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SoM-9X25M System on Module



Small, 144 pin SODIMM form factor (2.66" x 1.5")

Atmel AT91SAM9x25 400Mhz Processor

1x 10/100BaseT Ethernet with on-board PHY (2nd Ethernet Optional)

6x Serial ports, 3 with handshake

1x USB 2.0 (High Speed) Host port

1x USB 2.0 (Full Speed) Host port

1x USB 2.0 (High Speed) OTG

Up to 128 MB of DDR2 RAM

Up to 4 GB of eMMC

Up to 16 MB of Serial Data Flash

Battery backed Real Time Clock

SD/MMC SDIO Flash Card Interface

2x I2C Ports
2x CAN 2.0B Ports
1x I2S Audio Port
Timer/Counters and Pulse Width Modulation (PWM) ports
4x A/D Channel with 10-bit A/D Converter
Typical power requirement less than 1 Watt
JTAG for debug, including real-time trace
Linux
FREE Eclipse IDE with GCC & GDB development tools
RoHS 2 (2011) compliance
The SoM-9x25 is a System on Module (SoM) based on the Atmel AT91SAM9x25 processor. Designed and manufactured in the USA, this wide temperature, fanless ARM9 400 MHz SoM has an Ethernet PHY included along with 6 serial ports with auto RS-485. It utilizes up to 4GB of eMMC Flash, up to 16MB of serial data flash, and up to 128MB of DDR2 RAM. A SoM is a small embedded module that contains the core of a microprocessor system. Using the same small 144 pin SODIMM form-factor utilized by other EMAC SoM modules, the SoM-9x25 is the ideal processor engine for your next design. All of the ARM processor core functionality is included on this tiny board including: Flash, Memory, Serial Ports Ethernet, 12S Audio, PWMs, Timer/Counters, A/D, digital I/O lines, Clock/Calendar, and more. The SoM-9x25 is designed to plug into a carrier board that contains all the connectors and any custom I/O required for the application. This
approach allows the customer or EMAC to design a Custom Carrier Board, that meets the customer's I/O, dimensional, and connector
requirements without having to worry about the processor, memory, and standard I/O functionality. With this System on Module approach, a semi-custom hardware platform can be developed in as little as a month.
In addition to the option of the developing a custom carrier board, one can be purchased off-the-shelf from EMAC. EMAC provides off-the-shelf Carrier boards that feature A/D, D/A, MMC/SD card, keypad, LCD, Audio, and Modem interfaces. The recommended off-the-shelf

2x SPI Ports

The System On Module approach provides the flexibility of a fully customized product at a greatly reduced cost. **Specifications** SOM Type: Microcontroller SODIMM Modules Processor Embedded Atmel ARM9 AT91SAM9X25 Clock Speed: 400 MHz Real Time Clock: Memory Bios/ boolloader: Resident Flash Bootloader (Das Uboot) Primary Flash: 4GB of eMMC Secondary Flash: up to 16MB of Serial Data Flash Memory Misc.: System Reset: Supervisor with external Reset Button provision. (Optional) 16MB of Serial Data Flash Primary I/O 32x General Purpose I/Os with 16 ma. drive when used as an output SDIO: 1x SDIO 4-bit Parallel SDHC Interface SPI: 2x High-Speed SPI ports with Chip Selects. Audio: 1x I2S Audio port USB: 1x USB 2.0 High Speed Host 1x USB 2.0 Full Speed 1x USB 2.0 OTG Serial Ports: 6x Serial Ports (1x with full handshake 2x with CTS/RTS handshake) I2C: I2C ports Watchdog: Secondary I/O 2x CAN 2.0B Ports Timers/ Counters/ PWM: 3x 3 channel 32-bit timers/counters with capture compare **PWM** LPT Port:

Linux Operating System and Tools.

PS/2:
Analog on
D/A:
Analog Misc.:
-
Analog I/O: 4 channel, 10-bit Analog-to-Digital converter (ADC)
Dimensions
Dimensions Dimensions.
$2.66 \times 1.5 \text{ in}$
Form Factor:
144-pin Headless SODIMM
Power Requirements
210 mA
Constant Busy Loop Current:
245 mA
Typical Current:
170 mA
Typical Voltage:
3.3 V
Max Boot Current:
255 mA
Power Misc.:
Idle system with Ethernet PHY disabled: 145 mA
APM sleep mode with Ethernet PHY disabled: 20 mA
Environmental
Environmental Low Operating Temperature:
-40 C
High Operating Temperature:
85 C
Upper Operating Humidity:
90%
Solvi-222-120
W/ CPU, 4GB eMMC Flash, 128MB DDR2 RAM, 8MB Serial Data Flash
W/ CPU, 4GB eMMC Flash, 128MB DDR2 RAM, 8MB Serial Data Flash \$130.00
\$130.00 Stock Base Product:
\$130.00 Stock Base Product: SoM-9X25M
\$130.00 Stock Base Product: SoM-9X25M Non-Stock NCNR:
\$130.00 Stock Base Product: SoM-9X25M Non-Stock NCNR:
\$130.00 Stock Base Product: SoM-9X25M Non-Stock NCNR: 0 Carrier Boards:
\$130.00 Stock Base Product: SoM-9X25M Non-Stock NCNR: 0 Carrier Boards: SoM-150ES-000
\$130.00 Stock Base Product: SoM-9X25M Non-Stock NCNR: 0 Carrier Boards:

Keypad:

Bare-Bones Carrier Board
\$100.00
Base Product:
SoM-150ES
SoM-150ES-031
Deluxe Carrier Board with A/D, D/A, Audio
\$220.00
Base Product:
SoM-150ES

Base Product: SoM-150ES SoM-150ES-007

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