



PEG1F

Fiber Gigabit Ethernet PCI Express Server Adapter Broadcom® BCM5715S based

Product Description

The Silicom Gigabit Ethernet PCI Express server adapters are PCI Express network interface cards that contain Multiple / Single independent Gigabit Ethernet port/s on a PCI Express adapter.



Silicom Gigabit Ethernet PCI Express server adapters are Silicom's second-generation solution for high performance Server Network application. Silicom Gigabit Ethernet PCI Express Servers adapters are based on Broadcom BCM57XX PCI-E / PCI-X Gigabit Ethernet controllers that feature an industry first support for PCI Express server Adapters.

Industry-leading performance

The Silicom Gigabit Ethernet PCI Express server adapters solution is designed for Servers and high-end appliances. The performance is optimized so that system I/O is not the bottleneck in high-performance networking applications.

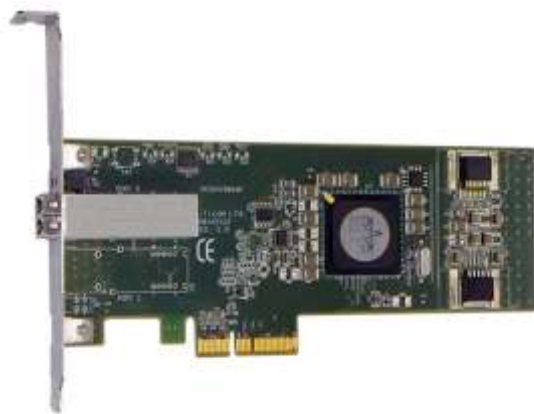
Reliability, Availability, Serviceability

Silicom Gigabit Ethernet PCI Express server adapters enables fault-tolerant via teaming. Traffic from the failed port is routed through up to seven other members of the team.

Silicom Gigabit Ethernet PCI Express servers' adapters include software that offers the industry's best performance and features. VLAN (802.1q) allow traffic segregation and data privacy. Support of 802.1p traffic prioritization gives administrations ability to offer Quality of Service (QOS) on the network.

Silicom Gigabit Ethernet PCI Express Servers adapters have an integrated hardware acceleration that performs TCP/UDP/IP checksum offload and TCP segmentation. The host processing offloads accelerators frees CPU for application processing.

Silicom Gigabit Ethernet PCI Express Servers adapters are the ideal solution for implementing multiple network segments, mission-critical high-powered networking applications and environments within high performance servers.



Key Features

Fiber Gigabit Ethernet (1000Base-SX) Adapters:

- Independently Fiber Gigabit Ethernet channel/s support Gigabit Ethernet 1000Base-SX
- Small Form Factor (SFF) LC Connectors

Fiber Gigabit Ethernet (1000Base-LX) Adapters:

- Independently Fiber Gigabit Ethernet channel/s support Gigabit Ethernet 1000Base-LX
- Small Form Factor (SFF) LC Connectors

Common Key features:

- Host Interface standard support PCI Express 1.0a.
- High performance, reliability, and low power use in Broadcom 5714 / 5715 / 5704 dual integrated MAC + PHY / SERDES chip controller
- Ultra deep packet buffer per channel lowers CPU utilization
- Dual high speed RISC processor per channel for advanced packet classification
- 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:
- Switch dependent: 802.3ad (LACP), Generic Trunking (GEC / FEC)
- Switch and NIC Independent
- Failover
- Priority queuing – 802.1p layer 2 priority encoding
- Virtual LANs –802.1q VLAN tagging
- Jumbo Frame (9KB).
- 802.x flow control.
- Boot ROM embedded or optional can be used for Boot ROM applications.
- PCI Power Management Interface (v1.1)
- Statistics for SNMP MIB II, Ethernet like MIB, and Ethernet MIB (802.3z, Clause 30)
- LEDs indicators for link/Activity/Speed status

Technical Specifications

Fiber Gigabit Ethernet Technical Specifications – (1000Base-SX) Adapters:

