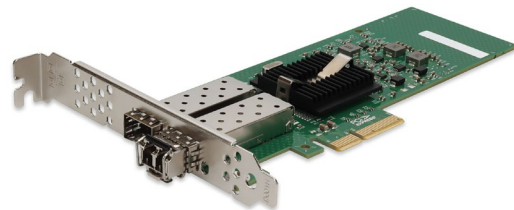


I350F2-AO

Intel I350F2 Comparable 1Gbs Dual Open SFP Port 550m MMF PCIe 2.0 x4 Network Interface Card w/2 1000Base-SX SFP Transceivers based on Intel 82576 Chipset

Features

- PCIe v2.0 x4 Dual Port
- Network Interface Card
- Intel 82576
- Compatible with PCIe X8 and X16 channels
- IEEE 802.3



Product Description

This is an Intel I350F2 comparable Gigabit Ethernet PCIe 2.0 x4 network interface card with 2 included SX SFP transceivers that comply with IEEE 802.3 standards. It is based on an Intel 82576 chipset and is compatible with a variety of different applications and operating systems, including Windows, Linux and Unix-like systems. Providing 1Gbs of network speed, it fully supports high-end servers and various other networking applications. In addition, this card supports high level VLAN filtering. The dual open SFP ports accommodate multi-mode, providing a reach up to 550m. This product includes both half-height and full-height brackets. Our network interface cards are 100% compliant, and offer a cost effective solution for all of your network upgrade needs. With our certification test program, we guarantee your product will work right the first time.

Specifications

Parameter	Specifications
Controller	Intel 82576
Cable Medium	Optical Fiber
Cable Type	1000Base-SX/1000Base-LX
Bracket Height	Low Profile & Full Height
Power Consumption	3.6W
System Support	Windows XP/Vista/7/8/8.1/10
	Windows Server 2003/R2
	Windows Server 2008/R2
	Windows Server 2012/R2
	Windows Server 2016/R2

	Windows Server 2019/R2
	Linux Kernel version 2.6/3.x/4.x or later
	CentOS / RHEL 6.x / 7.x or newer
	Ubuntu 14.x/16.x or newer
	FreeBSD 9/10/11 or newer
	Vmware ESX/ESXi 5.x / 6.x or later
Bus Type	PCIe v2.0 (2.5GT/s) x4; Compatible with x8, x16
Data Rate Supported Per Port	1Gbps
Connector	2*1G SFP
Power Supply	PCIe
Technical Features	
Protocol Support	IEEE 802.3ab 1000BASE-T Ethernet IEEE 802.3u 100BASE-TX Ethernet IEEE 802.3az IEEE 802.3z IEEE 802.1Q VLANs IEEE 802.3x IEEE 1588
PXE	Yes
DPDK	Yes
WoL	Yes
iSCSI	Yes
Jumbo Frames	Yes
FCoE	No
Environmental Features	
Operating Temperature	0°C to 55°C (32°F to 131°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Storage Humidity	Maximum: 90% non-condensing relative humidity at 35°C
Certification	FCC, CE, RoHS
LED Indicators	
1000Mbps	Green Link + Yellow Blink
Physical Features	
PCB Size (mm)	160*120*21 (±1~2mm)

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	Vcc	-0.5		4.0	V	
Storage Temperature	Tstg	-40		85	°C	
Case Operating Temperature	Tc	0		70	°C	
Operating Humidity	RH	5		95	%	
Data Rate (Gigabit Ethernet)			1.25		Gbps	
Data Rate (Fibre Channel)			1.063		Gbps	
50/125µm MMF	L			550	m	
Power Consumption				0.87	W	

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.13	3.30	3.47	V	
Power Supply Current	Icc			250	mA	
Transmitter						
Input Differential Impedance	RIN		100		Ω	1
Single-Ended Data Input Swing	VIN,pp	250		1200	mV	
Tx_Disable - High		Vcc-1.3		Vcc	V	
Tx_Disable - Low		Vee		Vee+0.8	V	
Tx_Fault - High		Vcc-0.5		Vcc	V	
Tx_Fault - Low		Vee		Vee+0.5	V	
Receiver						
Single-Ended Data Output Swing	VOUT,pp	300	400	800	mV	2
Data Output Rise Time	Tr			175	ps	3
Data Output Fall Time	Tf			175	ps	3
LOS - High		Vcc-0.5		Vcc	V	
LOS - Low		Vee		Vee+0.5	V	

