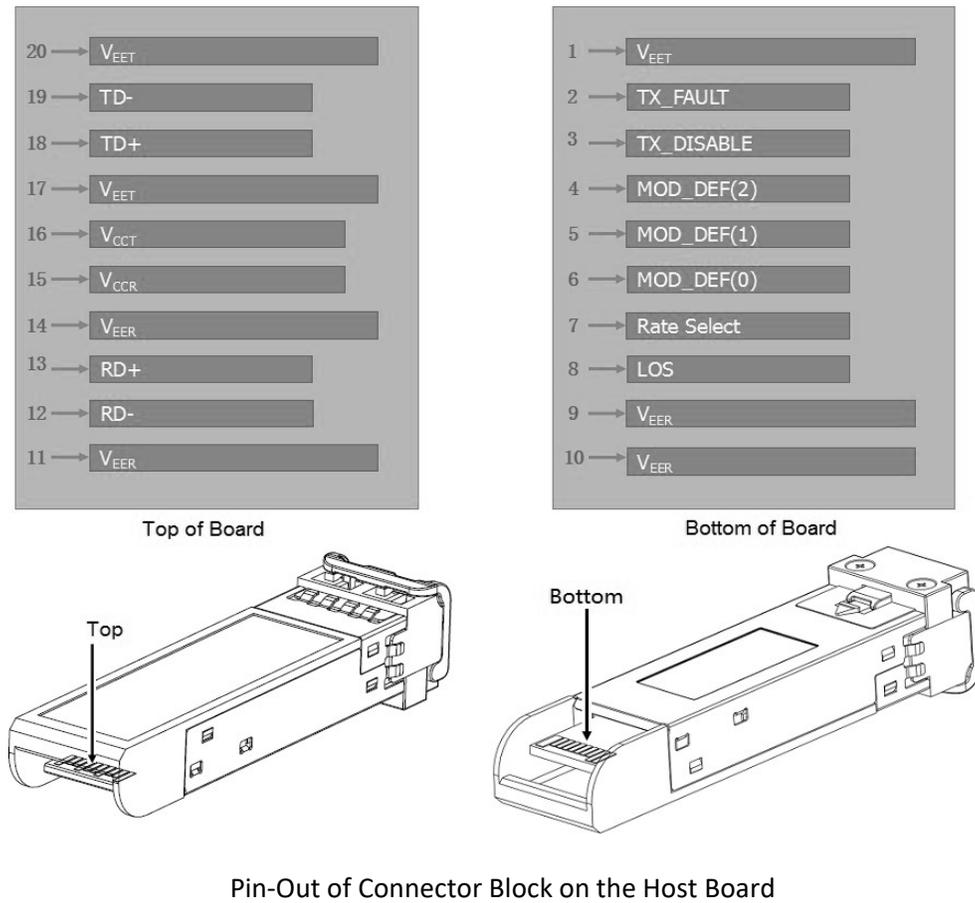
Pin Descriptions

Pin	Symbol	Name/Description	Notes
1	VeeT	Transmitter Ground (Common with Receiver Ground).	1
2	Tx_Fault	Transmitter Fault. LVTTTL-O.	2
3	Tx_Disable	Transmitter Disable. Laser output disabled on "high" or "open." LVTTTL-I.	3
4	SDA	2-Wire Serial Interface Data (Same as MOD-DEF2 in INF-8074i). LVTTTL-I/O.	
5	SCL	2-Wire Serial Interface Clock (Same as MOD-DEF2 in INF-8074i). LVTTTL-I.	
6	MOD_ABS	Module Absent. Connect to the VeeT or VeeR in the module.	4
7	RS0	Rate Select 0. Not Used.	5
8	LOS	Loss of Signal Indication. "Logic 0" indicates normal operation. LVTTTL-O.	2
9	RS1	Rate Select 1. Not Used.	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.	

