

# MAX72420

## Baseboard and Storage Management Controller

Highly Integrated Management Device Provides a Cost-Effective Solution for Baseboard Management



Request Full Data Sheet



This product is Not Recommended for New Designs. Some versions may be No Longer Available or being discontinued and subject to Last Time Buy, after which new orders can not be placed.

### Overview

### Description

The MAX72420 is a highly integrated management device intended to provide a cost-effective solution for baseboard, storage, or embedded system management. The device contains a high-performance, 32-bit RISC engine; a 10/100 Ethernet media-access controller (MAC); four master/slave mode I<sup>2</sup>C interfaces; a high-speed I<sup>2</sup>C master/slave core; two general-purpose universal asynchronous receiver-transmitters (UARTs); three 32-bit timers; up to 54 bits of general-purpose input/output (GPIO); 64KB of high-speed SRAM; an SPI™ memory interface; and an EJTAG port for firmware debug and development. The device optionally supports a configurable low-pin-count (LPC) system interface for applications requiring a direct system connection. The device also supports a connection to a network controller through a reduced media-independent interface (RMII), which can be configured as a network controller-sideband interface (NC-SI). The MAX72420, along with a minimum number of additional components, can be configured to support all management functions, while retaining the flexibility to support a significantly expanded system through various peripheral interfaces.

Because management functions typically require a limited amount of bandwidth and occur relatively infrequently, an embedded RISC engine operating over an SPI memory interface with zero-wait-state internal SRAM for critical code execution provides optimal performance with a low system cost. The MAX72420 also supports the next generation of

SPI devices, which can double or quadruple the interface bandwidth by using additional signal pins. Several peripheral functions are included in the device to support a variety of embedded controller requirements. External component requirements are limited to a single SPI flash memory device and I<sup>2</sup>C peripherals dedicated to system management functions. Additional peripherals can be added through the GPIO interface.

The MAX72420 is available in an 88-ball, chip-scale ball-grid array (CSBGA) package.

## Key Features

- Integrated MX3 32-Bit RISC Microprocessor Core
- Four Master/Slave Mode, Multimaster-Capable I<sup>2</sup>C Interfaces (IPMB)
- High-Speed Master/Slave I<sup>2</sup>C Core
- Up to 54 Bits of User-Definable General-Purpose I/O with Up to 42 External Interrupts
- Master-Mode SPI Interface for Connection to Serial Flash ROM (Code Store) with Optional Dual/Quad SPI Support
- Integrated 64KB Zero-Wait-State User Data SRAM
- Three 32-Bit Programmable Timers, One Supports a Watchdog Timer
- Two General-Purpose UARTs with Hardware Flow Control
- 10/100 Ethernet MAC for Connection to a Network Controller through an RMI or NC-SI
- Integrated PLL for Use with a Low-Frequency/Low-Cost Crystal (Supports 4, 8, 10, or 12MHz Reference Clocks)
- 32 Optional Fan-Speed Monitor Inputs
- 32 Optional Pulse-Width-Modulation (PWM) Outputs
- Two 64-Bit Serial General-Purpose Input/Output (SGPIO) Master/Slave Interfaces
- EJTAG Debugger for Firmware Development and Debug Support
- Optional LPC System Interface for Applications with Direct Bridging Connections
- Two Configurable Keyboard Controller/Server Management Interfaces
- Optional Single-Wire Serial (SWS) Interface Supporting LM32, LM41, and LM95010 Devices
- 5V Tolerant I/O Using 3.3V Technology

## Applications/Uses

- Server Management
- SES or SAF-TE Over I<sup>2</sup>C
- Storage Enclosures

Key:  Material Analysis  Non-cancelable and Non-returnable

Symbols in part number: **+** Lead-free, RoHS compliant **-** Not qualified as lead-free RoHS **#** RoHS compliant, lead exemption

\*Budgetary price. Some parts do not have standard pricing and need to be quoted.

Part Number

MAX72420+W

Price /Unit\*


status

No Longer Available

package

CSBGA; 88Pin; 82.8mm<sup>2</sup>;



 See Data Sheet for RoHS info

Part Number

MAX72420#W

Price /Unit\*

status

No Longer Available

package

X8899-1;



 See Data Sheet for RoHS info

Part Number

MAX72420EKN

Price /Unit\*

status

No Longer Available

Part Number

MAX72420#

Price /Unit\*

status

No Longer Available

package

QFN; 32Pin; 50.4mm<sup>2</sup>;



See Data Sheet for RoHS info

Part Number

MAX72420+

Price /Unit\*

BUY

status

NRND

package

CSBGA; 88Pin; 82.8mm<sup>2</sup>;



See Data Sheet for RoHS info