

SFP-2-5G-BXD53-AO

MSA and TAA 2.5GBase-BX SFP Transceiver (SMF, 1550nmTx/1310nmRx, 10km, LC, DOM)

Features

- INF-8074 and SFF-8472 Compliance
- Simplex LC Connector
- Commercial Temperature 0 to 70 Celsius
- Single-mode Fiber
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead Free



Applications

- 2GBase-BX Ethernet
- Access and Enterprise

Product Description

This MSA compliant SFP transceiver provides 2.5GBase-BX throughput up to 10km over single-mode fiber (SMF) using a wavelength of 1550nmTx/1310nmRx via an LC connector. This bidirectional unit must be used with another transceiver or network appliance of complementing wavelengths. It is built to MSA standards and is uniquely serialized and data-traffic and application tested to ensure that they will integrate into your network seamlessly. 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
Data Rate	DR		2.5		GB/s	
Bit Error Rate	BER			10 ⁻¹²		
Storage Temperature	Tstg	-40		85	°C	1
Operating Case Temperature	Tc	0		70	°C	2
Maximum Voltage	Vcc	-0.5		4	V	3

Notes:

1. Case temperature.
2. Ambient temperature.
3. For electrical power interface.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Input Voltage	V _{CC}	3.14	3.3	3.46	V	
Supply Current	I _{CC}			300	mA	1
Transmitter						
Input Differential Impedance	R _{IN}	90	100	110	Ω	
Single ended data input swing	V _{in_pp}	250		1200	mV	
Transmit disable voltage	V _D	V _{CC} -1.3		V _{CC}	V	
Transmit enable voltage	V _{en}	V _{ee}		V _{ee} +0.8	V	
Receiver						
Single ended data output swing	V _{out_pp}	250		800	mV	
Data output rise/fall time (20%-80%)	T _r /t _f			300	ps	
LOS Fault	V _{LOS_A}	V _{CC} -0.5		V _{CC_host}		
LOS Normal	V _{LOS_D}	V _{ee}		V _{ee} +0.5		

Notes:

1. For electrical power interface.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Output Optical Power	P _{tx}	-5		0	dBm	
Optical Center Wavelength	λ_c	1520	1550	1580	nm	
Extinction Ratio	ER	8.2			dB	
Spectral Width (RMS)	$\Delta\lambda$			1	nm	
Optical Rise/Fall Time (20%-80%)	tr/tf			260	ps	
Receiver						
Receiver Overload	Pol	0			dBm	
Optical Center Wavelength	λ_c	1270	1310	1360	nm	
Receiver Sensitivity	Rx_sen			-18	dBm	
LOS Assert	LOSA	-32			dBm	
LOS De-Assert	LOSD			-20	dBm	
LOS Hysteresis	LOSH	0.5			dB	

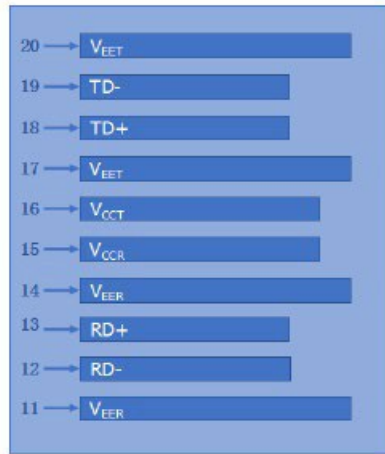
Pin Descriptions

Pin	Symbol	Description	Ref.
1	VeeT	Transmitter Ground (Common with Receiver Ground).	1
2	TX_Fault	Transmitter Fault. Not supported.	
3	TX_Disable	Transmitter Disable. Laser output disabled on high or open.	2
4	MOD_DEF(2)	Module Definition 2. Data line for serial ID.	3
5	MOD_DEF(1)	Module Definition 1. Clock line for serial ID.	3
6	MOD_DEF(0)	Module Definition 0. Grounded within the module.	3
7	Rate Select	No Connection Required.	
8	LOS	Loss of Signal Indication, Logic 0 indicated normal operation.	4
9	VeeR	Receiver Ground (Common with Transmitter Ground).	1
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.	
13	RD+	Receiver Non-Inverted DATA Out. AC coupled.	
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.	
19	TD-	Transmitter Inverted DATA In. AC Coupled.	
20	VeeT	Transmitter Ground (Common with Receiver Ground).	1

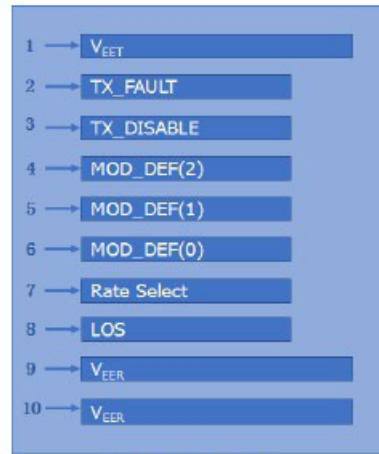
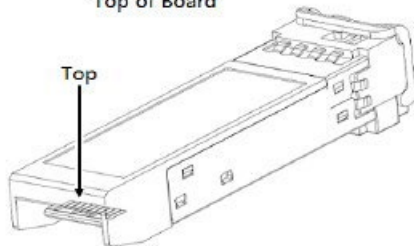
Notes:

1. Circuit ground is isolated form chassis ground.
2. Disabled: $T_{DIS} > 2V$ or open, Enabled: $T_{DIS} < 0.8V$
3. Should be pulled up with 4.7K Ω -10K Ω on host board to a voltage between 2V and 3.6V.
4. LOS is open collector output.

