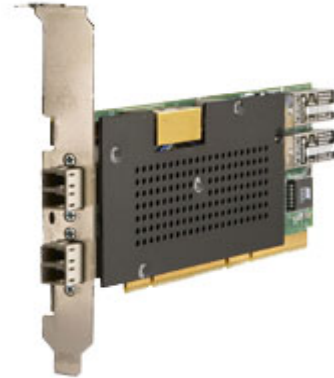


PXG2BPFiL - Dual Port Fiber (SX) Gigabit Ethernet PCI-X Bypass Server Adapter Intel® based

Introduction

Silicom Gigabit Ethernet Bypass server adapters are 64-bit/133Mhz PCI-X network interface cards that contain four/ two independent Gigabit ports on one PCI-X adapter.

Silicom's Gigabit Ethernet Bypass server adapters are designed with optical or copper bypass circuitry in order to provide maximum up time for the network.



Silicom's Gigabit Ethernet Bypass server adapters can Bypass its Ethernet ports on a host system failure, power off, or upon software request. In Bypass mode, the connections of the Ethernet network ports are disconnected from the interfaces and switched over to the other port to create a crossed connection loop-back between the Ethernet ports. Hence, in bypass mode all packets received from one port are transmitted to other port and vice versa. This feature enables to bypass a failed system and provides maximum up time for the network.

Silicom's Gigabit Ethernet Bypass server adapters include an on board WDT (Watch Dog Timer) controller. The adapter's software drivers or software application can write commands to the on board WDT controller. The adapter's software drivers, WDT controller and the Bypass circuitry provide an interface that control and manage the mode of the adapter.

Silicom Gigabit Ethernet Bypass server 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's PXBPI-Series are adapters are based on the Dual port Gigabit Ethernet MAC+PHY of Intel Controller

Key features

Bypass:

- Bypass Ethernet ports on Power Fail, System Hangs or Software Application Hangs.
- Software programmable Bypass or Normal Mode.
- On Board Watch Dog Timer (WDT) Controller.
- Software programmable time out interval.
- Software Programmable WDT Enable / Disable counter.
- Software programmable Bypass Capability Enable / Disable.
- Programmable state (Bypass mode or Normal mode) at Power up.
- Emulates standard NIC
- Independent Bypass operation in every two ports.

Fiber Gigabit Ethernet 1000Base-SX:

- Independently Fiber Gigabit Ethernet channel/s support Gigabit Ethernet

1000Base-SX.

- Small Form Factor (SFF) LC Connectors.

Common Key features:

- Host Interface standard support:
 - PCI v2.2 32/64 bit, 33/66Mhz
 - PCI-X v1.0 32/64-bit, 66/100/133MHZ
- High performance, reliability, and low power use in Intel 82546 dual integrated MAC + PHY / SERDES chip controller.
- Ultra deep, 64 KB packet buffer per channel lowers CPU utilization, avoids PCI-X congestion
- 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
- Priority queuing – 802.1p layer 2 priority encoding.
- Virtual LANs –802.1q VLAN tagging.
- Jumbo Frame (16KB).
- 802.x flow control.
- PCI Power Management Interface. (v1.1)
- PCI Hot Plug. (IBM, Compaq, Dell, and Microsoft)
- Statistics for SNMP MIB II, Ethernet like MIB, and Ethernet MIB (802.3z, Clause 30)
- LEDs indicators for link/Activity/Speed/Bypass status.

Technical Specifications:

Bypass Specification

WDT Interval (Software Programmable):	3,276,800 mSec (3,276.8 Sec): Maximum 100 mSec (0.1 Sec) : Minimum WDT Interval = (2 ^{wdt_interval_parameter})*(0.1) sec. wdt_interval_parameter: {Valid Range: 0-15}
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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 distance:	Multimode fiber: 137m maximum at 62.5 um ** ** PXG2BPF1 Theoretical Distance – Defined as half a distance as stated by the IEEE 802.3 standard
Optical Output Power:	Normal Mode (Bypass Off): Typical: -6.8 dBm (TX –Switch Norma – Fiber – LC/LC) Minimum: -10.9 dBm
Optical Receive Sensitivity:	Normal Mode (Bypass Off) Typical: -19.7 dBm Maximum: -15.6 dBm
Insertion Loss	Bypass Mode: Insertion loss (Optical Power attenuation between TX to RX) Typical: 0.79 dB (From RX to TX) Maximum 1.9 dB

Operating Systems Support :

Operating system support:	Linux FreeBDS Windows 2000 SP4 (-SD, Side driver) Windows XP (-SD, Side driver) Windows 2003 (-SD, Side driver) VMware ESX Server 3.5
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PXG2BPFIL

PXG2BPFIL: General Technical Specifications

Interface Standard:	PCI v2.2 32/64 bit, 33/66Mhz PCI-X v1.0 32/64-bit, 66/100/133MHz
Board Size:	PCI low profile short add in Card 167.64 mm x 63.5mm ("6.6x2.5")
PCI Card Type:	Universal 64 bit Card
PCI Connector:	Universal 64 bit
PCI Voltage:	+12V (Min 11.4, Max, 12.6V) +5V (Min 4.75V, Max, 5.25V)
Holder:	Metal Bracket: full-height and low-profile metal brackets
Weight:	120 gram (4.2 oz)
Power Consumption:	Normal mode: 0.70A at 5V: Typical all ports operate at 1000Mbit/s. 0.67A at 5V: Typical No link at all ports.
Operating Humidity:	0%–90%, non-condensing
Operating Temperature:	0°C-50°C (32°F-122°F)
Storage Temperature:	-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: Amendment A1 2000, A2 2003 Conducted Emissions Radiated Emissions CE EN 55024: 1998 Amendment A1: 2001, Amendment A2: 2003 Immunity for ITE CE EN 61000-3-2 2000 Harmonic Current Emissions CE EN 61000 3-3 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*:	83 (Years) *According to Telcordia SR-332 Issue 1 Environmental condition – GB (Ground, Fixed, Controlled). Ambient temperature - 25°C. Temperature rise of 10°C above the system ambient temperature was assumed for the cards components.

PXG2BPFIL: LED / Connector Specifications

LEDs:	(2) LEDs per port: Link: Turns on link (yellow). ACT: Blinks on activity (green). (1) LED per Bypass pair: Bypass: Turns on Bypass (green).
LEDs location	LEDs are located on the PCB, visible via holes in the metal bracket holder
Connectors:	(2) LC

Order Information:

P/N	Description	Note
PXG2BPFIL-RoHS	Dual Port Fiber (SX) Gigabit Ethernet PCI-X Bypass Server Adapter	RoHS Compliant, Low-Profile
PXG2BPFIL	Dual Port Fiber (SX) Gigabit Ethernet PCI-X Bypass Server Adapter	Low-Profile
PXG2BPFi-RoHS	Dual Port Fiber (SX) Gigabit Ethernet PCI-X Bypass Server Adapter	RoHS Compliant
PXG2BPFi	Dual Port Fiber (SX) Gigabit Ethernet PCI-X Bypass Server Adapter	

Note: Specifications are based on PXG2BPFIL
 Model P/N -SD/-RoHS /-LP
 -SD: Side Driver
 -RoHS: RoHS Compliant / Lead free adapter
 -LP: Assemble Low Profile Metal Bracket