

10Base-T/100Base-TX Physical Layer Transceiver With Extended Temperature Support

Description

The KSZ8041NLJ is an industrial version of the KSZ8041NL that supports the extended temperature range (-40°C – +125°C). It is a single-supply 10Base-T/100Base-TX Physical Layer Transceiver, which provides MII/RMII interfaces to transmit and receive data. A unique mixed signal design extends signaling distance while reducing power consumption.

By operating in extremely high temperature (125°C) environment without degrading its normal functionality, the KSZ8041NLJ saves additional system Bill Of Materials (BOM) cost in heat sink and stack-up. Combined with low power and high performance, the KSZ8041NLJ is an ideal choice of physical layer transceiver for 10Base-

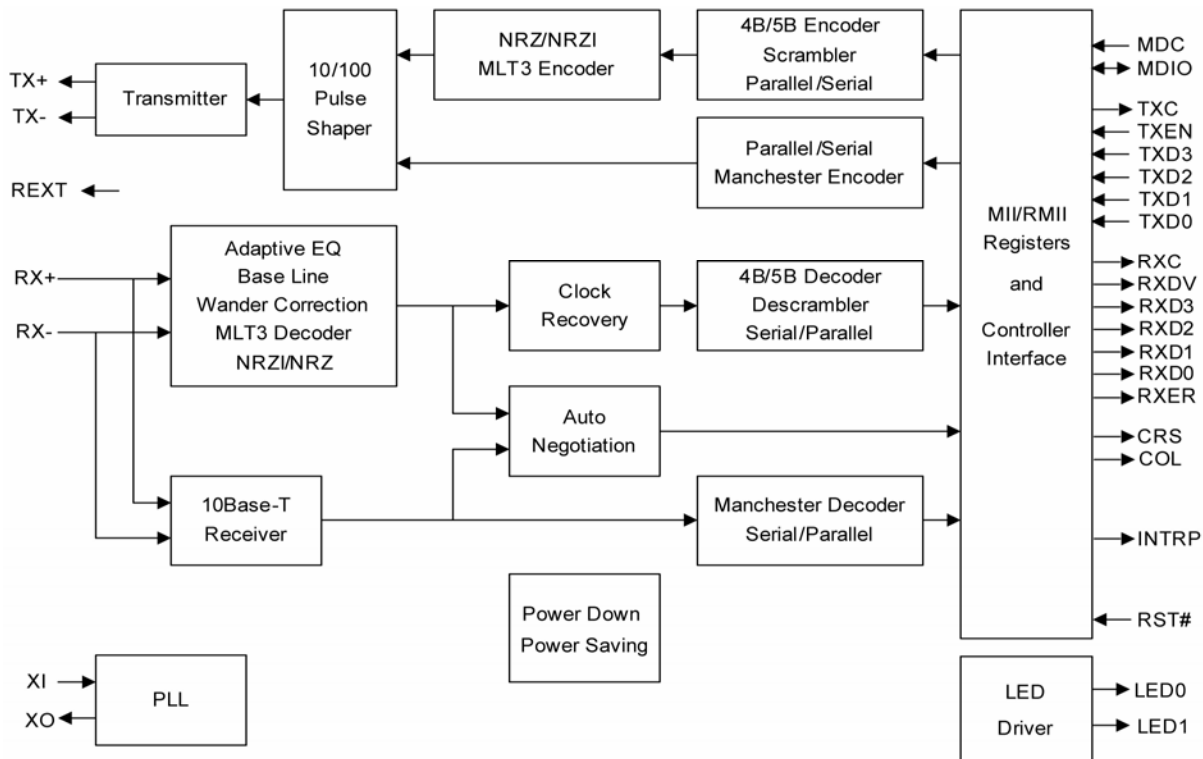
T/100Base-TX applications in industrial, automotive and military usages.

The KSZ8041NLJ supports HP Auto MDI/MDI-X. It provides the most robust solution for eliminating the need to differentiate between crossover and straight-through cables.

The KSZ8041NLJ comes in a 32-pin, lead-free MLF® (QFN per JEDEC) package (See Ordering Information).

All datasheets and support documentation can be found on Micrel's web site at: www.micrel.com.

Functional Block Diagram



MLF is a registered trademark of Amkor Technology.

Features	Benefits
Extended high temperature support (-40 °C – +125°C)	Supports industrial, automotive and military usages in extremely high temperature. Eliminates additional cost in heat sink.
Fully compliant to IEEE 802.3/802.3u Standard	Standard compliance ensures to work with other standard compliant, already deployed devices.
Integration of a LDO controller on the chip	Integration of a LDO controller permits a low cost MOSFET to supply the 1.2V core, which reduces board cost and simplifies board layout.
HP Auto MDI/MDIX crossover support	Auto-MDI/MDIX eliminates the need for cross-over cable, thus reduces installation costs. Easy to use.
LinkMD [®] TDR-based cable diagnostics	Allows identification of common cabling problems, including those not addressed by IEEE. Simplifies network deployment and reduces network downtime.
32-pin (5mm x 5mm) MLF [®] package	Saves board space and simplifies design.

Applications

- Industrial control
- Automotive
- Military communication system

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