A product Line of
Diodes Incorporated

PRODUCT BRIEF

PI7C9X2G912GP

PCIe2 9-Port/12-Lane Packet Switch, GreenPacket Family

The PI7C9X2G912GP is a 12-lane PCI Express Gen 2 Switch with 9 PCI Express ports specifically designed to meet high performance and the latest GREEN low-power, lead (Pb)-free system requirements, such as Networking/ Telecom, Embedded, Server, Storage and other platforms. The PI7C9X2G-912GP supports x 2 configurations apply for high performance and multiple functional applications

The PI7C9X2G912GP provides elastic configuration as below.

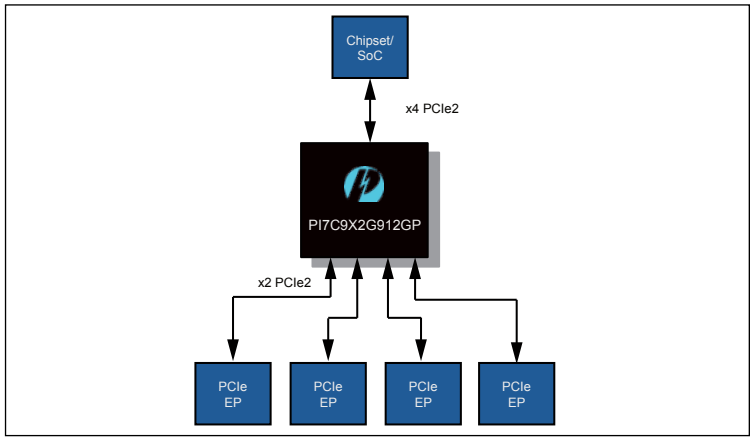
Upstream port	Downstream port
x4 PCIe2	8 x1 PCIe2
x4 PCIe2	4 x2 PCIe2
x4 PCIe2	1 x4 + 4 x1 PCIe2

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
- I2C Slave interface support

Applications

- Networking Switch Router
- Wired/ Wireless Telecom/ data communication
- Control plane
- NAS/ Storage
- Server
- Embedded system
- HBA / Combo cards
- IPC/ Industrial control
- Printer/ MFP/ Peripheral
- Surveillance/ Security



Features

- PCISIG PCI Express 2.1 certificated
- Reliability, Availability and Serviceability
  - Supports Data Poisoning and End-to-End CRC
  - Advanced Error Reporting and Logging
- Device State Power Management
  - Supports D0, D3Hot and D3Cold device power states
- Advanced Power Savings
  - Empty downstream ports are set to idle
- Support Multicast
- 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
- Supports up to 512-byte maximum payload size
- Power Dissipation: 1.27 W typical in L0 normal mode
- Industrial Temperature Range: -40°C to 85°C
- MTBF: 50,927,360 hours
- Package: 196-pin PBGA 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/L3Ready 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)
- Support Address Translation (AT) packet for SR-IOV application
- Support Alternative Routing ID Interpretation (ARI)
- Support Serial Hot Plug Controller

Order Information

Part Number	Package	PB-Free& Green	Temperature
PI7C9X2G912GPBNJEX*	196 PBGA	YES	-40°C TO 85°C
PI7C9X2G912GPBEVB	Board	Evaluation kit for PI7C9X2G912GPB	

*Note: X suffix = Tape/Reel