

J8177C-AO
1.25Gbps SFP Transceiver

Features

- Support 1000BASE-T operation in host systems with SGMII interface
- Up to 1.25Gbps bi-direction data links
- Fully metallic enclosure for low EMI
- Low power dissipation (1.05 W typical)
- Compact RJ-45 connector assembly
- Hot-pluggable SFP footprint
- 100m transmission over unshielded twisted pair(UTP) Category 5 Cable
- Access to physical layer IC via 2-wire serial bus



Product Description

The SFP-TX 1000BASE-T Copper Small Form Pluggable (SFP) is based on the SFP Multi Source Agreement (MSA). It is compatible with the Gigabit Ethernet and 1000BASE-T standards as specified in IEEE Std 802.3.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Maximum Supply Voltage	Vcc	-0.5	4.0	V
Storage Temperature	Ts	-40	+85	°C

Normal Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Temperature	TA	0		+70	°C
Supply Voltage	VCC	3.14	3.3	3.46	V

Parameter	Symbol	Min	Typ	Max	Units	Notes/Conditions
+3.3 Volt Electrical Power Interface						
Supply Current	Icc		300	350	mA	
Input Voltage	Vcc	3.13	3.3	3.47	V	
Surge Current	Isurge			30	mA	
Low-Speed Signals, Electronic Characteristics						
SFP Output LOW	VOL	0		0.5	V	4.7k to 10k pull-up to host_Vcc, measured at host side of connector
SFP Output HIGH	VOH	host_Vcc-0.5		host_Vcc+0.3	V	4.7k to 10k pull-up to host_Vcc, measured at host side of connector
SFP Input LOW	VIL	0		0.8	V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector
SFP Input HIGH	VIH	2		Vcc +0.3	V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector
High-Speed Electrical Interface, Transmission Line-SFP						
Line Frequency	fL		125		MHz	5-level encoding, per IEEE 802.3
Tx Output impedance	Zout,TX		100		Ohm	Differential, for all frequencies between 1MHz and 125MHz

Rx Input Impedance	Zin,RX		100		Ohm	Differential, for all frequencies between 1MHz and 125MHz
High-Speed Electrical Interface, Host-SFP						
Single ended data input swing	Vin	250		1200	mV	Single ended
Single ended data output swing	Vout	350		800	mV	Single ended
Rise/Fall Time	Tr,Tf		175		psec	20%-80%
Tx Input Impedance	Zin		50		Ohm	Single ended
Rx Output Impedance	Zout		50		Ohm	Single ended

General specification

Parameter	Symbol	Min	Typ	Max	Units	Notes/Conditions
Data rate			1000		Mbps	
Distance				100	m	Category 5 UTP. BER <10 ⁻¹²

Pin Descriptions

Pin Num.	Name	FUNCTION	Plug Seq.	Notes
1	VeeT	Transmitter Ground	1	
2	TX Fault	Transmitter Fault Indication	3	Not used
3	TX Disable	Transmitter Disable	3	1
4	MOD-DEF2	Module Definition 2	3	2
5	MOD-DEF1	Module Definition 1	3	2
6	MOD-DEF0	Module Definition 0	3	2
7	Rate Select	Not Connected	3	
8	LOS	Loss of Signal	3	Not used
9	VeeR	Receiver Ground	1	
10	VeeR	Receiver Ground	1	
11	VeeR	Receiver Ground	1	
12	RD-	Inv. Received DataOut	3	

13	RD+	Received Data Out	3	
14	VeeR	Receiver Ground	1	
15	VccR	Receiver Power	2	
16	VccT	Transmitter Power	2	
17	VeeT	Transmitter Ground	1	
18	TD+	Transmit Data In	3	
19	TD-	Inv. Transmit Data In	3	
20	VeeT	Transmitter Ground	1	

NOTES:

1. PHY disabled on TDIS > 2.0V or open, enabled on TDIS < 0.8V, used to reset the module
2. Should be pulled up with 4.7k – 10k Ohms on host board to a voltage between 2.0V and 3.6 V. MOD_DEF(0) pulls line low to indicate module is plugged in.

Serial Communication Protocol

This Copper SFP supports the 2-wire serial communication protocol outlined in the SFP MSA. These SFP use a 128 byte EEPROM with an address of A0h. The 1000BASE-T physical layer IC can also be accessed via the 2-wire serial bus at address ACh.

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J8177C-AO
HP, 1000BASE-TX SFP
100M REACH COPPER RJ-45



Contact Information

AddOn Computer, Inc. is a leading supplier of Memory Upgrade, Network Transceivers and Network connectivity products to Channel Partners, Resellers and OEMs, with more than seventeen years of direct industry experience. AddOn Computer (ACP) has been the exclusive supplier to Ingram Micro's "Memory Upgrades" program for the past nine years.

AddOn Computer maximizes profitable opportunities for our partners. Our ability to source product worldwide, ensures that our pricing will always be competitive. Offering turnkey solutions, AddOn Computer has forged a reputation as a solutions provider, delivering high quality, cost effective product in a timely and reliable manner.

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