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|-----------------------------------|---|
| IEEE Standard / Network topology: | Fiber Gigabit Ethernet, 1000Base-SX (850nM) |
|-----------------------------------|---|

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|--|---|
| Data Transfer Rate: | 2000Mbit/s in full duplex mode per port |
| Cables and Operating distance: | Multimode fiber: 220m at 62.5 um 550m at 50 um |
| Optical Output Power: | Typical: -6 dBm Minimum: -9.5 dBm |
| Optical Receive Sensitivity: | Typical: -21 dBm Maximum: -17 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: 5000m at 9um Multimode fiber: 550m at 50 um 550m at 62.5 um |
| Optical Output Power: | Typical: -6 dBm Minimum: -10 dB |
| Optical Receive Sensitivity: | Typical: -25 dBm Maximum: -20 dBm |
| Operating Systems Support | |
| Operating system support: | Windows.NET Windows 2000 Windows NT Windows98 / WindowsXP Netware Linux FreeBSD Unix: SCO Open Server UnixWare / OpenUnix 8 Solaris |

| General Technical Specifications | |
|----------------------------------|--|
| Interface Standard: | PCI Express Base Specification Revision 1.0 |
| Board Size: | Low profile Short PCI Add in card 167.74mm X 63.5 mm (6.6" X 2.5"): Detailed description Appendix A |
| PCI Express Card Type: | X4 Lane |
| PCI Express Voltage: | +3.3V ± 9% |
| PCI Connector: | X4 Lane |
| Controller: | Broadcom BCM5715S |
| Holder: | Metal Bracket |
| Weight: | 80gr(2.82 oz) |
| Power Consumption: | 1.27A at 3.3V: Typical, port operates at 1000Mbit/s 1.26A at 3.3V: Typical, No link |
| Operating Temperature: | 0°C – 50°C (32°F – 122°F) |
| Storage: | -20°C–65°C (-4°F–149°F) |
| EMC Certifications: | FCC Part 15, Subpart B Class B Conducted Emissions Radiated Emissions CE EN 55022: 1998 Class B 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 |

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| | <p>Leads, 0.5Kv Signals Leads</p> <p>CE IEC 6100-4-5:1995</p> <p>Immunity to conductive surges COM Mode; 2kV, Dif. Mode 1kV</p> <p>CE IEC 6100-4-6:1996</p> <p>Conducted immunity (0.15-80 MHz) 3VRMS 80% A.M. By 1kHz</p> <p>CE IEC 6100-4-11:1994</p> <p>Voltage Dips and Short Interruptions</p> <p>V reduc >95%, 30% >95% Duration 0.5per, 25per, 250per</p> |
| MTBF*: | <p>182 (Years)</p> <p>*According to Telcordia SR-332 Issue 1</p> <p>Environmental condition – GB (Ground, Fixed, Controlled). Ambient temperature – 25°C.</p> <p>Temperature rise of 10°C above the system ambient temperature was assumed for the cards components</p> |
| LEDs | |
| LEDs: | <p>Link: Turns on link (green)</p> <p>Act: Blinks on activity (green)</p> |
| LEDs location: | LEDs are located on the PCB, visible via holes in the metal bracket holder |
| Connectors: | Small Form Factor (SFF) LC |

Order Information

| P/N | Description | Notes |
|-----------------------|--|----------------------|
| PEG1F-RoHS | Fiber (SX) Gigabit Ethernet PCI Express Server Adapter | Based on BCM5715S X4 |
| PEG1FX1-RoHS | Fiber (SX) Gigabit Ethernet PCI Express Server Adapter | Based on BCM5715S X1 |
| PEG1F-LX-RoHS | Fiber (LX) Gigabit Ethernet PCI Express Server Adapter | Based on BCM5715S X4 |
| PEG1FX1-LXRoHS | Fiber (LX) Gigabit Ethernet PCI Express Server | Based on BCM5715S X1 |

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

S: Solaris:

-LP: Assemble Low Profile Metal Bracket: Available only with Dual and Single ports adapters

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