Silicom Connectivity Solutions

PE2G6SFPI35

Six Port SFP Gigabit Ethernet PCI Express Server Adapter Intel® i350AM4 Based

Product Description

Silicom's Six Port SFP Gigabit Ethernet PCI Express Server adapter is PCI-Express X8 network interface card that contains six Gigabit SFP ports on a PCI-Express adapter.

Silicom's Six Port SFP 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 Six Port SFP Gigabit Ethernet PCI Express Server adapter is based on Intel i350AM4 Quad port Gigabit Ethernet MAC+PHY and Intel i350AM2 Dual port 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
  - Support for up to 8 virtual function (VFs)
  - 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

SFP Gigabit Ethernet:

- Gigabit Ethernet Adapters with SFP cage support:
- 1000Base-LX Fiber Gigabit Ethernet with 1000Base-LX SFP transceiver
- 1000Base-SX Fiber Gigabit Ethernet with 1000Base-SX SFP transceiver
- Small Form Factor Pluggable (SFP) Cage for SFP LC connectors
- Optional SGMII mode (future support)

Common Key features:

- Support PCI Express Base Specification 2.1 (5 GTs)
- High performance, reliability, and low power use in Intel i350 Quad 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:
- 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)
- LEDs indicators for link/Activity status

Technical Specifications

SFP Gigabit Ethernet Technical Specifications (SFP) Adapters:	
SFP (Small Form Factor Pluggable) supports:	1 Gbit SERDES interfaces supports 1000Base-X in order to connect with SFP to 1000Base-SX / 1000Base-LX / 1000Base-T SFP transceivers.
IEEE Standard / Network topology: with 1000Base-T SFP	Gigabit Ethernet (1000Mbit/s only), 1000Base-T
IEEE Standard / Network topology: with 1000Base-SX SFP	Fiber Gigabit Ethernet, 1000Base-SX (850nM)
Operating Systems Support	
Operating system support:	Linux Windows FreeBSD VMware
General Technical Specifications	
Interface Standard:	PCI-Express Base Specification Revision 2.1 (5 GTs)
Board Size:	Standard height short add-in card: 167.64mm x 111.15mm (6.6”X 4.376”)
PCI Express Card Type:	X8 Lane / Gen2 5GTps
PCI Express Voltage:	+12V +/- 8%
PCI Connector:	Gold Finger: X8
Controller:	Intel i350AM4 and Intel i350AM2
Weight:	210 gram (7.4 oz)
Power Consumption:	12W, 1 A at 12V: Typical all ports operate at 1000 BASE-LX 11.4 W, 0.95 A at 12V: No links in all ports operate with LX transceivers 10.44 W, 0.87 A at 12V: Typical all ports operate at 1000 BASE-SX 9.84 W, 0.82 A at 12V: No links in all ports operate with SX transceivers 15.24 W, 1.27 A at 12V: Typical all ports operate at 1000 BASE-T 8.4 W, 0.7 A at 12V: No links in all ports operate at 1000 BASE-T 7.08 W, 0.59 A at 12V: Without transceivers

Holder:	Metal Bracket: Full 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 Class A 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 Voltage Dips and Short Interruptions V reduc >95%, 30% >95% Duration 0.5per, 25per, 250per
MTBF:	105 (Years) *According to Telcordia SR-332 Issue 1 Environmental condition – GB (Ground, Fixed, Controlled). Ambient temperature – 25°C. Temperature rise of 15°C above the system ambient temperature was assumed for the cards components

LEDs	
LEDs:	(2) LEDs per port Link/Act LED : Turns on link (Green), Blinks on activity (Green) Link Speed LED: Turns on Yellow 1G Link. Turns on Green 100M Link (optional for SGMII mode)
LEDs location:	LEDs are located on the PCB, visible via holes in the metal bracket. Each Green Link/Act and Bi-color Link Speed LEDs are located above their own SFP connector port by light pipes
Connectors:	Small Form Factor Pluggable (SFP) Cage

Order Information

P/N	Description	Notes
PE2G6SFPi35-R	Six Port SFP Gigabit Ethernet PCI Express Server Adapter	X8, PCI Express Gen2, Based on Intel i350, standard height, short PCI

-R: RoHS Compliant / Lead free adapter

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