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MAX72420

Baseboard and Storage Management Controller

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

Overview | Technical Documents | Ordering Info | Related Products | User Comments (0) | All

Status ⍰

Part Number	Status
MAX72420	Active: In Production. But some versions of the family are Not Recommended for New Designs. See Ordering Information.

Data Sheet

Request Full Data Sheet
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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 I²C interfaces; a high-speed I²C 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 I²C 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 I²C Interfaces (IPMB)
- High-Speed Master/Slave I²C 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 RMII 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 I²C
- Storage Enclosures

Reliability Reports

Reliability Report: MAX72420.pdf

Software/Models

Ordering Information

Filters: Part Number: [   ] Package: [Any ▾] Temperature: [Any ▾] ☐ Tape and Reel ☐ Sample [Go]

Part Number	Notes	Free Sample	Buy	Status ⍰	Recommended Replacement	Package: TYPE PINS FOOTPRINT DRAWING CODE/VAR *	Temp	RoHS/Lead-Free? Materials Analysis
MAX72420		N/A		No Longer Available	MAX72420+	QFN; Land Pattern: Not Available	0°C to +70°C	See data sheet
MAX72420#		N/A		No Longer Available	MAX72420+	QFN; Land Pattern: Not Available	0°C to +70°C	See data sheet
MAX72420#W		N/A		No Longer Available		CSBGA; Land Pattern: Not Available	-40°C to +85°C	See data sheet
MAX72420+	Baseboard and Storage Management Controller		Buy	NRND		CSBGA;88 pin;82.8 mm² Outline Drawing:21-0475 (PDF) Land Pattern: 90-0389 (PDF) Use pkgcode/variation: X8899+1*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX72420+W		N/A		NRND		CSBGA; Land Pattern: Not Available	-40°C to +85°C	See data sheet
MAX72420EKN	Eval Kit for the MAX72420 Baseboard & Storage Mgt Controller		Buy	Active: Data sheet on request only		CSBGA;88 pin;82.8 mm² Outline Drawing:21-0475 (PDF) Land Pattern: 90-0389 (PDF) Use pkgcode/variation: X8899+1*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis

Notes:
1. Other options and links for purchasing parts are listed at: http://www.maxim-ic.com/sales.
2. Didn't Find What You Need? Ask our applications engineers. Expert assistance in finding parts, usually within one business day.
3. Part number suffixes: T or T&R = tape and reel; + = RoHS/lead-free; # = RoHS/lead-exempt; -D = drypack; -U/+U on DS parts = cut tape. More: See Full Data Sheet or Maxim Product Naming Conventions.
4. * Some packages have variations, listed on the drawing. "PkgCode/Variation" tells which variation the product uses. Note that "+", "#", "-" in the part number suffix describes RoHS status. Package drawings may show a different suffix character.

Similar Products by Application

Storage: JBOD Enclosure > Enclosure Management

Didn't Find What You Need?

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Parametric Search
Applications Help

Information Index

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