PMC PMC-Sierra,Inc.

PM3390

Octal EXACT™ Bus Switch Matrix

FEATURES

- Sixteen Gbit/s, protocol-independent switching matrix expandable to 32 Gbit/s.
- Provides eight gigabit, full-duplex EXACT™ Bus ports that each support an EXACT switch port controller.
- Provides non-blocking connection between eight EXACT Bus (Ethernet Switching, Access, Control, and Termination) rings.
- Supports non-blocking connections between sixteen EXACT Bus rings to provide a system bandwidth of 32 Gbit/s using four PM3390 devices.
- Destination lookup table maps logical EXACT ports to physical PM3390 ports. Destination lookup table can be dynamically allocated.
- Provides visibility into internal dataflow to allow external flow control in systems that do not use the EXACT Bus link protocol.

- Each chip supports the EXACT Bus Protocol, which is a 10-bit, unidirectional insertion ring running at 125 MHz or 135 MHz.
- EXACT Bus ports allow simple box-to-box, card-to-card, or chip-to-chip interconnect.
- 8B/10B EXACT Bus encoding is compatible with Common Serialization (SERDES) devices to allow serial extension using coax or twinax cable.
- Management interface connects to an off-chip microprocessor for access to internal control registers.

COMPATIBILITY

- Interworks with the following EXACT Chipset devices:

  PM3370 Octal 10/100 Ethernet Switch Port Controller with MII interfaces.

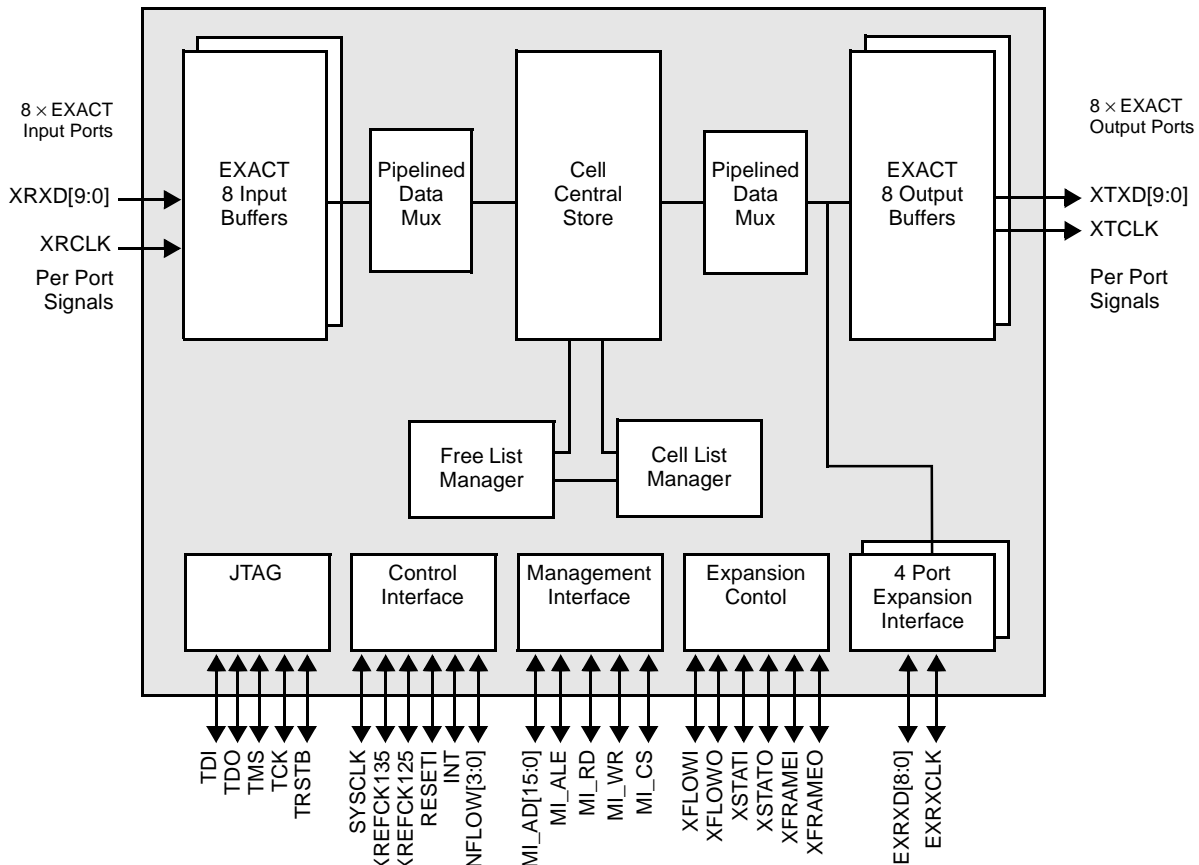 PM3380 Gigabit Ethernet Switch Port Controller.

