KSZ8863MLL/RLL/FLL
Product Brief

Integrated 10/100BASE-T/TX/FX 3-Port Switch

Description

The KSZ8863MLL, KSZ8863RLL, and KSZ8863FLL are highly integrated 3-port switch on a chip ICs in industry's smallest footprint, enabling a new generation of low port count, cost-sensitive and power efficient 10/100Mbps switch systems. Low power consumption, advanced power management and sophisticated QoS features (e.g., IPv6 priority classification support) make these devices ideal for IPTV, IP-STB, VoIP, media converter, automotive and industrial applications.

The KSZ8863 family is designed to support the GREEN requirement in today's switch systems. Advanced power management schemes include hardware power down, software power down, and the energy detect mode that shuts downs the transceiver when a port is idle.

KSZ8863MLL, KSZ8863RLL, and KSZ8863FLL also offer the by-pass mode, which enables system-level power savings. In this mode, the processor connected to the switch through the MII interface can be shut down without impacting the normal switch operation.

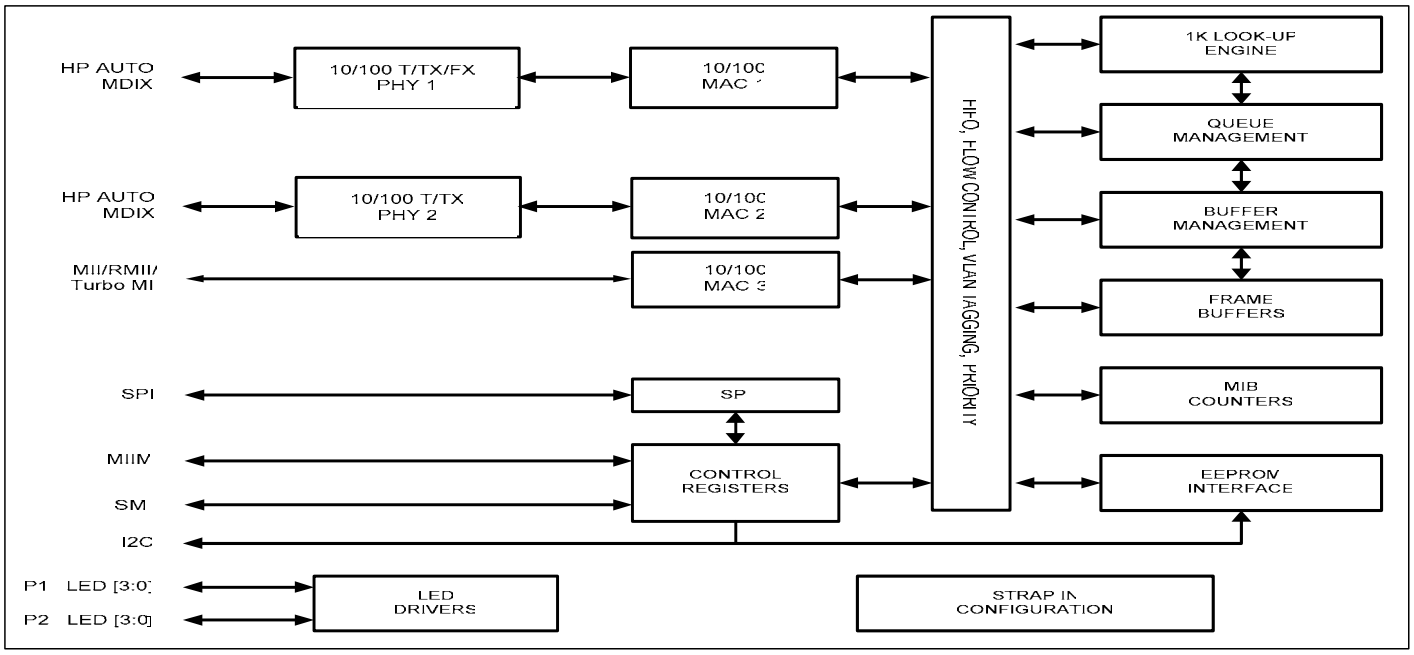
The configurations provided by the KSZ8863 family enable the flexibility to meet requirements of different applications:

- KSZ8863MLL: Two 10/100BASE-T/TX transceivers and one MII interface.
- KSZ8863RLL: Two 10/100BASE-T/TX transceivers and one RMII interface.
- KSZ8863FLL: One 100BASE-FX transceiver, one 10/100Base-T/TX transceiver, and one MII interface.

The devices are available in RoHS-compliant 48-pin LQFP package.

The datasheets and supporting documents can be found at Micrel's web site at: www.micrel.com.

Block Diagram



Features	Benefits
Single 2.5V or 3.3V supply with internal 1.8V LDO, and optional 3.3V, 2.5V or 1.8V VDDIO	Enables low power design.
Port 1 & Port 2 by-pass mode	Ethernet traffic between Port 1 and Port 2 are sustained while the MII interface (Port 3) is shut down. This allows the device connected to the MII interface to enter a power saving mode.
4-queue (per port) traffic prioritization, based on port, 802.1p, 802.1Q VLAN tags, or Differential Services (both Ipv4 and Ipv6 priority classification)	Enables the implementation of advanced QoS policies.
Source address filtering	Enables the implementation of Ethernet ring network for industrial control and automotive applications.
Tail tag mode at Port 3	Reduces the overhead of the CPU connected to Port 3, by using a tail tag before frame checksum to indicate which port receives the ingress packet.
Internal generated RMII 50MHz clock (KSZ8863RLL)	Eliminates expensive external 50MHz oscillator for the RMII mode.

Applications

- IP Set-Top Box
- IP Television/IP Television POF
- IP phone/Video phone
- Analog Telephone Adapter (ATA)
- Automotive Infotainment
- Industrial control
- Media converter

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