

Ethernet Controller, 100 Mbps, IEEE 802.3, 3.135 V, 3.465 V, QFN, 24 Pins



Images are for reference only

Manufacturers	<a href="#">Microchip Technology, Inc</a>
Package/Case	VQFN-24
Product Type	Interface ICs
RoHS	
Lifecycle	

Please submit RFQ for KSZ8091RNAIA-TR or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

## General Description

The KSZ8091 is a single-supply 10Base-T/100Base-TX Ethernet physical-layer transceiver for transmission and reception of data over standard CAT-5 unshielded twisted pair (UTP) cable. The KSZ8091 is a highly-integrated PHY solution. It reduces board cost and simplifies board layout by using on-chip termination resistors for the differential pairs, integrating a low-noise regulator to supply the 1.2V core and by offering a flexible 1.8/2.5/3.3V digital I/O interface. The KSZ8091MNX and KSZ8091MLX offer the Media Independent Interface (MII), while the the KSZ8091RNx offer the Reduced Media Independent Interface (RMII) for direct connection with MII/RMII-compliant Ethernet MAC processors and switches.

Wake-on-LAN (WOL) provides a mechanism for the KSZ8091 to wake up a system that is in standby power mode. The KSZ8091 provides diagnostic features to facilitate system bring-up and debugging in production testing and in product deployment. Parametric NAND tree support enables fault detection between KSZ8091 I/Os and the board. Microchip's LinkMD® TDR-based cable diagnostics identify faulty copper cabling.

The KSZ8091RNA and KSZ8091RND are available in a 24-pin (4mm x 4mm) QFN package. The KSZ8091MNX and KSZ8091RNB are available in a 32-pin, lead-free QFN packages. The KSZ8091MLX is available in a 48-pin (7mm x 7mm) LQFP package. Microchip's complimentary and confidential LANCheck® online design review service is available for customers who have selected our products for their application design-in. The LANCheck online design review service is subject to Microchip's Program Terms and Conditions and requires a myMicrochip account.

## Features

Single-chip 10Base-T/100Base-TX IEEE 802.3 compliant Ethernet transceiver

Wake-on-LAN (WOL) support with either magic packet, link status change, or robust custom-packet detection

Power-down and power-saving modes

MII interface support (KSZ8091MNX, KSZ8091MLX)

RMII v1.2 interface support with a 50MHz reference clock output to MAC and an option to input a 50MHz reference clock (KSZ8091RNB)

Back-to-back mode support for a 100Mbps copper repeater

MDC/MDIO management interface for PHY register configuration

Programmable interrupt output

LED outputs for link and activity status indication, plus speed indication for KSZ8091RNB

On-chip termination resistors for the differential pairs

Baseline wander correction

HP Auto MDI/MDI-X to reliably detect and correct straight-through and crossover cable connections with disable and enable option

Auto-negotiation to automatically select the highest link-up speed (10/100Mbps) and duplex (half/full)

LinkMD® TDR-based cable diagnostics to identify faulty copper cabling

Parametric NAND Tree support for fault detection between chip I/Os and the board

Loopback modes for diagnostics

Single 3.3V power supply with VDD I/O options for 1.8V, 2.5V, or 3.3V

Built-in 1.2V regulator for core

Available in 24-pin (4mm x 4mm) QFN, 32-pin (5mm x 5mm) QFN and 48-pin (7mm x 7mm) LQFP packages



**Related Products**



[KSZ8081MLXIA](#)

Microchip Technology, Inc  
LQFP-48



[KSZ8721BT](#)

Microchip Technology, Inc  
TQFP-48



[KSZ8721BLLI-TR](#)

Microchip Technology, Inc  
LQFP-48



[KSZ8041NLI-TR](#)

Microchip Technology, Inc  
VQFN-32



[KSZ8721B](#)

Microchip Technology, Inc  
SSOP-48



[KSZ8091RNBCA](#)

Microchip Technology, Inc  
VQFN-32



[KSZ8061MNGW](#)

Microchip Technology, Inc  
VQFN-48



[KSZ9563RNXC-TR](#)

Microchip Technology, Inc  
VQFN-64