PERICOM Enabling Serial Connectivity

Product Brief

Product: **PCIe2 6-Port/12-Lane Packet Switch, GreenPacket™ Family**

Part Numbers: **PI7C9X2G612GP**

Product Description

The PI7C9X2G612GP is a 12-lane PCI Express Gen 2 Switch with 6 PCI Express ports specifically designed to meet high performance and the latest GREEN low-power, lead (Pb)-free system requirements, such as Embedded, Storage, Network and other platforms. The name of the family, GreenPacket™, refers to Pericom proprietary power saving technology.

The PI7C9X2G612GP provides one upstream port supporting x4, and one x4 plus four x1 downstream ports operation. The flexible upstream port provides users the flexibility to expand or fan-out from a wide range of x86, ARM, MIPS, PowerPC SoC/ Chipset, and it is a suitable solution for Embedded, Storage, wired/ wireless Networking, HBA, Surveillance, Combo card and other applications.

Industry Specifications Compliance

- PCI Express® Base Specification, Revision 2.1
- PCI Express CEM Specification, Revision 2.0
- PCI-to-PCI Bridge Architecture Spec., Rev 1.2
- Advanced Configuration Power Interface (ACPI) Specification
- SMBus interface support

Features

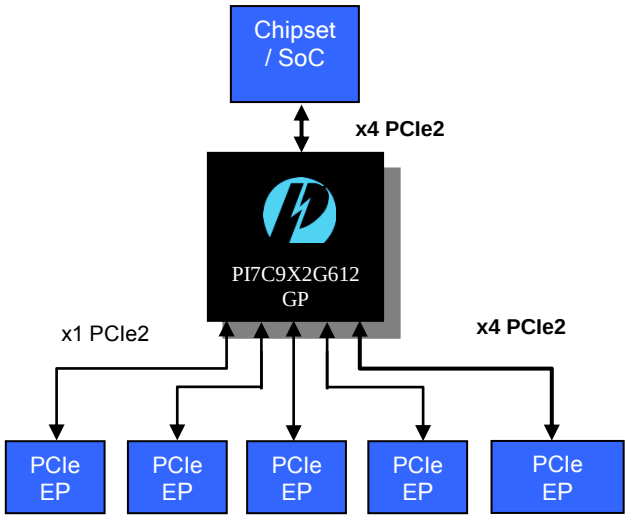
- PCISIG PCI Express 2.1 certificated
- Integrated 100MHz Clock buffer for four downstream ports
- Reliability, Availability and Serviceability
  - Supports Data Poisoning and End-to-End CRC
  - Advanced Error Reporting and Logging
- Device State Power Management
  - Supports D0, $D3_{Hot}$ and $D3_{Cold}$ device power states
- Advanced Power Savings
  - Empty downstream ports are set to idle
- Programmable driver current and de-emphasis level at each individual port
- Port Arbitration: Round Robin (RR), Weighted RR and Time-based Weighted RR
- Extended Virtual Channel capability
  - Two Virtual Channels (VC) and Eight Traffic Class (TC) support
  - Independent TC/VC mapping for each port
- Supports Isochronous Traffic
  - Isochronous traffic class mapped to VC1 only
- Supports "Cut-through"(Default) as well as "Store and Forward" mode for switching packets
- Peer-to-peer switching between any two downstream ports
- Supports up to 512-byte maximum payload size
- Power Dissipation: 1.4 W typical in L0 normal mode (Including clock buffer Pd)
- Industrial Temperature Range: -40° to 85°C
- MTBF: 50,927,360 hours
- Package: 196-pin LBGA 15mm x 15mm
  - Pb free and 100% Green

Enhanced Features

- 150ns typical latency for packet running through switch without blocking
- Link Power Management
  - Supports L0, L0s, L1, L2, $L2/L3_{Ready}$ and L3 link power states
  - Active state power management for L0s and L1 states
  - Supports PCI-PM and ASPM of L1.1 PM Sub-state
- Supports Device Specific PME Turn-Off Message for each downstream port
- Support Access Control Service (ACS) for peer-to-peer traffic
- Support Address Translation (AT) packet for SR-IOV application
- Support OBFF and LTR
- Support Serial Hot Plug Controller

Application

- Embedded system
- IPC/ Industrial control
- Automotive
- NAS/ Storage
- Server
- Wireless AP/ Switch Router
- Wired/ Wireless Tele/ data communication
- Printer/ MFP/ Peripheral
- Surveillance/ Security
- HBA / Combo cards
- Set-top box and consumer devices
- NB/ PC Motherboard PCIe slot expansion



Order Information

PART NUMBER	PACKAGE	PB-FREE & GREEN	TEMPERATURE
PI7C9X2G612GPCNJEX†	196 LBGA	YES	-40°C TO 85°C
PI7C9X2G612GPCEVB	Board	Evaluation kit for PI7C9X2G612GPC	

† Note: Adding an X suffix =Tape/Reel

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