PE2G1FI35

Single Port Fiber Gigabit Ethernet PCI Express Server Adapter Intel® i350AM2 Based

Product Description

Silicom's Single Port Fiber Gigabit Ethernet PCI Express Server adapter is
PCI-Express X4 Fiber Gigabit Ethernet network interface card that is based on
a single chip, non-Bridged Dual port GBE controller.

Silicom's Single Port Fiber Gigabit Ethernet PCI Express Server adapter is the
ideal solution for implementing multiple network segments, mission-critical high-powered networking applications and environments
within high performance servers.

Silicom's Single Port Fiber Gigabit Ethernet Server adapter is based on Intel i350
Gigabit Ethernet MAC+PHY of Intel Controller. The Silicom i350 support PCI-SIG
Single-Root I/O virtualization and sharing specification (SR-IOV).

Key Features

Performance Features:

- 8 Transmit and 8 Receive queues per port.
- Up to 8 queues of Receive Side Scaling (RSS) minimize CPU utilization across

  multiple processor systems.
- Support PCI-SIG Single-Root I/O virtualization Rev 1.1.
    - o   Support for up to 8 virtual function (VFs)
    - o   Partial replication of PCI Configuration space
- Support for 8 pools (single queue) of virtual machine Device Queues (VMDq) per port.
- Support Direct Cache Access (DCA)
- Support Intel I/O Acceleration Technology v3.0.
- TSO interleaving for reduced latency
- Minimized device I/O interrupts using MSI and MSI-X
- UDP, TCP and IP checksum offload
- UDP and TCP transmit segmentation offload (TSO). machine
- SCTP receive and transmit checksum offload

- Packet interrupt coalescing timers (packet timers) and absolute-delay interrupt timers for both transmit and receive operation

- EEE (IEEE 802.3az) for reduced power consumption during low link utilization periods

Fiber Gigabit Ethernet 1000Base-SX:

- Independently Fiber Gigabit Ethernet channel/s support Gigabit Ethernet 1000Base-SX

- Small Form Factor (SFF) LC Connectors

Fiber Gigabit Ethernet 1000Base-LX:

- Independently Fiber Gigabit Ethernet channel/s support Gigabit Ethernet 1000Base-LX

- Small Form Factor (SFF) LC Connectors

Common Key features:

- Support PCI Express Base Specification 2.1 (5 GTs)

- High performance, reliability, and low power use in Intel i350 Dual integrated MAC + PHY and SERDES chip Controllers

- Ultra deep, packet buffer per channel lowers CPU utilization

- Hardware acceleration that can offload tasks from the host processor. The Controllers can offload TCP/UDP/IP checksum calculations and TCP segmentation

- Server class reliability, availability and performance features:

  o Link Aggregation and Load Balancing

- Priority queuing – 802.1p layer 2 priority encoding

- Virtual LANs –802.1q VLAN tagging

- Jumbo Frame (9.5KB).

- 802.x flow control

- Multicast/ broadcast Packet replication

- Supports Vital Product Data (VPD)

- LED indicator for link/Activity/Speed status

Technical Specifications

Fiber Gigabit Ethernet Technical Specifications – (1000Base-SX) Adapters:	
IEEE Standard / Network topology:	Fiber Gigabit Ethernet, 1000Base-SX (850nM)
Data Transfer Rate:	2000Mbit/s in full duplex mode per port
Cables and Operating	Multimode fiber:

distance:	300m maximum at 62.5 um 500m maximum at 50 um
Optical Output Power:	Typical: -5.96 dBm Minimum: -9 dBm
Optical Receive Sensitivity:	Typical: -25.09 dBm Maximum: -20 dBm

Fiber Gigabit Ethernet Technical Specifications – (10Base-LX) Adapters:

IEEE Standard / Network topology:	Fiber Gigabit Ethernet, 1000Base-LX (1310nM)
Data Transfer Rate:	2000Mbit/s in full duplex mode per port
Cables and Operating distance:	Single-Mode fiber: 9um 10km maximum at 9um
Optical Output Power:	Typical: -6.46 dBm Minimum: -9 dBm
Optical Receive Sensitivity:	Typical: -29.88 dBm Maximum: -24 dBm

Operating Systems Support

Operating system support:	Linux Windows VMware

General Technical Specifications

Interface Standard:	PCI-Express Base Specification Revision 2.1 (5 GTs)
Board Size:	Low profile short add-in card: 127mm X 68.91mm (5.0"X 2.713")
PCI Express Card Type:	X4 Lane
PCI Express Voltage:	+12V +/- 8%
PCI Connector:	Gold Finger: X4
Controller:	Intel i350AM2

I/O:	SFF Transceivers located on internal bracket
Weight:	60gr (2.117oz)
Power Consumption (-SX):	2.76W, 0.23A at 12V: Typical all ports operate at 1000Mb/s. 2.76W, 0.23A at 12V: Typical No link at all ports
Power Consumption (-LX):	2.76W, 0.23A at 12V: Typical all ports operate at 1000Mb/s. 2.76W, 0.23A at 12V: Typical No link at all ports
Holder:	Metal Bracket: Full Height/Low profile Height
Operating Humidity:	0%–90%, non-condensing
Operating Temperature:	0°C – 45°C (32°F – 113°F)
Storage:	-40°C–65°C (-40°F–149°F)
EMC Certifications:	FCC Part 15, Subpart B Class A Conducted Emissions Radiated Emissions CE EN 55022: 1998 Clas Amendments A1: 2000; A2: 2003 Conducted Emissions Radiated Emissions CE EN 55024: 1998 Amendments A1: 2000; A2: 2003 Immunity for ITE Amendment A1: 2001 CE EN 61000-3-2 2000, Class A Harmonic Current Emissions CE EN 61000 3-3 1995, Amendment A1: 2001 Voltage Fluctuations and Flicker CE IEC 6100-4-2: 1995 ESD Air Discharge 8kV. Contact Discharge 4kV. CE IEC 6100-4-3:1995 Radiated Immunity (80-1000Mhz), 3V/m 80% A.M. by 1kHz CE IEC 6100-4-4:1995 EFT/B: Immunity to electrical fast transients 1kV Power Leads, 0.5Kv Signals Leads CE IEC 6100-4-5:1995 Immunity to conductive surges COM Mode; 2kV, Dif. Mode 1kV CE IEC 6100-4-6:1996 Conducted immunity (0.15-80 MHz) 3VRMS 80% A.M. By 1kHz CE IEC 6100-4-11:1994

Silicom Ltd. Connectivity Solutions

	Voltage Dips and Short Interruptions V reduc >95%, 30% >95% Duration 0.5per, 25per, 250per
MTBF*:	151 Years *According to Telcordia SR-332 Issue 2. Environmental condition – GB (Ground, Fixed, and Controlled). Ambient temperature 40°C.
LEDs	
LEDs:	(1) LED: Link / Act: Turn on Link (Green), Blinks on Activity (Green)
LEDs location:	LED is located on the PCB, visible via hole in the metal bracket holder

Order Information

P/N	Description	Notes
PE2G1FI35	Single Port Fiber (SX) Gigabit Ethernet PCI Express Server Adapter	X4, Based on Intel i350AM2, Low-Profile, RoHS compliant
PE2G1FI35-LX	Single Port Fiber (LX) Gigabit Ethernet PCI Express Server Adapter	X4, Based on Intel i350AM2, Low-Profile, RoHS compliant

Note: Model P/N /S/-LP /

-LP: Assemble Low Profile Metal Bracket

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