DIODES
INCORPORATED®

Additional PCIe 3.0 Packet Switch with 6-Ports Provides Design Flexibility and Power Savings

The PI7C9X3G606GP is Diodes Incorporated's second PCIe® 3.0 packet switch. It supports 6 lanes of PCIe 3.0 SERDES in flexible 3-port, 5-port and 6-port configurations complementing the 8-lane PI7C9X3G808GP.

The PI7C9X3G606GP's architecture allows the flexible port configuration by allocating variable lane widths for each port and it can be configured to have different port types such as upstream port, downstream ports and Cross-Domain End-Point (CDEP) ports to support various applications.

Inside the packet switch, multiple DMA channels are embedded to facilitate data communication more efficiently among host(s) and end-points.

The PI7C9X3G606GP also offers some extra benefits such as "maintaining high signal integrity in stress channel", "advanced power management mechanism", "enhanced reliability, availability and serviceability (RAS)" and "Surprised Hot Plug with LED Enclosure Management".

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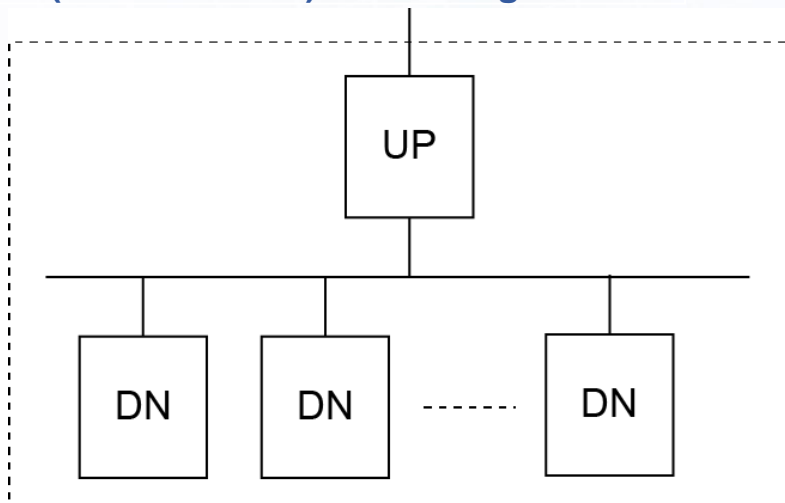
The Diodes Advantage

- **Flexible ports/lanes configuration**
  x1/x2 lanes options meet multi-applications
- **Integrated PCIe Gen3 clock buffer**
  Provides flexibility in design and reduces the overall cost
- **Low packet forwarding latency<150ns(typical case)**
  High performance for data transmission
- **Advanced Power savings**
  Reduces Power Usage and Power Dissipation
- **One Cross-Domain End-Point (CDEP) and 4 physical or 8 virtual DMA channels**
  Support Dual host application
- **Advanced Error reporting, Error Handling Mechanism, End-to-End data protection, Hot-plug and Surprise Removal**
  High reliability
- **Diagnostic Software Tools: PHY Eye, MAC Viewer, online remote loopback PRBS and Compliance test**
  Helpful in debugging and project developing

Application(s)

- Networking Switch/Routers
- Wired/Wireless Telecom/Data Communication
- Printers/MFPs/Peripherals
- Surveillance/Security
- Fail-Over Systems
- Control Planes
- NAS/Storage
- Embedded Systems
- HBA/Combo Cards
- IPC/Industrial Control

Base Mode (Fan-out Mode) Block Diagram

PI7C9X3G606GP supported configurations include:
3-, 5- or 6-port options
DMA Available in all modes

PCIe 3.0 Packet Switch Product Portfolio

Part Number	Description	Ports	Lanes	Power*	Latency	Ambient Temperature (ºC)	Packages
PI7C9X3G606GP	**6-port, 6-lane, PCIe 3.0 Packet Switch**	**6**	**6**	**2.5**	**<150ns**	**-40~85**	**FCA144 BGA**
PI7C9X3G808GP	8-port, 8-lane, PCIe 3.0 Packet Switch	8	8	2.9	<150ns	-40~85	HFC196 BGA

* Power is measured under the conditions of 0.95v/1.8v with PCIe3 devices usage on all downstream ports and full data traffic operation on all EPs when Tj=80ºC

More information:
https://www.diodes.com/part/view/PI7C9X3G606GP

Ordering Information

Part Number	Package	Moisture Sensitivity	PB-free and Green	Ambient Temperature Range
PI7C9X3G606GPBFCAEX	FCA-144 BGA	MSL3	Yes	-40ºC TO 85ºC
PI7C9X3G606GPBRDK	Board	-	RDK Board for PI7C9X3G606GP	