AR8236
6-port low-power, Fast Ethernet Switch

Solution Highlights

- Single 3.3V power source with built-in LDO to reduce RBOM
- Industry’s smallest package 8 mm x 8 mm QFN package
- Support Atheros ETHOS-Designed Green Ethernet (EDGE™) power when in no link or 10Base-T Idle modes
- Support Spanning Tree Protocol and BPDU handling
- One MII or two RMII MAC interfaces
- 5 Integrated 10/100Base-T PHYs
- Power saving based on cable length and link status
- QoS support with four traffic classes based on port, IEE802.1p, IPv4 TOS, IPv6 TC and MAC addresses
- Full VLAN support including QinQ and VLAN tag insertion and removal
- IGMP V1/2/3 and MLD V1/2 support with hardware snooping and fast leave
- Ingress and egress rate limiting, and broadcast storm compression
- Support port mirroring

AR8236 Product Overview

AR8236 is a fast Ethernet switch solution that offers low power, very small form factor, enhanced features and competitive RBOM. It is well-suited for broadband networking products such as xDSL routers, HomePlug powerline bridges and 5-port switches.

The AR8236 features an internal power-saving mechanism which enables automatic standby and link detection modes to meet the European Code of Conduct specification for low-power and on states. The low-power state provides 80% power saving over “on” state.

Enhanced features such as QoS, VLAN, double-tagging, hardware IGMP v1/v2/v3 and MLD 1/2 snooping features function without burdening the host processor. Hardware Looping Detection provides the system CPU with the option of using these blocks to increase performance and video quality. The AR8236 supports 9K byte jumbo frames to enable connectivity to Gigabit-enabled devices that also support jumbo frames.

AR8236 package is a 68-pin QFN, the industry’s smallest package for a switch offering these features. The small package can give a customer the option of easily fitting the solution into a small housing. The device can also integrate multiple functions, such as Wi-Fi and VoIP, so that the PCB size and cost can also be reduced, while maintaining the small housing made possible by the AR8236’s compact package size.

Single 3.3V power source and built-in LDO regulator further reduces the RBOM Power Circuit cost compared to other solutions.
Atheros Communications is a global leader in innovative technologies for wireless and wired communications. Atheros combines its wireless and networking systems expertise with high-performance radio frequency (RF), mixed signal and digital semiconductor design skills to provide highly integrated chipsets that are manufactured on low-cost, standard complementary metal-oxide semiconductor (CMOS) processes. Atheros technology is used by a broad base of leading customers, including networking equipment, computing and consumer device manufacturers.

AR8236 Specifications

- 10/100Base-T IEEE 802.3 compliant
- Supports GMII, RGMII, MII and TMII interfaces
- RGMII timing modes support internal delay and external delay on both Rx and Tx paths
- Atheros ETHOS-Designed Green Ethernet (EDGE) power-saving modes with internal automatic DSP power saving scheme
- Fully integrated digital adaptive equalizers, echo cancellers, and near end crosstalk (NEXT) cancellers
- All-digital baseline wander correction
- Automatic channel swap (ACS)
- Automatic MDI/MDIX crossover
- Automatic polarity correction
- IEEE 802.3u compliant Auto-Negotiation
- Jumbo Frame support up to 9K Bytes (full duplex)
- Software programmable LED modes
- Atheros Cable Diagnostic Test (CDT) Technologies
- IEEE 802.3 remote fault indication and fault propagation in fiber mode
- IEEE 802.1D spanning tree support
- IEEE 802.3x flow control for full duplex and back pressure for half duplex
- Support 40 MIB counters per port and Autocast MIB counters to CPU port

For more information on the AR8236 or other solutions from Atheros contact your local representative:

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