Features

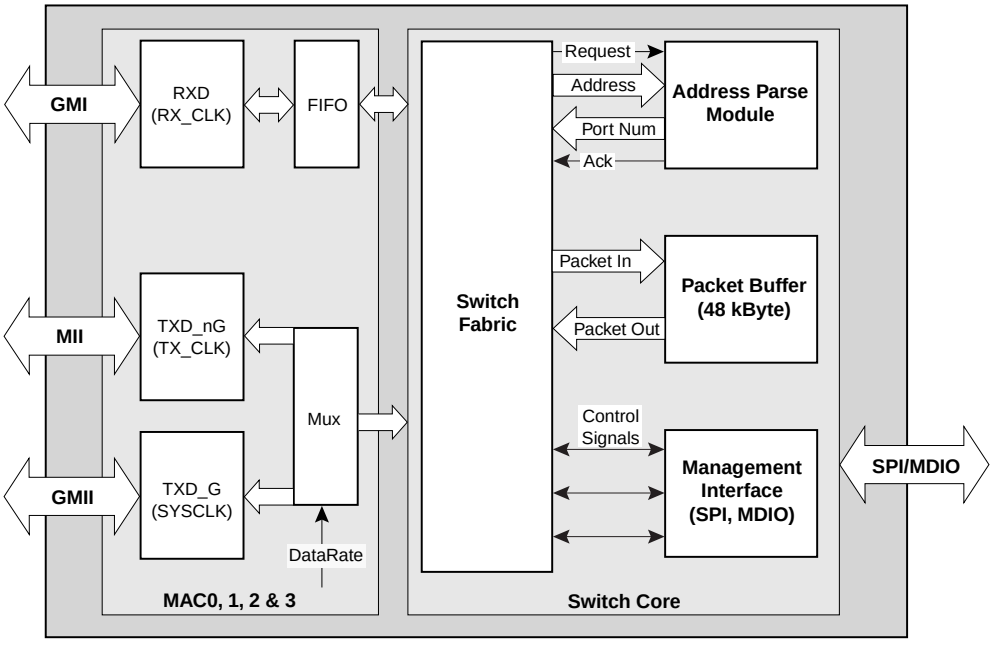
- **Supports Four 10/100/1000 Mbps Ethernet Ports with GMII/MII Interface**
- **IEEE 802.3ab CSMA/CD Compliant**
- **Full and Half Duplex Mode of Operation**
- **Speed and Duplex Mode Auto-negotiation Through MDIO**
- **Self-address Learning Mechanism Supports 512-MAC Addresses**
- **Automatic Address Aging with 300 seconds Default**
- **512-kbit Packet Buffer Memory Embedded**
- **Serial Port Interface Employed to Communicate with MCU**
- **IEEE 802.3ab Flow Control for Full Duplex Operation**
- **Supports Store-and-Forward Mode of Operation**
- **0.18 Micron, 1.8V CMOS Technology Packaged in 160-pin PQFP**
- **3.3V I/O**
- **Available in a Variety of Packages Depending on Customer Requirements**

Description

This Layer 2 Switch provides an ideal solution for the design of unmanaged full wire-speed multi-port Gigabit Ethernet (GbE) switches. Each port supports either 10/100/1000 Mbps data rate. Flow controls, back pressure in half-duplex mode and PAUSE frame in full-duplex mode are employed to solve the HOL (Head of Line) blocking.

This Layer 2 Switch integrates four half/full duplex mode 1000 BASE Gigabit Ethernet MACs, wire speed switching engines, MAC address based address parsing algorithms and packet buffer memory.

Figure 1. Ethernet Level 2 Switch Block Diagram



4-port Layer 2 10/100/1000Mbps Unmanaged Switched Ethernet Controller

AT79C1020

Summary

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Note: This is a summary document. A complete document is available under NDA. For more information, please contact your local Atmel sales office.

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