**Ethernet CTLR Single Chip 10Mbps/100Mbps 3.3V 128-Pin TQFP EP Tray**

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| **Manufacturer:** | Microchip Technology, Inc |
| **Package/Case:** | TQFP128 |
| **Product Type:** | Communication & Networking ICs |
| **RoHS:** | RoHS Compliant/Lead free |
| **Lifecycle:** | Active |
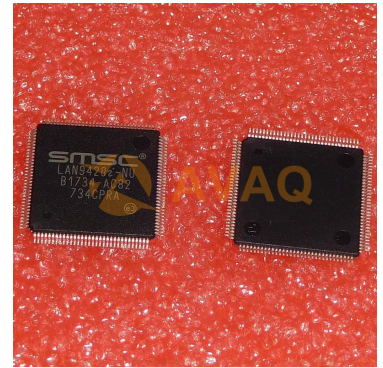
Images are for reference only

Inquiry

## General Description

LAN9420/LAN9420i is a full-featured, Fast Ethernet controller which allows for the easy and cost-effective integration of Fast Ethernet into a PCI-based system. LAN9420/LAN9420i consists of a PCI Local Bus Specification Revision 3.0 compliant interface, DMA Controller, Ethernet MAC, and 10/100 Ethernet PHY.

LAN9420/LAN9420i provides full IEEE 802.3 compliance and all internal components support full/half-duplex 10BASE-T, 100BASE-TX, and manual full-duplex flow control. The descriptor based scatter-gather DMA supports usage of zero-copy drivers, effectively increasing throughput while decreasing Host load. The integrated IRQ deassertion timer allows a minimum IRQ deassertion time to be set, providing reduced Host load and greater control over service routines. Automatic 32-bit CRC generation/checking, automatic payload padding, and 2K jumbo packets (2048 byte) are supported.

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## Key Features

Highlights

Optimized for embedded applications with 32-bit RISC CPUs

Integrated descriptor based scatter-gather DMA and IRQ deassertion timer effectively increase network throughput and reduce CPU loading

Integrated Ethernet MAC with full-duplex support

Integrated 10/100 Ethernet PHY with HP Auto-MDIX Support

32-bit, 33MHz, PCI 3.0 compliant interface

Reduced power operating modes with PCI Power Management Specification 1.1 compliance

Supports multiple audio & video streams over Ethernet

Target Applications

Cable, satellite, and IP set-top boxes

Digital televisions

Digital video recorders

Home gateways

Digital media clients/servers

Industrial automation systems

Industrial/single board PC

Kiosk/POS enterprise equipment

Key Benefits

Integrated High-Performance 10/100 Ethernet Controller

Fully compliant with IEEE 802.3/802.3u

Integrated Ethernet MAC and PHY

10BASE-T and 100BASE-TX support

Full- and Half-duplex support

Full-duplex flow control

Preamble generation and removal

Automatic 32-bit CRC generation and checking

Automatic payload padding and pad removal

Loop-back modes

Flexible address filtering modes

One 48-bit perfect address

64 hash-filtered multicast addresses

Pass all multicast

Promiscuous mode

Inverse filtering

Pass all incoming with status report

Wakeup packet support

Integrated 10/100 Ethernet PHY

Auto-negotiation

Automatic polarity detection and correction

Supports HP Auto-MDIX

Supports energy-detect power down

Support for 3 status LEDs

Receive and transmit TCP checksum offload

PCI Interface

PCI Local Bus Specification Revision 3.0 compliant

32-bit/33-MHz PCI bus

Descriptor based scatter-gather DMA enables zero-copy drivers

Comprehensive Power Management Features

Supports PCI Bus Power Management Interface Specification, Revision 1.1

Supports optional wake from D3cold (via configuration strap option when Vaux is available)

Wake on LAN

Wake on link status change (energy detect)

Magic packet wakeup

General Purpose I/O

3 programmable GPIO pins

2 GPO pins

Support for Optional EEPROM

Serial interface provided for EEPROM

Used to store PCI and MAC address configuration values

Miscellaneous features

Big/Little/Mixed endian support for registers, descriptors, and buffers

IRQ deassertion timer

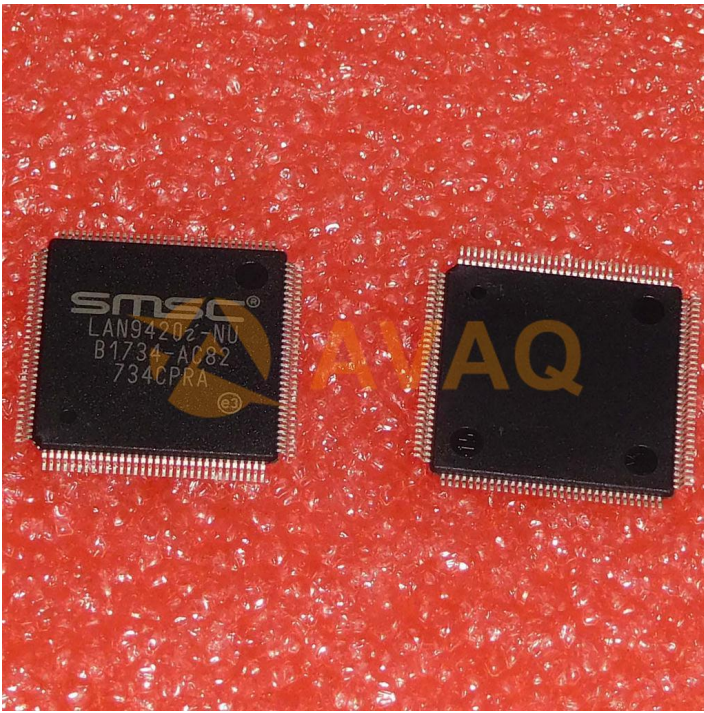General purpose timer

Single 3.3V Power Supply

Integrated 1.8V regulator

Packaging

Available in 128-pin VTQFP RoHS Compliant package

Environmental

Available in commercial & industrial temperature ranges

## Recommended For You

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**LAN91C111-NE**

Microchip Technology, Inc

QFP

**LAN91C93I-MU**

Microchip Technology, Inc

QFP

**LAN91C96-MU**

Microchip Technology, Inc

TQFP100

**LAN91C111i-NC**

Microchip Technology, Inc

QFP

**LAN91C96-MS**

Microchip Technology, Inc

QFP

**LAN91C111I-NU**

Microchip Technology, Inc

TQFP128

**LAN91C111-NC**

Microchip Technology, Inc

QFP

**LAN9252I/ML**

Microchip Technology, Inc

QFN-64

**LAN9215-MT**

Microchip Technology, Inc

QFP100

**LAN91C111I-NS**

Microchip Technology, Inc

QFP128

**LAN91C111-NU**

Microchip Technology, Inc

QFP

**LAN9118-MT**

Microchip Technology, Inc

TQFP100

**LAN9252I/PT**

Microchip Technology, Inc

TQFP64

**LAN9221I-ABZJ**

Microchip Technology, Inc

QFN56

**LAN91C111-NS**

Microchip Technology, Inc

QFP

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