IC TRANSCEIVER FULL 4/4 48FN

Manufacturers	Microchip Technology, Inc
Package/Case	VQFN-48
Product Type	Interface ICs
RoHS	
Lifecycle	
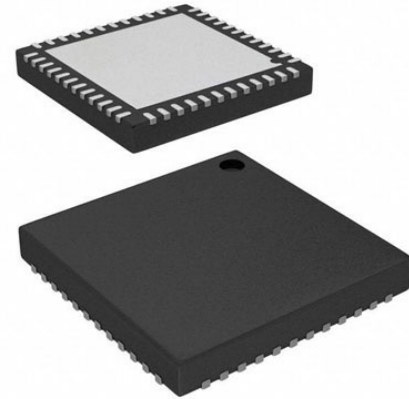
Images are for reference only

Please submit RFQ for KSZ9031RNXVB-VAO or Email to us: sales@ovaga.com We will contact you in 12 hours.   RFQ

General Description

The KSZ9031 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 KSZ9031MNX offers the industry-standard GMII/MII (Gigabit Media Independent Interface/Media Independent Interface) for connection to GMII/MII MACs in Gigabit Ethernet processors and switches for data transfer at 1000Mbps or 10/100Mbps. The KSZ9031RNX provides the reduced gigabit media independent interface (RGMII).The KSZ9031 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 KSZ9031 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, KSZ9031RNXUB-VAO and KSZ9031RNXVB-VAO, are available in the 48-pin lead-free WQFN package. The KSZ9031MNX is available in a 64-pin, lead-free QFN 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 10/100/1000Mbps IEEE 802.3 compliant Ethernet transceiver

KSZ9031Mxx feature GMII/MII standard interface with 3.3V/2.5V/1.8V tolerant I/Os

KSZ9031Rxx feature RGMII timing supports on-chip delay according to RGMII Version 2.0, with programming options for external delay and making adjustments and corrections to TX and RX timing paths

GMII/MII/RGMII with 3.3V/2.5V/1.8V tolerant I/Os

Auto-negotiation to automatically select the highest linkup speed (10/100/1000Mbps) and duplex (half/full)

On-chip termination resistors for the differential pairs

On-chip LDO controller to support single 3.3V supply operation – requires only one external FET to generate 1.2V for the core

Jumbo frame support up to 16KB

125MHz Reference Clock Output

Energy-detect power-down mode for reduced power consumption when the cable is not attached

Wake-on-LAN (WOL) support with robust custom-packet detection

AEC-Q100 qualified for automotive applications (KSZ9031RNXUB-VAO, KSZ9031RNXVB-VAO)

Programmable LED outputs for link, activity, and speed

Baseline wander correction

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

Parametric NAND tree support to detect faults between chip I/Os and board

Loopback modes for diagnostics

Automatic MDI/MDI-X crossover to detect and correct pair swap at all speeds of operation

Automatic detection and correction of pair swaps, pair skew, and pair polarity

MDC/MDIO management interface for PHY register configuration

Interrupt pin option

Power-down and power-saving modes

Operating voltages:

Core (DVDDL, AVDDL, AVDDL_PLL): 1.2V (external FET or regulator)

VDD I/O (DVDDH): 3.3V, 2.5V, or 1.8V

Transceiver (AVDDH): 3.3V or 2.5V (commercial temp)

Available in 48-pin QFN (7mm x 7mm) and 64-pin QFN (8mm x 8mm) packages

Related Products

KSZ8081MLXIA

Microchip Technology, Inc

LQFP-48

KSZ8721BT

Microchip Technology, Inc

TQFP-48
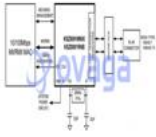

KSZ8721BLI-TR

Microchip Technology, Inc

LQFP-48

KSZ8091RNAIA-TR

Microchip Technology, Inc

VQFN-24

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