New Product Announcement

PI7C9X3G1632GP

16-Port/32-Lane Packet Switch with PCIe 3.0 Provides Flexible Configuration for Storage and Network Systems

The DIODES™ PI7C9X3G1632GP is a PCIe® 3.0 packet switch that supports 32 lanes in a SERDES interface, in flexible 2-port to 16-port configurations. The architecture of the PCIe packet switch allows for flexible port configuration by allocating variable lane widths for each port, making it suitable for embedded, storage, and network systems.

The packet switch can be configured to have different port types such as upstream, downstream, and cross-domain end-point (CDEP) ports to support various applications, including port fanout and multi-host connectivity. Inside the packet switch, multiple DMA (direct memory access) channels are embedded to facilitate data communication more efficiently among the host(s) and endpoints.

The device offers additional benefits such as a built-in thermal sensor that instantly reports operational temperature; the ability to maintain high signal integrity in stress channels; advanced power management mechanisms; enhanced reliability, availability, and serviceability (RAS); and surprised hot plug with LED enclosure management.

The PI7C9X3G1632GP is available in the 676-pin, 27mm x 27mm, HFCBGA package.

The DIODES™ Advantage

The PI7C9X3G1632GP supports multiple host connections and a failover system.

- **Integrated PCIe 3.0 Clock Buffer**
  Provides flexibility in design and reduces overall cost
- **Low Packet Forwarding Latency <150ns (Typical Case)**
  Maintains high performance for data transmissions
- **Multi-Host Application**
  Supports cross-domain end-point (CDEP) ports, and 8 physical or 16 virtual DMA channels
- **High-Reliability Benefits**
  Features advanced error reporting, error-handling mechanisms, end-to-end data protection, and hot-plug surprise removal
- **Diagnostic Software Tools: PHY Eye, MAC Viewer, Online Remote Loopback PRBS, and Compliance Tests**
  Assists with debugging and project development

Applications

- AI/deep-learning devices
- NAS/storage systems
- Data-center servers
- Embedded systems
- Host bus adaptor cards
- Failover systems
- Surveillance/security systems
- Networking systems/switches
- 5G/wired communications
- Printers/peripherals

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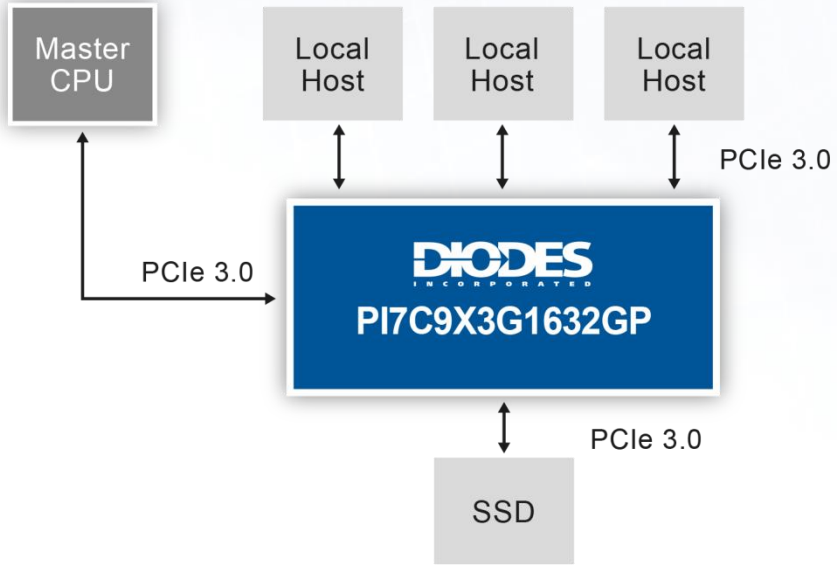
Typical Application—Multiple Hosts with an Access SSD



Product Portfolio

Part Number	PCIe Specification	Ports	Lanes	Power* (W)	Latency (ns)	Operating Temperature (°C)	Package
PI7C9X3G1632GP	**3.0**	**16**	**32**	**5.6**	**150**	**-40~ +85**	**HFCBGA (HFC676)**
PI7C9X3G816GP	3.0	8	16	4.1	150	-40~ +85	HFCBGA (HFC324)
PI7C9X3G808GP	3.0	8	8	2.9	150	-40~ +85	HFCBGA (HFC196)
PI7C9X3G606GP	3.0	6	6	2.5	150	-40~ +85	FC LFBGA (FCA144)

* Power is measured under the conditions of 0.95V/1.8V with PCIe 3.0 devices usage on all downstream ports and full data traffic operation on all endpoints when Tj=80°C

Ordering Information

Orderable Part Number	Package Code	Package	Pin Count	Moisture Sensitivity	Carrier	Quantity
PI7C9X3G1632GPEHFCE	HFC	27x27mm HFCBGA	676	MSL-3	Tray	40