Notes:

1. AC coupled.
2. Into 100Ω differential termination.
3. 20-80%.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Average Output Power	PO	-9		-4	dBm	1
Optical Wavelength	λ	830	850	860	nm	
Spectral Width	σ			0.85	nm	
Optical Rise/Fall Time	Tr/Tf			260	ps	2
Total Jitter	TJ			200	ps	
Optical Extinction Ratio	ER	9			dB	
Receiver						
Receiver Sensitivity	RSNS			-18	dBm	3, 4
Maximum Received Power	RX _{MAX}	0			dBm	
Center Wavelength	λ_C	770		860	nm	
LOS De-Assert	LOSD			-26	dBm	
LOS Assert	LOSA	-40			dBm	
LOS Hysteresis		0.5		5	dB	

Notes:

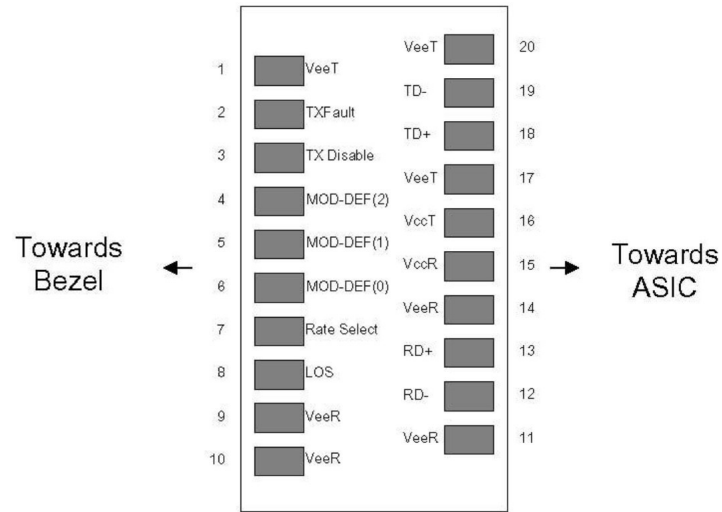
1. Class 1 laser safety.
2. Unfiltered, 20-80%. Complies with GE and 1xFC eye masks when filtered.
3. Measured with conformance signals defined in FC-PI-2 Rev. 10.0 specifications.
4. Measured with PRBS 2⁷-1 at 10⁻¹⁰ BER.

Pin Descriptions

Pin	Symbol	Name/Description	Notes
1	VeeT	Transmitter Ground (Common with Receiver Ground).	1
2	Tx_Fault	Transmitter Fault.	
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” indicates 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

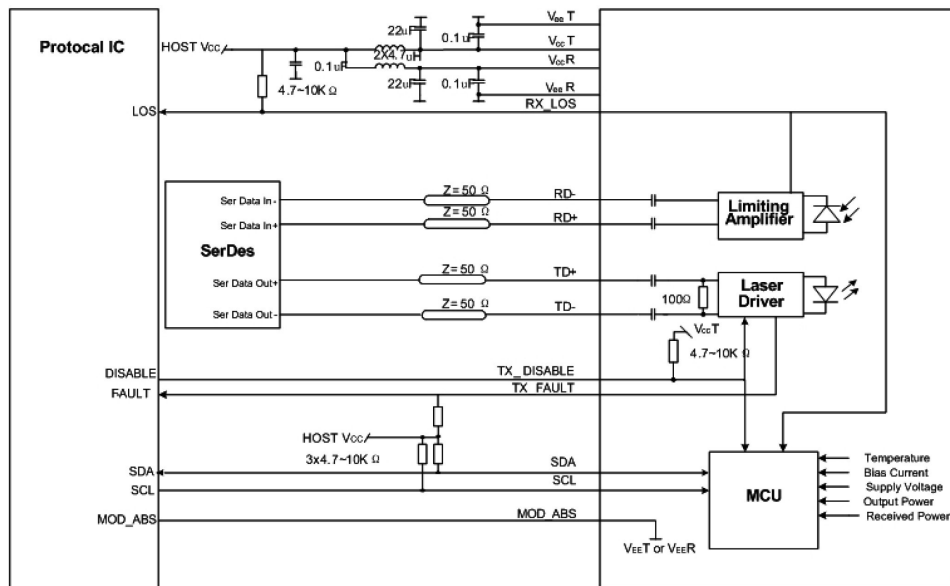
Notes:

