PI7C9X2G1224GP

PCIe2 12-Port/24-Lane Packet Switch, GreenPacket Family

The PI7C9X2G1224GP is a 24-lane PCI Express Gen 2 Switch with 12 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-1224GP supports 4 DMA channels and Non-Transparent port apply for high Performance, dual-host and failover applications

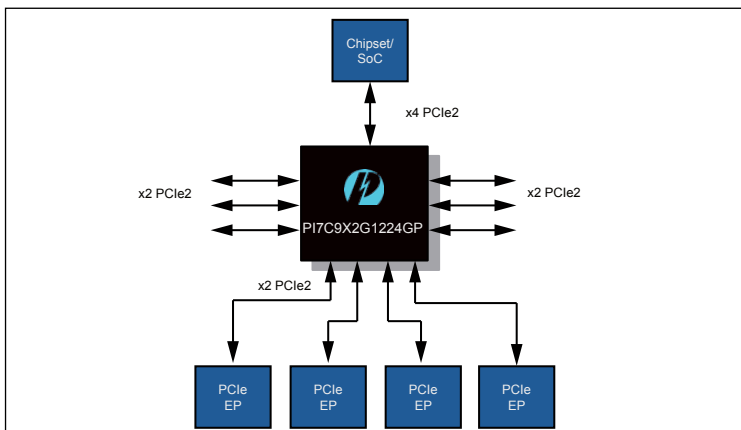The PI7C9X2G1224GP provides elastic configuration as below.

Upstream port	Downstream port
x4 PCIe2	8 x1 + 3 x4 PCIe2
x4 PCIe2	10 x2 PCIe2
x4 PCIe2	5 x4 PCIe2
x8 PCIe2	4 x4 PCIe2
x8 PCIe2	2 x4 + 1 x8 PCIe2
x8 PCIe2	2 x8 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
➔ Fail-Over system

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 programmable Non-Transparent mode
➔ Support Four DMA Channels
➔ Support Multicast
➔ Integration clock buffer for any 5 downstream ports
➔ Dual Clock domain
➔ 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: 3.3 W typical in L0 normal mode
➔ Industrial Temperature Range: -40ºC to 85ºC
➔ MTBF: 50,927,360 hours
➔ Package: 324-pin HSBGA 19mm x 19mm
  ▫ 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 Device Specific PME Turn-Off Message for each downstream port
➔ Support Access Control Service (ACS)
➔ Support peer-to-peer traffic thru DMA
➔ 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
PI7C9X2G1224GPAHSBEX*	324 HSBGA	YES	-40°C TO 85°C
PI7C9X2G1224GPAEVB	Board	Evaluation kit for PI7C9X2G1224GPA	

*Note: Adding an X suffix = Tape/Reel