

3.3V 10/100BASE-TX/FX Physical Layer Transceiver

Description

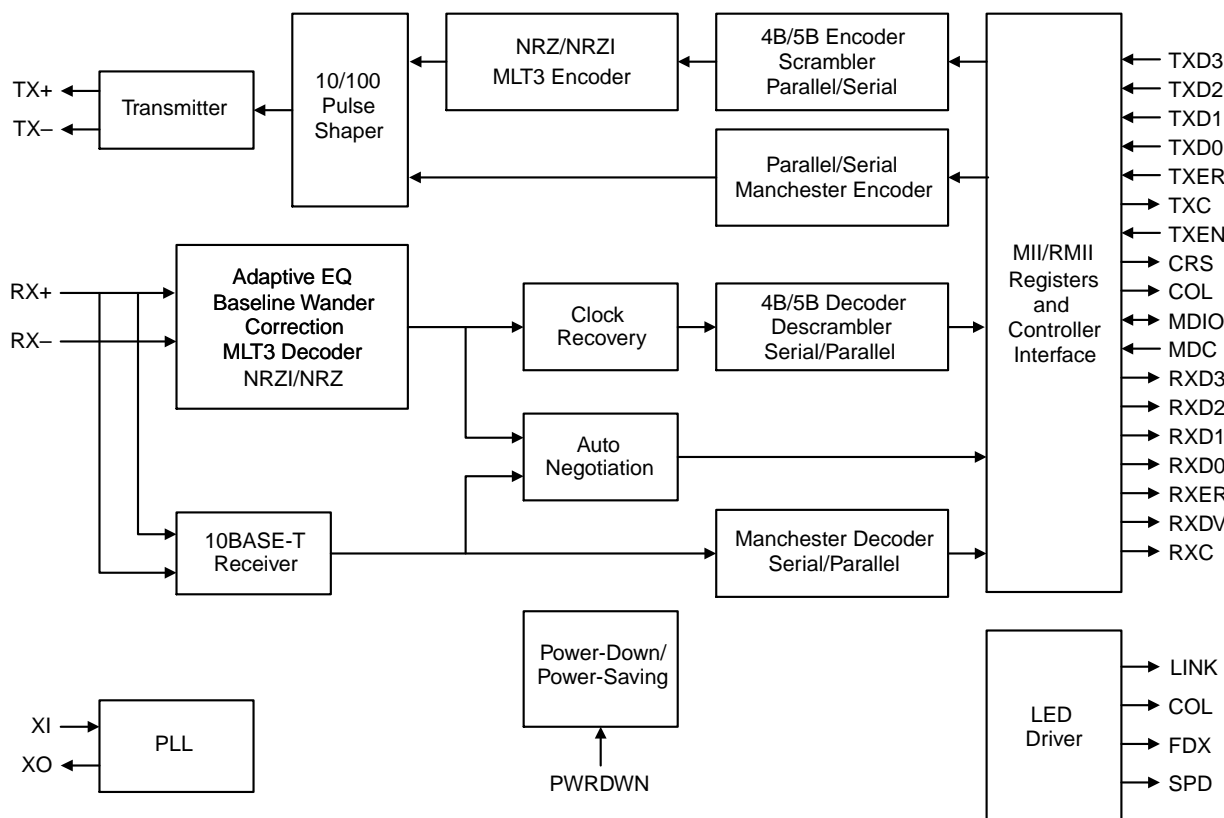
The KS8721BL/SL is a 10BASE-T, 100BASE-TX, and 100BASE-FX physical layer transceiver providing MII/RMII interfaces to MACs and switches. Using a unique mixed-signal design that extends signaling distance while reducing power consumption, the KS8721BL/SL represents Micrel's fourth generation single-port Fast Ethernet PHY.

Micrel's architecture dissipates an ultra-low 275mW in power, including transmit output drivers. This translates to increased reliability while enabling deployment in today's power-sensitive applications. Multiple power-down modes, accessed via configuration pins or registers, allow further levels of power saving through manual selection or automatic detection of cable energy.

