



KSZ8862-16MQL (or -32MQL) Product Brief

2-Port Ethernet Switch with Non-PCI Interface and 10B-FL / 100B-SX / 100B-FX Support

Description

The KSZ8862-16MQL (or -32MQL) is the industry's first fully managed 2-port switch with a non-PCI CPU interface. It is similar to the KSZ8842-16MQL (or -32MQL) family, however port-1 supports fiber mode, while port-2 supports 10B-T / 100B-TX. It is based on a proven, 4th generation, integrated Layer 2 switch that is compliant to the IEEE 802.3u standard.

The KSZ8862-16MQL (or -32MQL) contains two 10/100 transceivers with patented mixed-signal low-power technology, two media access control (MAC) units and a direct memory access (DMA) channel, a high-speed non-blocking switch fabric, a dedicated 1K entry forwarding table, and an on-chip frame buffer memory. In fiber mode, the port-1 PHY can be configured to 100BASE-FX, 100BASE-SX, or 10BASE-FL fiber. Port-2 supports 10BASE-T and 100BASE-TX, which therefore makes the devices ideal for use in managed Media Converter

applications. An LED driver and post amplifier are also included on-chip for 10Base-FL applications, thus making for a very cost effective solution.

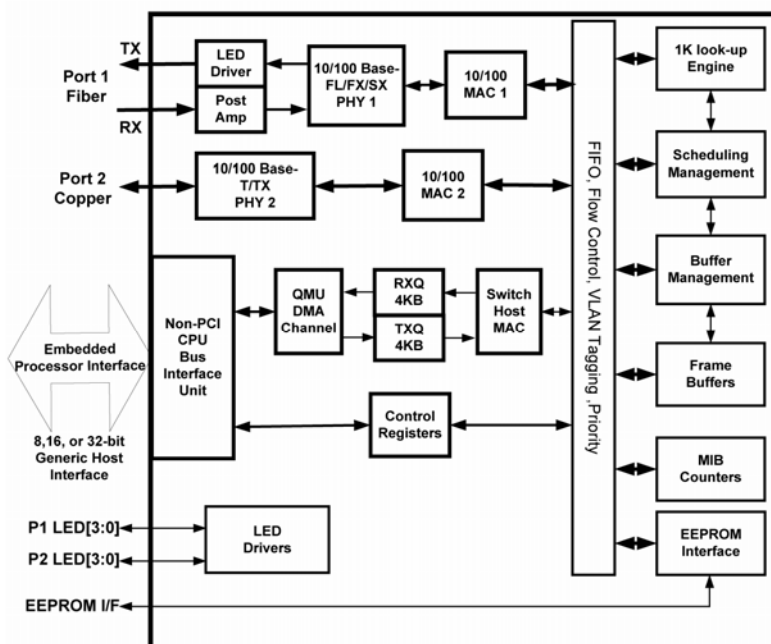
The KSZ8862-16MQL (or -32MQL) offers an extensive feature set that includes tag/port-based VLAN, QoS priority management, MAC filtering, MIB counters, and CPU control/data interfaces to effectively address both current and emerging Fast Ethernet applications.

Data sheets and support documentation can be found on Micrel's web site at www.micrel.com.

Applications

- Managed Media Converters
- Ethernet Controllers with copper & Fiber requirements
- Legacy 10B-FL applications

Block Diagram



KSZ8862-16MQL or KSZ8862-32MQL Block Diagram

Features	Benefits
Integrated LED driver and post amplifier	Enable usage of low cost "sugar cube" optical modules
Advanced PHY technology with LinkMD	TDR based cable diagnostic for simplified IT services
- Packet prioritization support - Per-port, 802.1p and DiffServ based - Re-mapping of 802.1p priority field per-port basis - Four priority levels	- Enables latency critical applications to transport network traffic with minimal interruption. Per-port re-mapping enforces priority policies by overriding packet embedded priority levels. - Triple play (voice, video, data) application ready
802.1q VLAN support for up to 16 groups. Tag/untag on a per-port basis	Secures and segregates network traffic. Full range of VLAN IDs supported.
- Advanced switch features - Programmable priority based ingress and egress rate limiting - Broadcast storm protection with % control 802.1d Spanning Tree Protocol support	- Shape/protect traffic and enable redundancy - Allows creation of bandwidth-based tiered services, optimizes bandwidth based on applications - Guard against denial of service attacks - Resolve loops, permit redundancy
- Switch management - Port mirroring/monitoring/sniffing: ingress and/or egress traffic to any port or MII, 34 MIB counters per port - IGMP snooping (IPv4) and MLD snooping (IPv6)	Comprehensive remote management capability enables complete view of network activity.
- Generic Bus Support 8 or 16- bit generic host bus connectivity to FPGA or microprocessors (KSZ8862-16MQL) 32-bit generic host bus connectivity to FPGA or microprocessors (KSZ8862-32MQL)	- Ability to interface with wide variety of devices - Connectivity to CPU/EEPROM for managed operation. - On the fly configuration of switch/PHY operating parameters
- Optimized power modes - Full-chip hardware power-down, port-based software power save mode - Lead-free packages - Single 3.3V Supply - Compact 128-pin PQFP	- Choose best package/power option for each environment - Avg. power consumption of <400 mW. Ideal for low-power applications, increased reliability - Environmentally friendly - Simplified Power supply requirements - Ability to operate in harsh environments - Suitable for space constrained applications

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