PACKAGING

- Provides a standard five signal P1149.1 JTAG test port for boundary scan board test purposes.
- Implemented in low power 3.3 V, CMOS technology.
- Available in a 352-pin Ball Grid Array (BGA) package.

APPLICATIONS

- High Bandwidth (16 to 32 Gbit/s) Ethernet Switches that Support Combinations of 10/100/1000 Ports.
- Multiprotocol Switch (Ethernet, ATM, Packet Over SONET, FDDI, and TR)
- Modular Ethernet Switches.
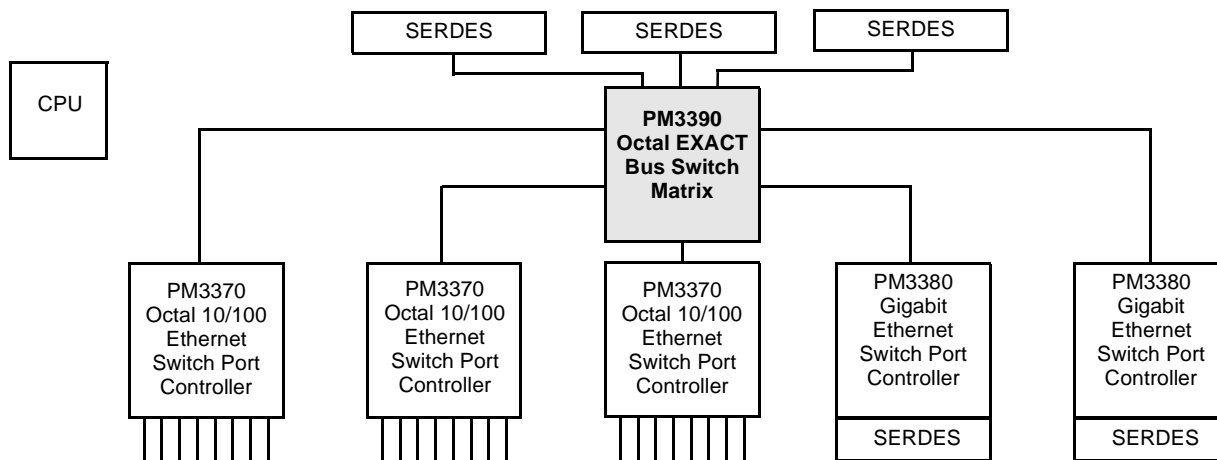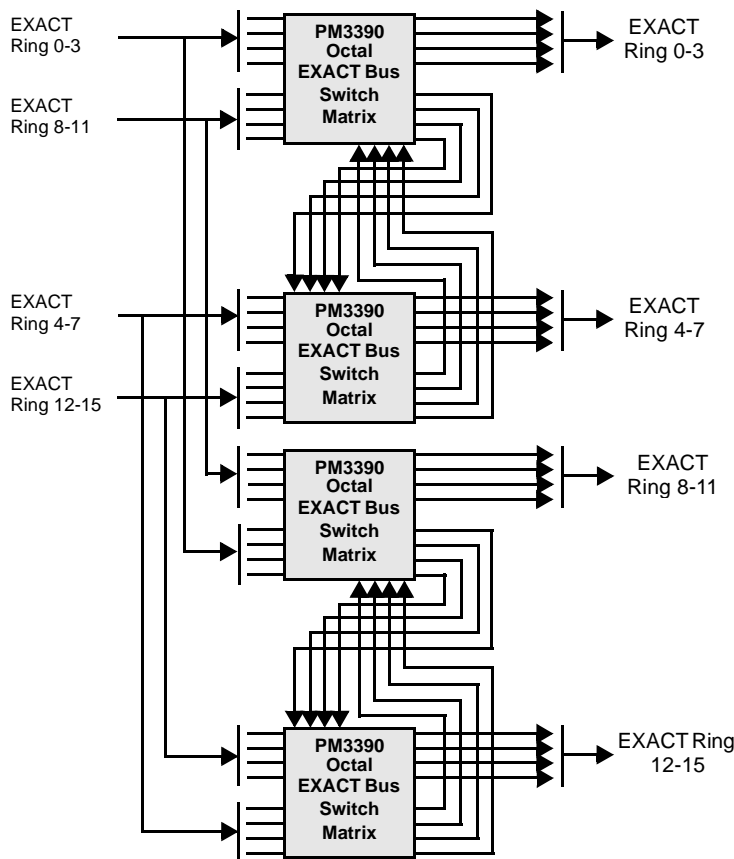- Fixed-configuration Ethernet Switches.

BLOCK DIAGRAM

Octal EXACT™ Bus Switch Matrix

TYPICAL APPLICATIONS

24 × 10/100 + 2 × 1000 WITH THREE GIGABIT BACKPLANE PORTS

32 Gbit/s, 16-RING PM3390 EXPANSION CONFIGURATION