

Product Information

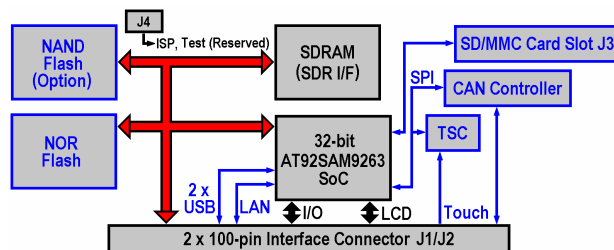
Embedded System-on-Module eSOM/9263

Embedded Linux Module with LCD / Touch Controller, Embedded Web Browser and Web Sever



Description

The System-on-Module eSOM/9263 provides an Atmel 32-bit AT91SAM9263 ARM9 SoC (System on Chip), LCD and touch controller, preinstalled U-Boot boot loader, Linux 2.6 O/S, full-featured TCP/IP stack, embedded web browser in kiosk mode, HTTP(S) server and client, PHP, SQL database for complex and sophisticated 100% web-based HMI (Human-Machine Interface) applications in building automation (e.g. smart home), factory automation and laboratory environments.



Block diagram eSOM/9263:

The eSOM/9263 offers 1x 10/100 Mbps Ethernet LAN, 20-bit GPIO, 1x SPI, 1x I2C, 3x UART, 2x USB, 1x or 2x CAN controller, LCD and touch screen interface. An embedded web browser and HTTP(S) web server allows 100% web-based user interface applications.

The main component of the eSOM/9263 is the Atmel AT91SAM9263. This microcontroller-based system-on-chip embeds a 200 MIPS ARM926EJ-S-based processor. Its parallel bus architecture incorporating distributed DMA overcomes the bottlenecks that occurs with conventional ARM9-based MCUs in data-intensive applications. The AT91SAM9263 employs 27 DMA channels, a 9-layer bus matrix and two additional busses to boost CPU performance and provides on-chip data transfer rates of up to 41.6 Gbps.

The eSOM/9263 disk drive space for boot loader, operating system and user files is implemented with a NOR-type flash chip. An optional 256 Mbytes NAND flash is also available. The eSOM/9263 Linux O/S contains a JFFS (Journalling Flash File System) driver with NOR and NAND flash chip support. For flash memory expansion the eSOM/9263 offers an on-board SD/MMC card socket.

The eSOM/9263 comes with the eSOM-200 footprint and formfactor (two 100-pin Hirose FX8C connectors, 50 mm x 80 mm, and four mounting holes) for rugged industrial applications. The eSOM/9263 adds high-speed Ethernet connectivity and 100% web-based HMI capabilities to any product design.

Technical Data eSOM/9263

Basic

CPU	Atmel AT91SAM9263 32-bit ARM9 SoC
Speed	192 MHz
RAM	128 MByte SDRAM with SDR interface (96MHz)
Flash	32 MByte NOR-type
Flash Option	256MByte NAND-type
Ethernet	1 x 10/100 Mbps Ethernet

I/O Functions

Parallel	20-bit GPIO (General Purpose Input Output)
Serial I/Os	3 x UART
CAN	2 x ISO/11898A 2.0B CAN controllers (CAN1 over AT91SAM9263 SoC, CAN2 over optional external controller with SPI interface)
SPI	1 x SPI master/slave controller (functional OR-ed with CAN2)
I2C	1 x I2C master/slave controller
USB Interfaces	2 x USB 2.0 host ports for external USB devices with FS and LS support
SD/MMC Interface	1 x SD/MMC controller for external use
Bus Interface	16-bit for external I/O and memory devices
LCD Interface	18-bit TTL interface for TFT/STN panels up to 2048 x 2048 pixels
LCD Video Memory	Unified memory architecture for frame buffer RAM
Touch Screen Interface	4-wire for resistive touch panels (SPI-based)

Special Functions

RTC	1 x Real Time Clock with external battery backup
Watchdogs	1 x timer watchdog, 1 x power supervisor
Chip Select Outputs	4 x CS output lines for external expansions
Interrupt Inputs	4 x INT interrupt input lines for external devices
SSD Expansion	1 x SD/MMC card socket
HMI Support	Embedded web server and embedded web browser with kiosk mode

Other

Mechanical	eSOM-200 form factor
Size	80mm x 50mm
Interface Connector	2 x 100-pin Hirose FX8C connector
Power	3.3 VDC
Current	350mA typ. (600mA max.)
Temperature	0 – 70 °C (still air) without heat sink

Delivery

eSOM/9263	eSOM/9263 with preinstalled embedded Linux O/S
EUI/57V	Embedded User Interface device with eSOM/9263, base board BB6/eSOM and 5.7" VGA LCD, touch screen
OTP/57V	Operator Touch Panel device with eSOM/9263, base board BB6/eSOM, 5.7" VGA LCD, touch screen, front panel for 3U 19" rack mounting
TRM/57V	Operator Touch Panel device with eSOM/9263, 5.7" VGA LCD, touch screen, IP65-protected metal case with four mounting points

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