JD103A-AO

HP® JD103A Compatible TAA 1000Base-LH SFP Transceiver (SMF, 1550nm, 100km, LC)

Features

- INF-8074 and SFF-8472 Compliance
- Duplex 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

- 1000Base Ethernet
- Access and Enterprise

Product Description

This HP® JD103A compatible SFP transceiver provides 1000Base-LH throughput up to 100km over single-mode fiber (SMF) using a wavelength of 1550nm via an LC connector. It is guaranteed to be 100% compatible with the equivalent HP® 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. It is built to meet or exceed the specifications of HP, as well as to comply with MSA (Multi-Source Agreement) standards to ensure seamless network integration. 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.")

TAA COMPLIANT

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Operating Temperature	Tc	0		70	˚C	
Storage Temperature	Tstg	-40		85	˚C	
Supply Current	Icc		200	300	mA	1
Maximum Voltage	Vmax	-0.5		4	V	1
Bit Error Rate	BER			10^{-12}		
Data Rate			1.25 1.062		Gbps	2

Notes:

1. For the electrical power interface.
2. IEEE 802.3. FC-PI-2 Rev. 5.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	Vcc	3.14	3.3	3.46	V	
Transmitter						
Input Differential Impedance	RIN		100		Ω	
Single-Ended Data Input Swing	VIN,pp	250		1200	mV	
Transmit Disable Voltage	VD	Vcc - 1.3		Vcc	V	
Transmit Enable Voltage	VEN	Vee		Vee + 0.8	V	
Transmit Disable Assert Time				10	µs	
Receiver						
Single-Ended Data Output Swing	VOUT,pp	300	400	800	mV	
Data Output Rise/Fall Time (20-80%)	Tr/Tf			300	ps	
LOS Fault	VLOS_A	Vcc – 0.5		Host_Vcc	V	
LOS Normal	VLOS_D	Vee		Vee + 0.5	V	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Output Optical Power	Ptx	0		5	dBm	1
Optical Center Wavelength	λC	1530		1570	nm	
Extinction Ratio	ER	9			dB	
Side-Mode Suppression Ratio	SMSR	30			dB	
Spectral Width (-20dB)	Δλ			1	nm	
Optical Rise/Fall Time (20-80%)	Tr/Tf			180	ps	
Relative Intensity Noise	RIN			-120	dB/Hz	
Deterministic Jitter Contribution	DJ			60	ps	
Total Jitter Contribution	TJ			130	ps	
Receiver						
Receiver Overload	POL	0		dBm		
Optical Center Wavelength	λC	1260		1600	nm	
Receiver Sensitivity	Rx_Sen			-27	dBm	
Optical Return Loss	ORL	12			dB	
Receiver Electrical 3dB Upper Cutoff Frequency				1500	MHz	
LOS Assert	LOSA	-35			dBm	
LOS De-Assert	LOSD			-27	dBm	
LOS Hysteresis	LOSH	0.5			dB	

Notes:

1. Class 1 product.

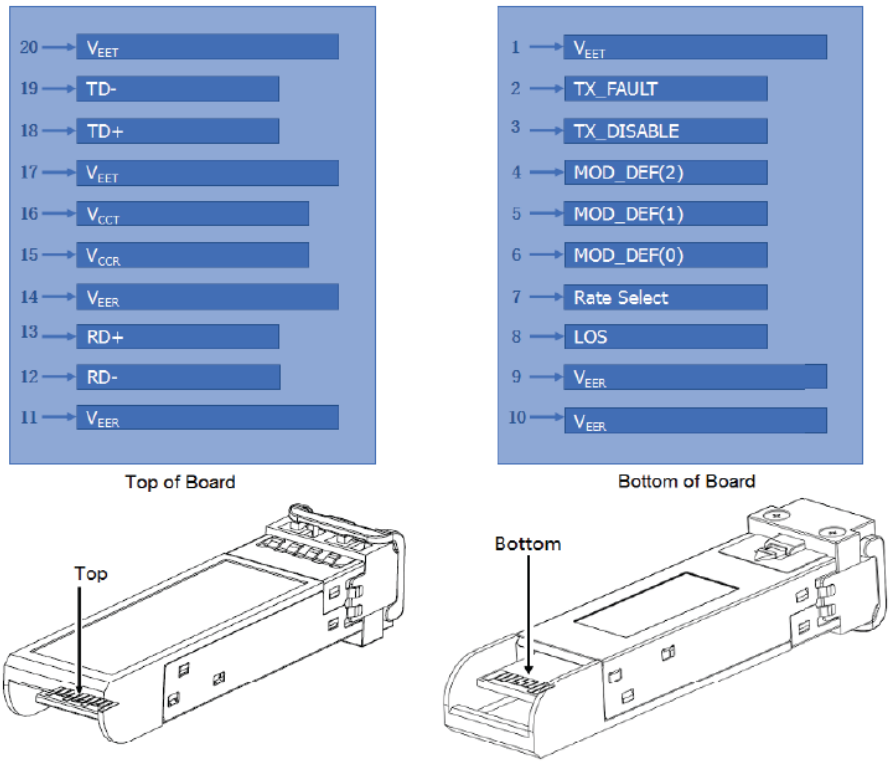
Pin Descriptions

Pin	Symbol	Name/Description	Notes
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	SDA	Module Definition 2. Data Line for Serial ID.	3
5	SCL	Module Definition 1. Clock Line for Serial ID.	3
6	MOD_ABS	Module Definition 0. Grounded within the module.	3
7	RS0	No Connection Required.	
8	LOS	Loss of Signal Indication. “Logic 0” indicates normal operation.	4
9	RS1	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

