

## Physical Layer Transceiver 10/100BASE-T/TX/FX

### General Description

The KSZ8041TL/FTL are single supply 10Base-T/100Base-TX Physical Layer Transceivers, which provide MII/RMII/SMII interfaces to transmit and receive data. These devices utilize a unique mixed-signal design to extend signaling distance while reducing power consumption.

HP Auto MDI/MDI-X provides the most robust solution for eliminating the need to differentiate between crossover and straight-through cables.

Micrel LinkMD<sup>®</sup> TDR-based cable diagnostics permit for identification of faulty copper cabling.

The KSZ8041TL/FTL represents a new level of features and performance and is an ideal choice of physical layer

transceiver for 10Base-T/100Base-TX/100Base-FX applications.

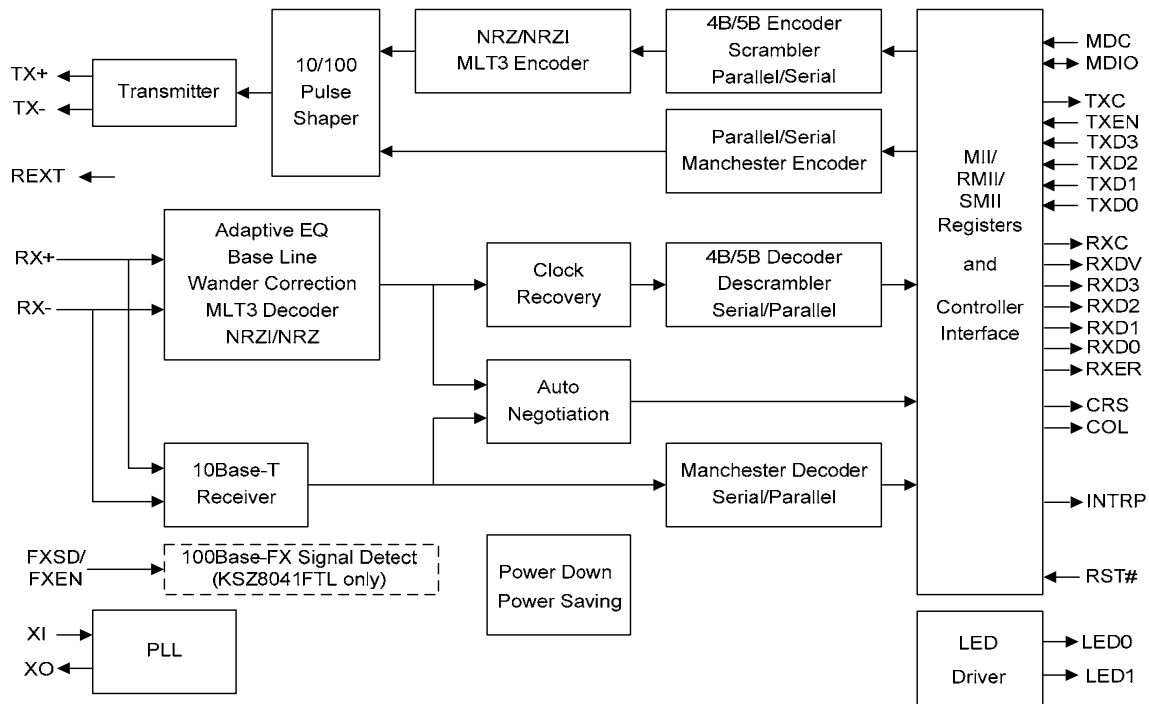
The KSZ8041FTL has all the identical rich features of the KSZ8041TL plus 100Base-FX support for fiber and media converter applications.

Both KSZ8041TL and KSZ8041FTL are available in 48-pin, lead-free TQFP packages.

### Applications

- Printers
- LOM
- Games Console
- IPTV
- IP phones
- IP Set-Top Boxes
- Industrial Ethernet
- Automated Industrial Control Applications

### Block Diagram



KSZ8041TL/FTL Block Diagram

## Features

- Single-chip 10Base-T/100Base-TX/100BaseFX physical layer solution
- Low power CMOS design, power consumption of ~180 mW
- HP auto MDI/MDI-X for reliable detection and correction for straight-through and crossover cables with disable and enable option
- LinkMD<sup>®</sup> TDR-based cable diagnostics for identification of faulty copper cabling
- MII interface support
- RMI interface support with external 50MHz system clock
- SMII interface support with external 125MHz system clock and 12.5MHz sync clock from MAC
- MII/RMII Back-to-Back Mode
- Supports power down mode and power saving mode
- MIIM (MDC/MDIO) management bus for PHY register configuration
- Programmable LED outputs for link, activity and speed
- MDC/MDIO to 12.5 MHz for rapid configuration
- Fully compliant to IEEE 802.3u standard
- Supports auto-negotiation and manual selection for 10/100Mbps speed and full/half-duplex mode
- Single Power Supply (3.3V)
- Built-in 1.8V regulator for core
- Available in 48-pin TQFP package

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