# New Product Databrief

# PI7C9X2G304SL, 404SL, 303EL
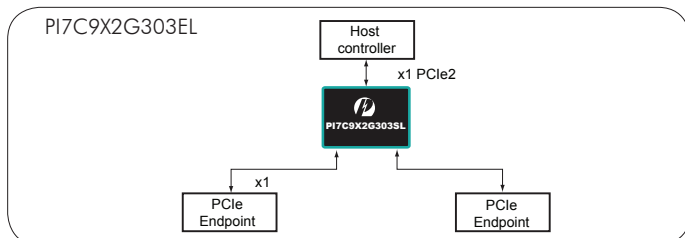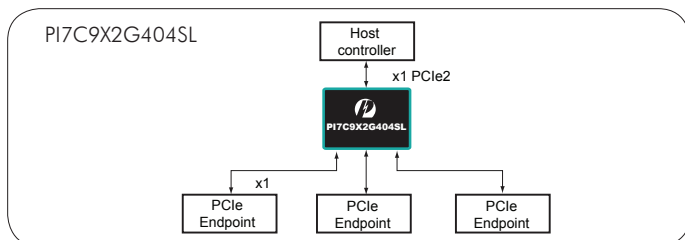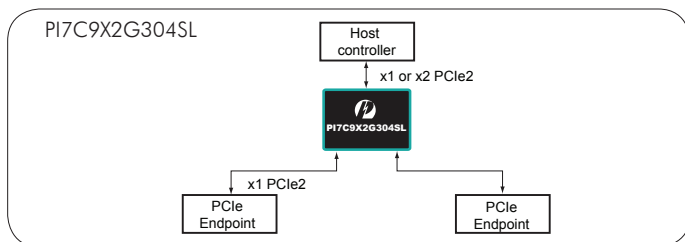## Gen2 PCIe® 3-Port/4-Lane, 4-Port/4-Lane SlimLine™ Packet Switch;
## Gen2 PCIe® 3-Port/3-Lane, ExtremeLo™ Packet Switch

The PI7C9X2G Packet Switch family is a PCI Express® 2.1 specifically designed to meet the latest low-power, lead (Pb)-free and green system requirements. The family is a high-performance, cost-effective solution that can be implemented in systems such as Embedded system, Wi-Fi Router/Gateway, Printer, Storage, combo card, HBA, Set-top box, motherboard, laptop, docking station, and other power-sensitive high performance platforms. All family products contain Pericom's proprietary power-saving PowerSave™ technology. The family provide users the flexibility to expand or fan-out from a wide range of I/O Bridges such as PCH, ICH, IOH, embedded MCU, FPGA, and other Application Specific ICs.

- The PI7C9X2G304SL provides one x1 or x2 upstream port and two x1 downstream ports.
- The PI7C9X2G404SL provides one x1 upstream port and three x1 downstream ports.
- The PI7C9X2G303EL provides one x1 upstream port and two x1 downstream ports.

## Block Diagram



## Features

- Non-blocking full-wired switching capability at 32 Gbps when all 4 lanes are enabled (304SL, 404SL) and at 24 Gbps when all 3 lanes are enabled (303SL)
- Integrated 100MHz Clock buffer for each downstream port
- Reliability, Availability and Serviceability
  - Supports Data Poisoning and End-to-End CRC
  - Advanced Error Reporting and Logging
  - IEEE 1149.6 JTAG interface support
- Link Power Management
  - Supports L0, L0s, L1, L2, L2/L3$_{Ready}$ and L3 link power state
  - Active state power management for L0s and L1 state
- Device State Power Management
  - Supports D0, D3$_{Hot}$ and D3$_{Cold}$
  - 3.3V Aux Power support in D3$_{Cold}$ power state
- Supports up to 256-byte maximum payload size
- Power Dissipation: 0.72 W typical in L0 normal mode and 0.2W typical in L1 mode (0.74 W for 304SL)
- Industrial Temperature Range: -40°C to 85°C
- MTBF: TBD
- Package: 128-pin LQFP 14mm x 14mm (304SL, 404SL) 136-pin LQFP 8mm x 8mm (303EL)
  - Pb free and 100% Green

## Enhanced Features

- Programmable Driver Current and De-Emphasis Level at each individual port
- 150ns typical latency for packet running through switch without blocking
- Supports "Cut-through" (Default) as well as "Store and Forward" mode for switching packets
- Advanced Power Savings
  - Empty downstream ports are set to idle
  - Clock to corresponding circuit is turned off when any port enters L1 or ASPM L1
  - Supports Access Control Service (ACS) for peer-to-peer traffic
  - Supports Address Translation (AT) packet for SR-IOV application