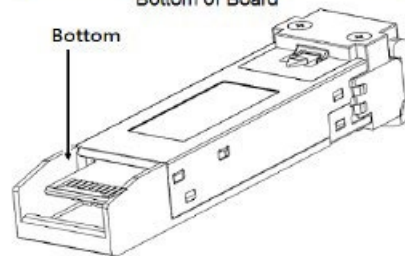
Electrical Pad Layout



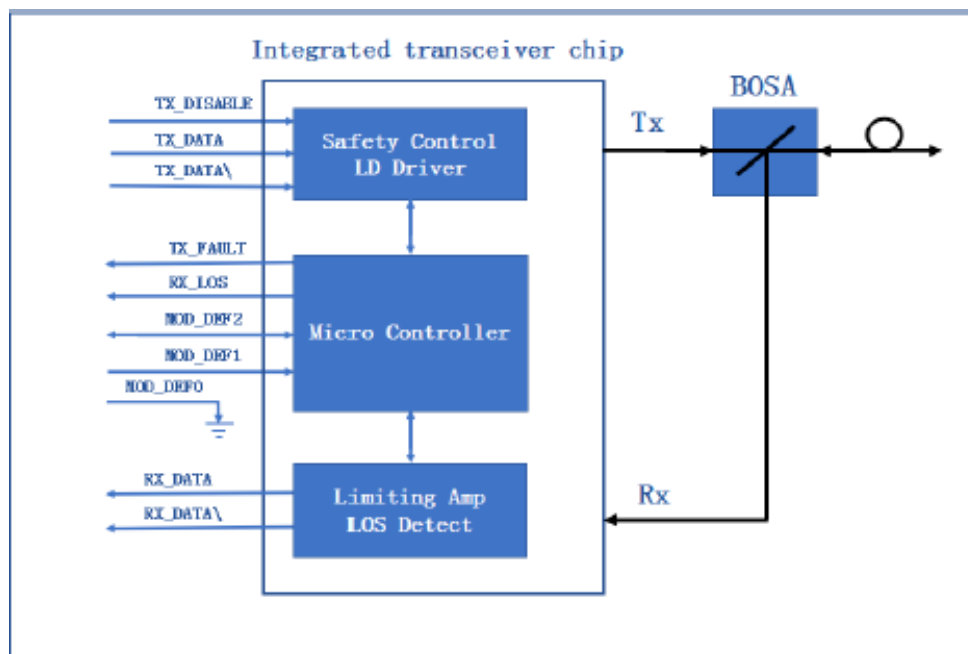
Top of Board



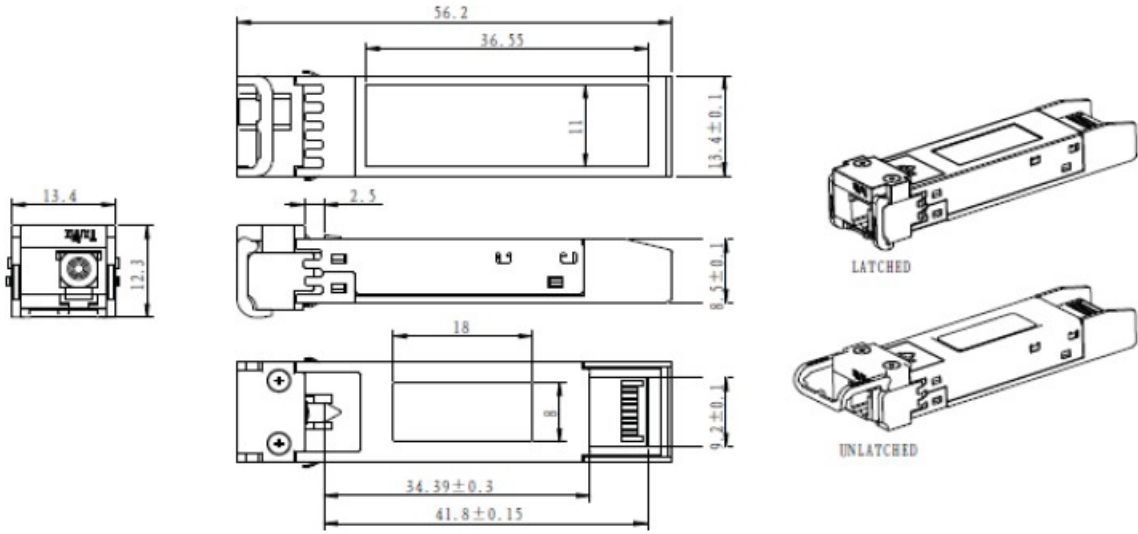
Bottom of Board



Block Diagram of Transceiver



Mechanical Specifications



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 ingrained 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 ranging from NEBS Level 3 to ISO 9001:2015 with every new development while maintaining the signature reliability of its products.



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