

## Features

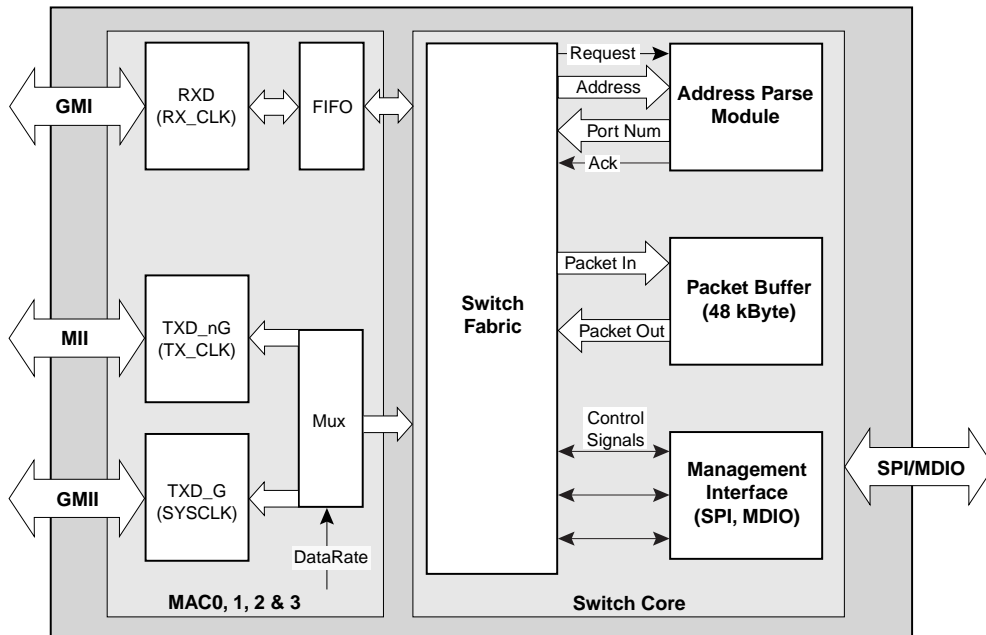
- Supports Four 10/100/1000 Mbps Ethernet Ports with GMII/MII Interface
- IEEE 802.3ab CSMA/CD Compliant
- Full and Half Duplex Mode of Operation
- Speed and Duplex Mode Auto-negotiation Through MDIO
- Self-address Learning Mechanism Supports 512-MAC Addresses
- Automatic Address Aging with 300 seconds 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

3434BS-NETST-3/04



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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