SFP-1000BASE-T-I-NL-AO

MSA Compliant 10/100/1000Base-TX SFP Transceiver (Copper, 100m, RJ-45, -40 to 85C, Non-LOS)

Features:

- INF-8074 Compliance
- RJ-45 Connector
- Industrial Temperature -40 to 85 Celsius
- Copper Media Type
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead Free



Applications:

- 1000Base Ethernet
- Access and Enterprise

Product Description

This MSA compliant SFP transceiver provides 10/100/1000Base-TX throughput up to 100m over a copper connection via a RJ-45 connector. It can operate at temperatures between -40 and 85C. This TX module supports 10/100/1000Base auto-negotiation and can be configured to fit your needs. 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. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

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

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Data Rate	DR	10		1000	Mb/sec	2
Cable Length	CL			100	m	3
Bit Error Rate	BER			10		
Operating Temperature	T_{OP}	-40		85	℃	4
Storage Temperature	T_{STO}	-40		85	℃	5
Supply Current	IS		320	375	mA	6
Input Voltage	V_{CC}	3.14	3.3	3.46	V	7
Maximum Voltage	V_{MAX}			4	V	6

Notes:

1. 10/100/1000M operation requires the host system to have an SGMII interface with no clock. With a SERDES interface, this transceiver will operate at 1000M only
2. IEEE 802.3 compatible
3. Category 5 UTP
4. Case Temperature
5. Ambient Temperature
6. For electrical power interface
7. Referenced to GND. For electrical power interface

Electrical Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
High Speed Electrical Interface Host-SFP							
Single ended Input Swing		V_{IN}	250		1200	mV	1
Single ended output Swing		V_{OUT}	275		800	mV	1
Rise time (20%-80%)		TR		175		ps	
Fall Time (20%-80%)		TF		175		ps	
Tx Input Impedance		Z_{IN}		50		ohm	1
Rx Output Impedance		Z_{OUT}		50		ohm	1
High Speed Electrical Interface Transmission Line-SFP							
Line Frequency		FL		125		MHz	2
Tx Output Impedance Differential		Z_{OUT_TX}		100		Ohm	3
Rx Input Impedance Differential		Z_{IN_RX}		100		Ohm	3
Low Speed Electrical Signal							
SFP Output	**Low**	V_{OL}	0		0.5	V	4
	High	V_{OH}	Host_V_{CC} –0.5		Host_V_{CC} +0.3	V	4
SFP Input	**Low**	V_{IL}	0		0.8	V	4
	High	V_{IH}	2		V_{CC} + 0.3	V	4

Notes:

1. Single ended
2. 5-level encoding
3. For all frequencies between 1MHz and 125MHz
4. External 4.7-10k ohm pull-up resistor required

