

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

Description

The KS8721CL 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 KS8721CL represents Micrel's fourth generation single-port Fast Ethernet PHY.

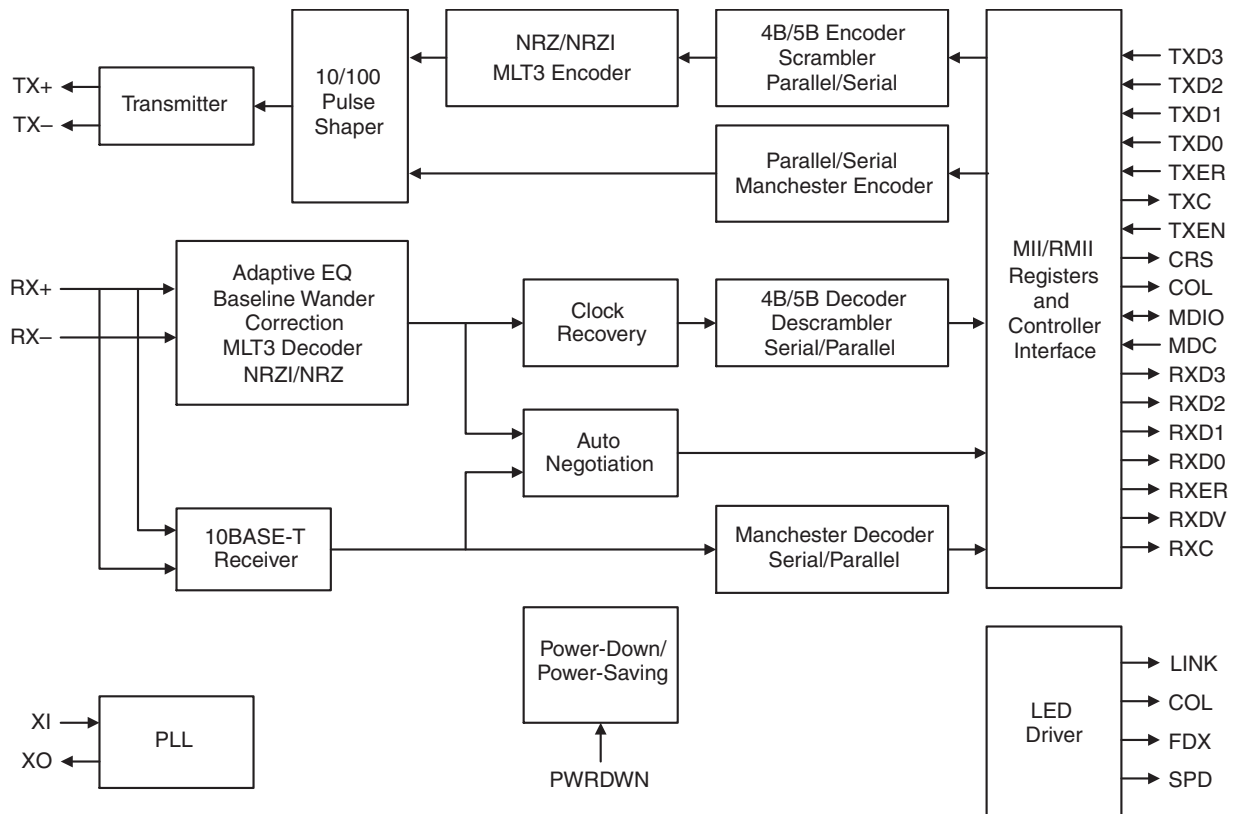
Micrel's architecture dissipates an ultra-low 275mW in power, including transmit output drivers. This translates to increased reliability while enabling deployment in today's power-sensitive applications. Multiple power-down modes, accessed via configuration pins or registers, allow further levels of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

The KS8721CL automatically configures itself for 100Mbps or 10Mbps and full- or half-duplex operation, using an on-chip auto-negotiation algorithm. Combined with Auto MDI/MDI-X for automatic correction and detection of crossover and straight-through cables, the KS8721CL provides an easy-to-use, high performance solution for 10BASE-T, 100BASE-TX, and 100BASE-FX applications.

The KS8721CL is also available in Lead-free (KSZ8721CL) and Industrial Temperature (KS8721CLI) packages.

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+)
- Auto MDI/MDI-X
- Separate LEDs for Link, Activity, Speed, and Duplex
- 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
- Small 48-pin LQFP package

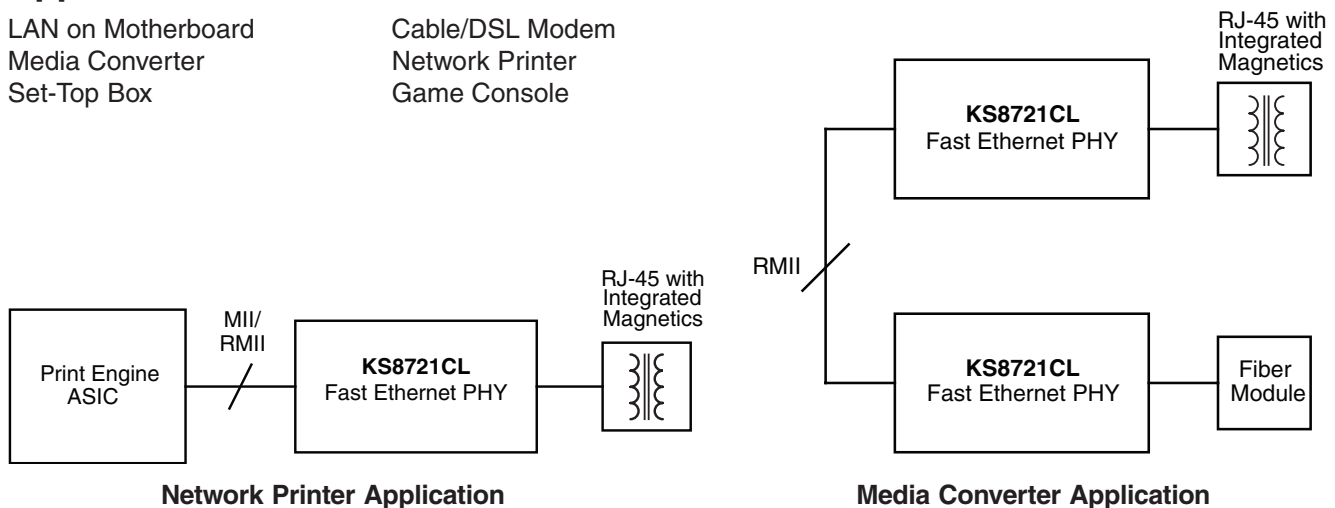
Benefits

- 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.
- Reports complete link status.
- 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.
- Ideal for space-constrained applications.

Applications

LAN on Motherboard
Media Converter
Set-Top Box

Cable/DSL Modem
Network Printer
Game Console



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