



KSZ9031RNX

Gigabit Ethernet Transceiver
with RGMII Support

Revision 2.2

General Description

The KSZ9031RNX is a completely integrated triple-speed (10Base-T/100Base-TX/1000Base-T) Ethernet physical-layer transceiver for transmission and reception of data on standard CAT-5 unshielded twisted pair (UTP) cable.

The KSZ9031RNX provides the reduced gigabit media independent interface (RGMII) for direct connection to RGMII MACs in gigabit Ethernet processors and switches for data transfer at 10/100/1000Mbps.

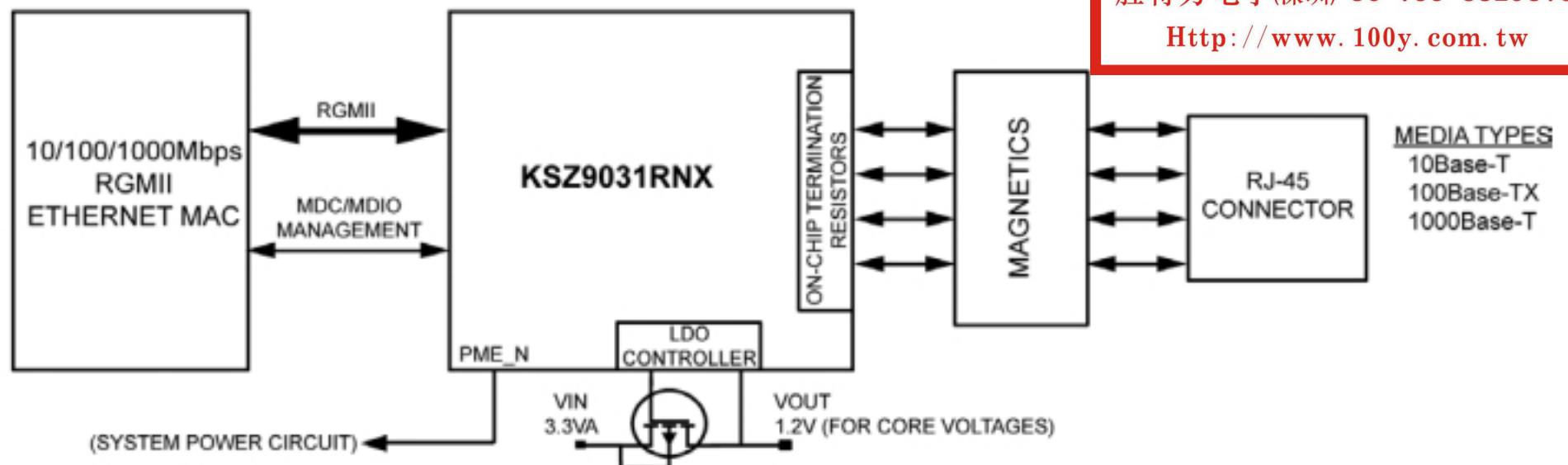
The KSZ9031RNX reduces board cost and simplifies board layout by using on-chip termination resistors for the four differential pairs and by integrating an LDO controller to drive a low-cost MOSFET to supply the 1.2V core.

The KSZ9031RNX offers diagnostic features to facilitate system bring-up and debugging in production testing and in product deployment. Parametric NAND tree support enables fault detection between KSZ9031 I/Os and the board. The LinkMD[®] TDR-based cable diagnostic identifies faulty copper cabling. Remote and local loopback functions verify analog and digital data paths.

The standard KSZ9031RNX is available in the 48-pin, lead-free QFN package, and the AEC-Q100 automotive qualified parts, KSZ9031RNXUA and KSZ9031RNXVA, are available in the 48-pin lead-free WQFN package (see [Ordering Information](#)).

Data sheets and support documentation are available on Micrel's web site at: www.micrel.com.