1. The circuit ground is internally isolated from the chassis ground.
2. Laser output is disabled on Tx_Disable>2.0V or open, enabled on Tx_Disable<0.8V.
3. Should be pulled up with 4.7kΩ to 10kΩ on the host board to a voltage between 2.0V and 3.6V. MOD_DEF(0) pulls the line low to indicate that the module is plugged in.
4. LOS is an open collector output. Should be pulled up with 4.7kΩ to 10kΩ on the host board to a voltage between 2.0V and 3.6V. “Logic 0” indicates normal operation. “Logic 1” indicates a loss of signal.



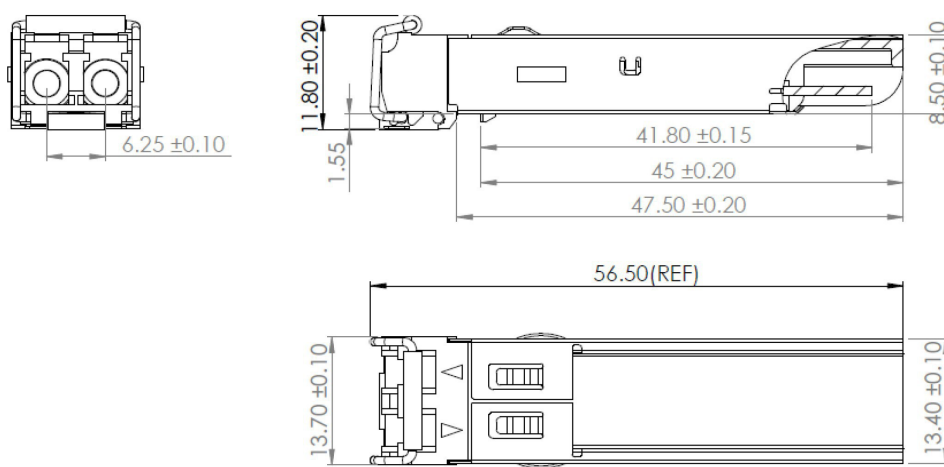
Pin-Out of Connector Block on the Host Board

Recommended Circuit Schematic



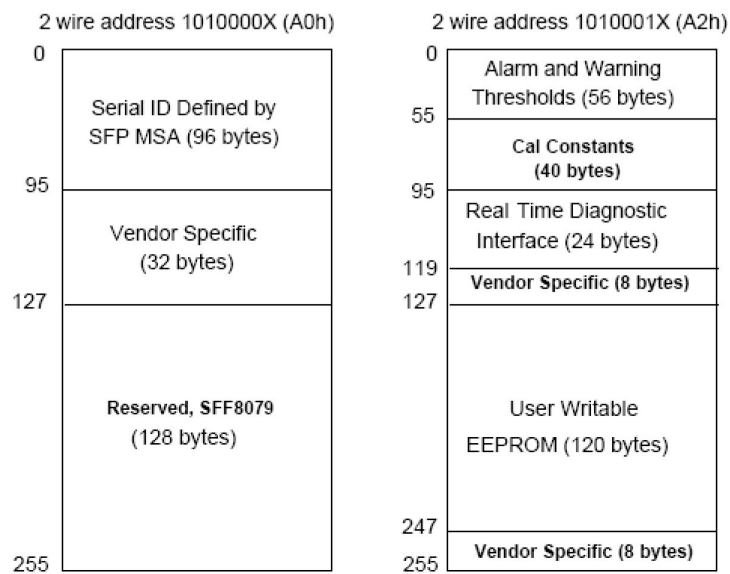
Mechanical Specifications

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



EEPROM Information

EEPROM memory map-specific data field description is as below:



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 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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