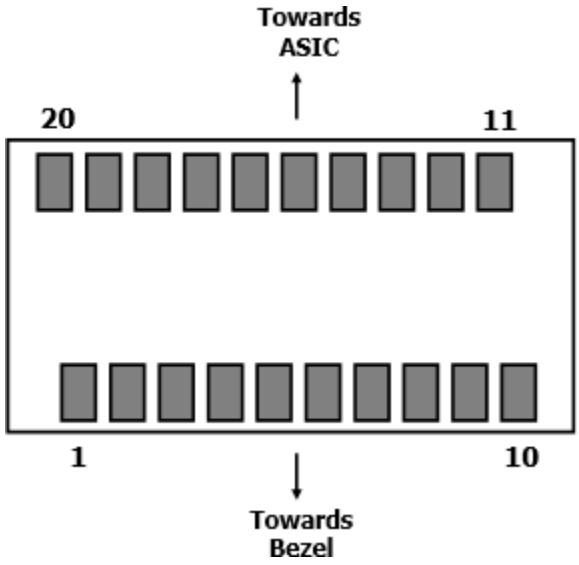
Pin Descriptions

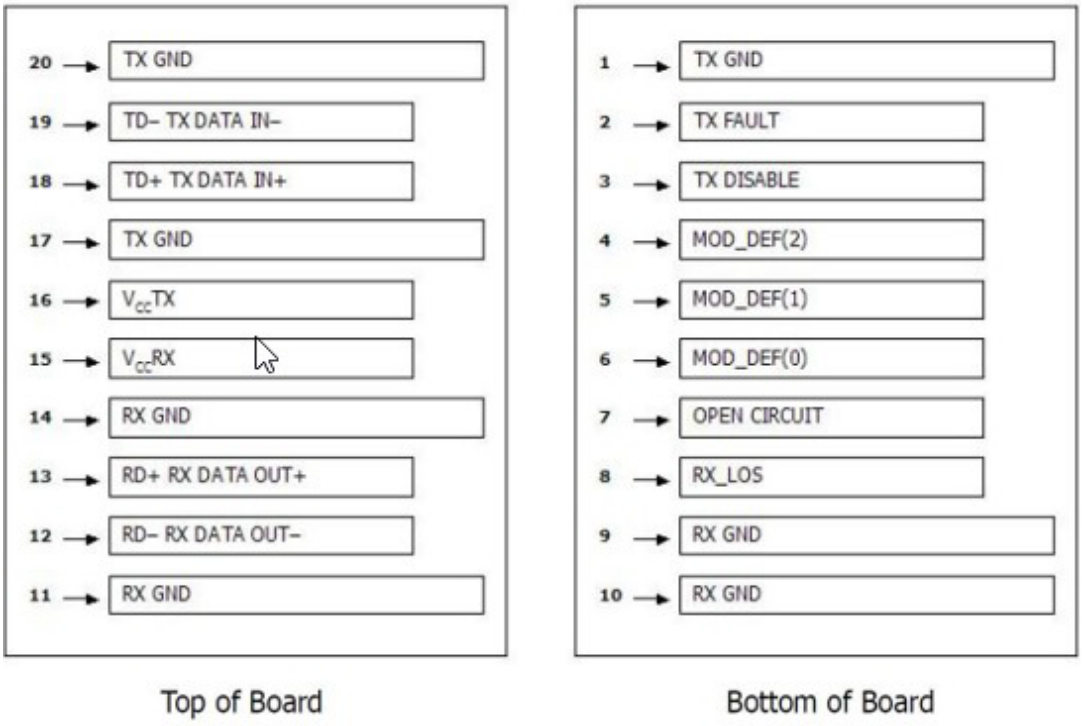
Pin	Symbol	Name/Descriptions	Ref.
1	V_{EET}	Transmitter ground (common with receiver ground)	1
2	TX_FAULT	Transmitter Fault. Not supported	
3	TX_DISABLE	Transmitter Disable. PHY disabled on high or open	2
4	MOD_DEF (2)	Module Definition 2. Data line for serial ID	3
5	MOD_DEF (1)	Module Definition 1. 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	RX_LOS	Loss of Signal	
9	V_{EER}	Receiver ground (common with transmitter ground)	1
10	V_{EER}	Receiver ground (common with transmitter ground)	1
11	V_{EER}	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	V_{EER}	Receiver ground (common with transmitter ground)	1
15	V_{CCR}	Receiver power supply	
16	V_{CCT}	Transmitter power supply	
17	V_{EET}	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	V_{EET}	Transmitter ground (common with receiver ground)	1

Notes:

1. Circuit ground is connected to chassis ground
2. Disabled: TX_DISABLE>2V or open, Enabled: TX_DISABLE <0.8V
3. Should be pilled up with 4.7k-10k ohm on host board to a voltage between 2V and 3.6V

Electrical Pad Layout

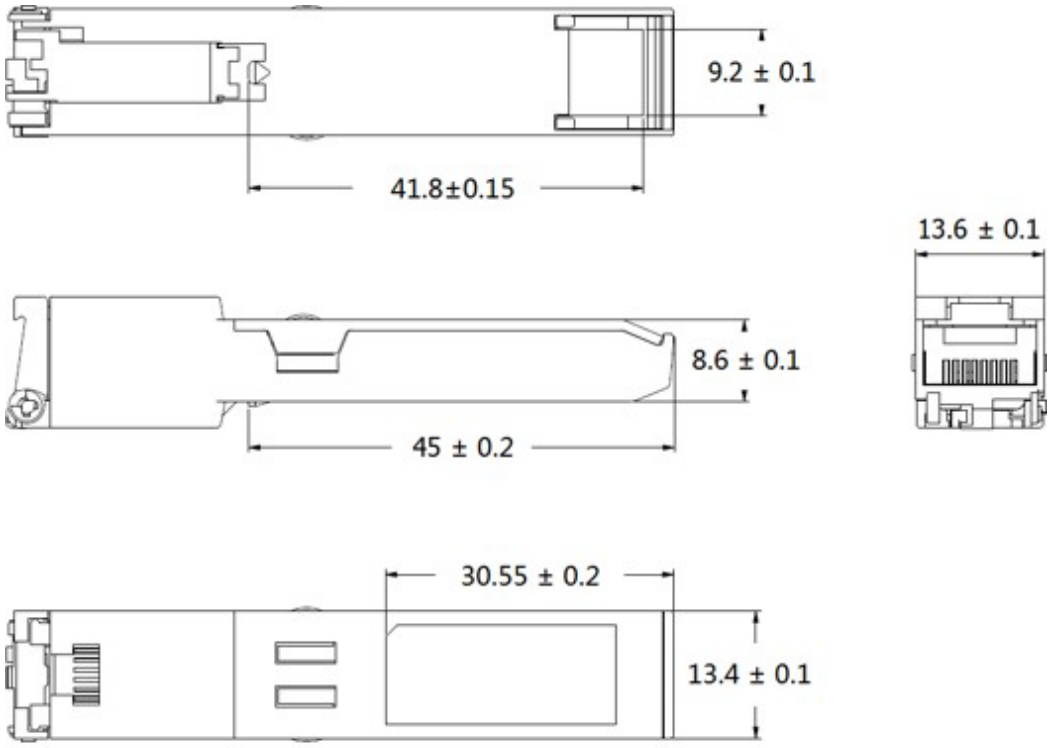




Top of Board

Bottom of Board

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 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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