Functional Diagram

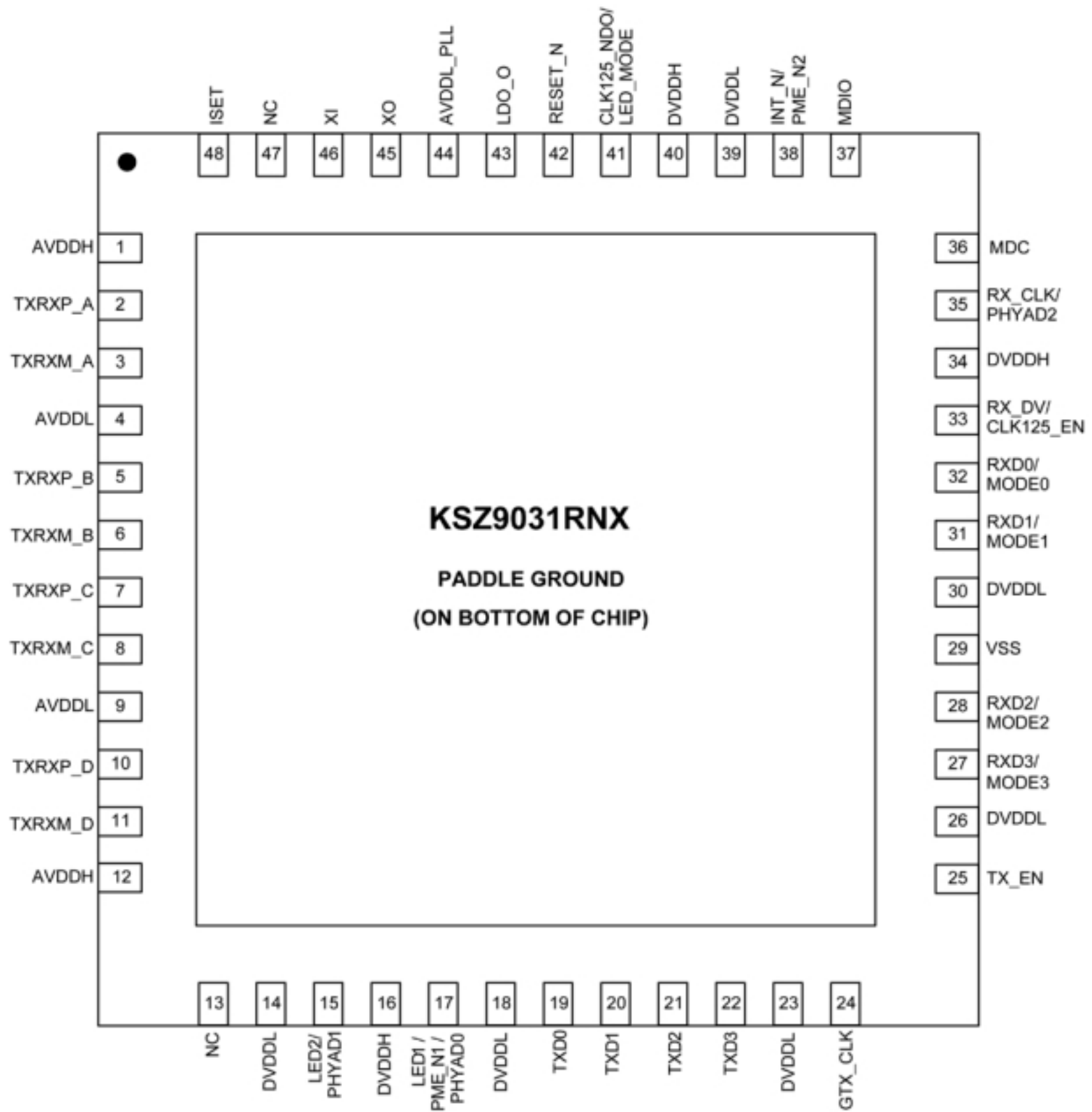


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Pin Configuration



48-Pin QFN
(Top View)

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