The KS8721BL/SL automatically configures itself for 100Mbps or 10Mbps and full- or half-duplex operation, using an on-chip auto-negotiation algorithm. Combined with Auto MDI/MDIX for automatic correction and detection of crossover and straight-through cables, the KS8721BL/SL provides an easy-to-use, high performance solution for 10BASE-T, 100BASE-TX, and 100BASE-FX applications.

For additional information, contact your local Micrel Field Application Engineer or salesperson.

Block Diagram



Features

- Single chip 10BASE-T, 100BASE-TX, and 100BASE-FX physical layer solution
- Fully compliant to IEEE802.3u standards
- Low-power CMOS design, power consumption
- Supports media independent interface (MII) and reduced MII (RMII)
- Delivers robust operation (130 meters+)
- Furnishes Auto MDI/MDI-X
- Offers both power-down and power-saving modes
- Single 3.3V power supply
- Configurable through MII serial management ports or via external control pins
- Available in lead-free and industrial temperature versions
- Offered in flexible package options

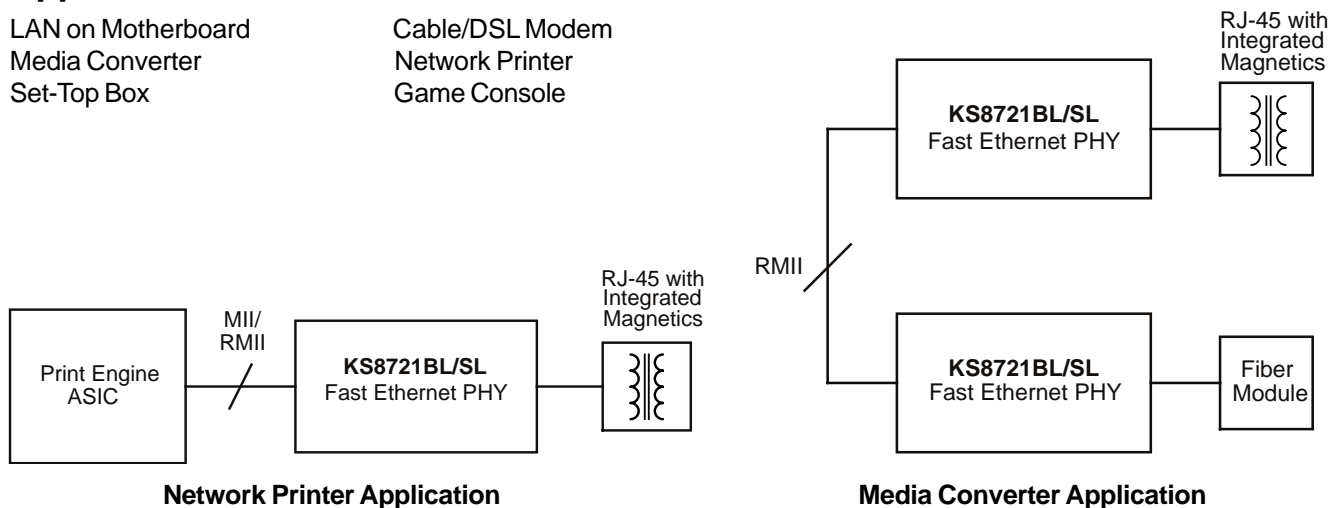
Benefits

- Supports back-to-back operation for copper-to-fiber media converter applications.
- Designed to operate with link partners at all speeds.
- Increased reliability, greater range of power-sensitive < 275mW (including output driver current) applications.
- Flexible switch/MAC interfacing options. Optimized pin count interfaces lower cost through reduced trace/simplified routing.
- Operation over the widest variety of cabling plants.
- Automatic detection and correction for straight-through or crossover cables.
- Automatically shuts down upon cable removal extending battery life for mobile applications.
- Easy migration from earlier KS8721B/BT family members.
- Programmable in environments with and without CPU.
- Environmentally friendly and rugged.
- KS8721BL in 48-pin LQFP for space-constrained and KS8721SL in mainstream 48-pin SSOP.

Applications

LAN on Motherboard
Media Converter
Set-Top Box

Cable/DSL Modem
Network Printer
Game Console



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