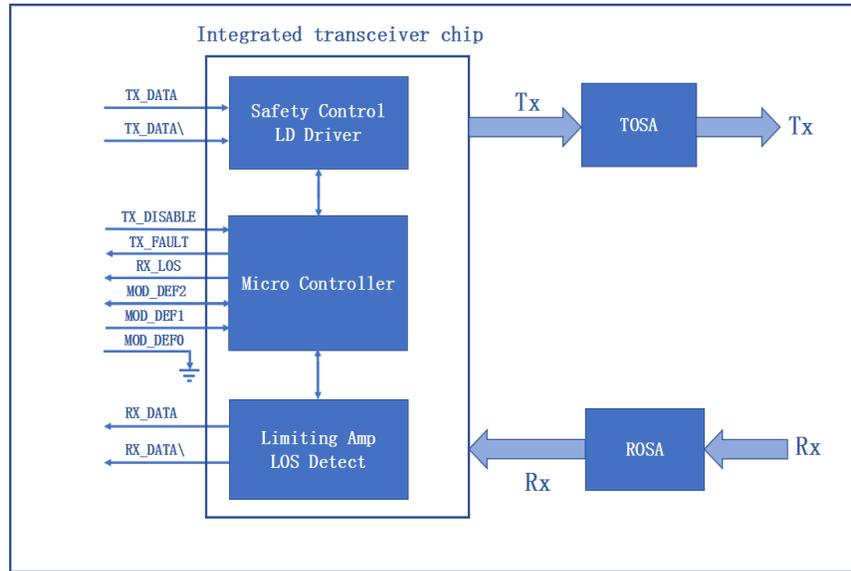
14	VeeR	Receiver Ground (Common with Transmitter Ground).	1
15	VccR	Receiver Power Supply.	
16	VccT	Transmitter Power Supply.	
17	VeeT	Transmitter Ground (Common with Receiver Ground).	1
18	TD+	Transmitter Non-Inverted Data In. AC Coupled. CML-I.	
19	TD-	Transmitter Inverted Data In. AC Coupled. CML-I.	
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 Host_Vcc with resistor 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+0.5V.
3. Tx_Disable is an input contact with a 4.7kΩ to 10kΩ pull-up resistor to the VccT inside the module.
4. MOD_ABS is connected to VeeT or VeeR in the SFP+ module. The host may pull the contact up to the Host_Vcc with a resistor in the range from 4.7kΩ to 10kΩ. MOD_ABS is asserted “high” when the SFP+ module is physically absent from a host slot.
5. Internally pulled down per SFF-8431.



Block Diagram of Transceiver



Mechanical Specifications

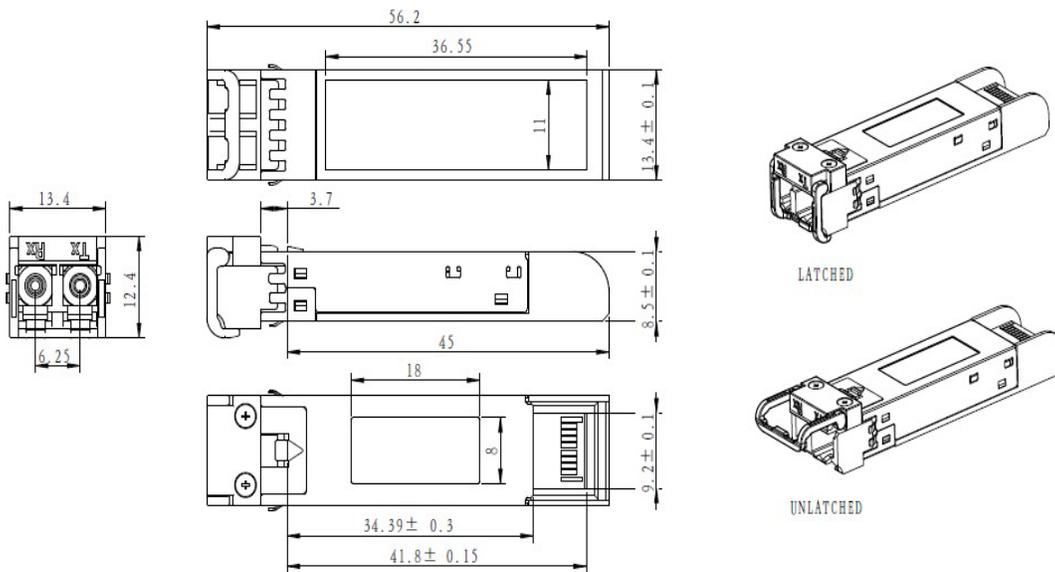
Small Form Factor Pluggable (SFP) transceivers are compatible with the dimensions defined by the SFP Multi-Sourcing Agreement (MSA).

All Dimensions are $\pm 0.2\text{mm}$ Unless Otherwise Specified

Unit: mm

Net Weight of Module: 15.5g/pcs

Net Weight of Dust Cap: 0.95g/pcs



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 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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