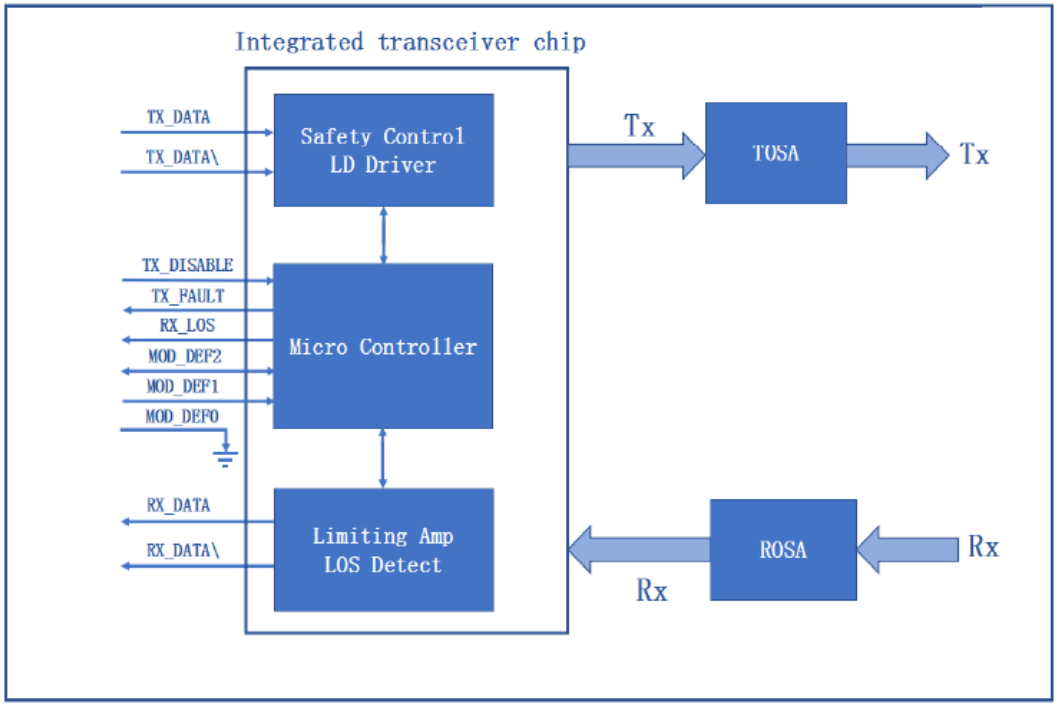
Notes:

1. The circuit ground is isolated from the chassis ground.
2. Disabled: Tdis>2V or open, enabled Tdis<0.8V.
3. Should be pulled up with 4.7kΩ to 10kΩ on the host board to a voltage between 2V and 3.46V.
4. LOS is an open collector output.

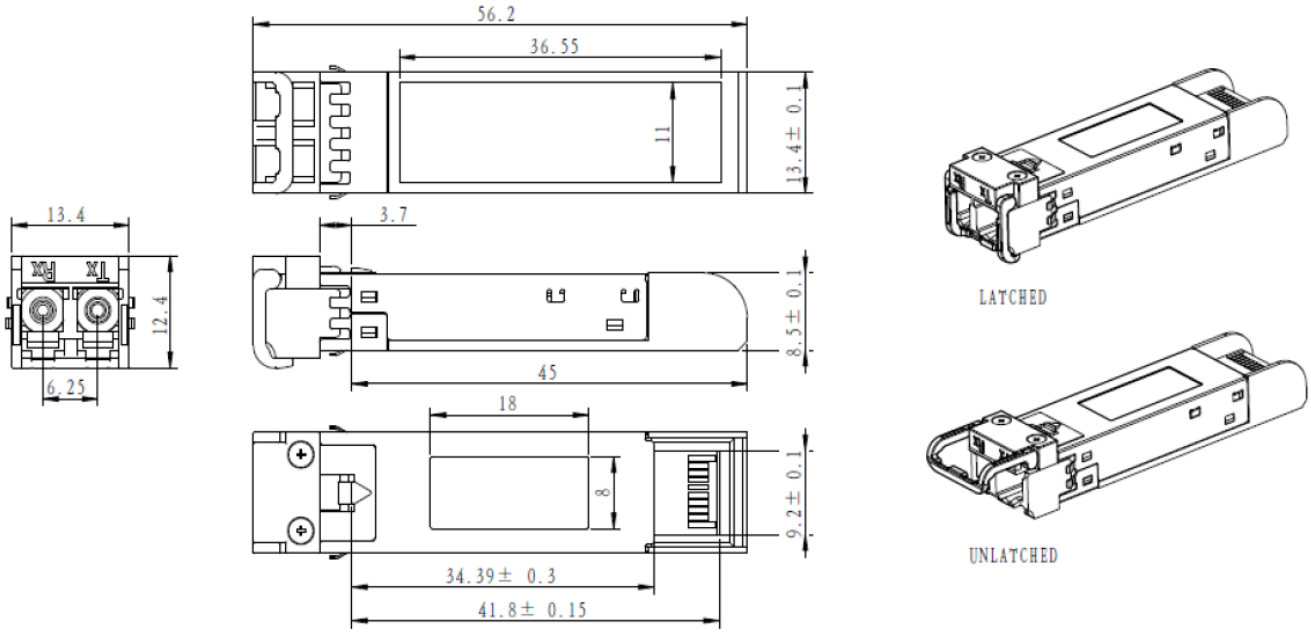
Electrical Pad Layout



Transceiver Block Diagram



Mechanical Specifications



All dimensions are ±0.2mm unless otherwise specified.

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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