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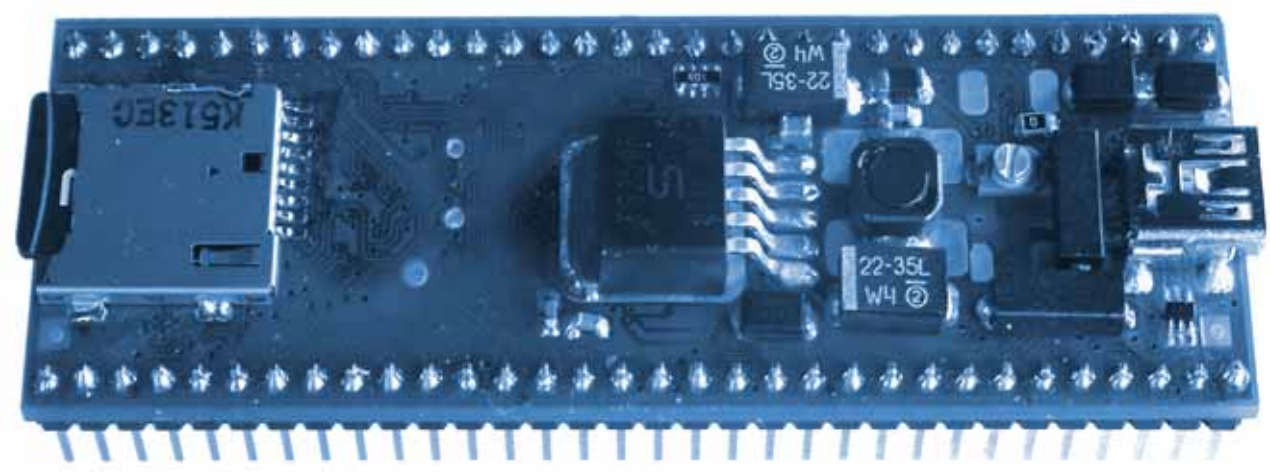
eNet-sam7X

embedded Ethernet and ARM7 TDMI microcontroller module



High performance, easy integration

Key features

- High performance (max. 55 Mhz), low power 32 Bit ARM7TDMI RISC processor core
- Hardware crypto accelerator (AES, 3DES)
- 128K SRAM, 512K Flash
- 100 MBit Ethernet, USB 2.0, serial interfaces, CAN-bus interface
- Micro-SD slot and 4 MB Dataflash on module
- Realtime clock (can be battery backed up)
- SPI and I2C interfaces, 10 Bit ADC channels and digital I/O ports
- Space saving DIL64 design
- Power supply on board (optional), USB powered usage is possible
- Board support package with embedded realtime operating system (RTOS) with multitasking kernel and full TCP/IP stack (NutOS)
- Easy to use starter kit

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Product description

The eNet-sam7X module is designed as an easy drop-in microcontroller module. Just add a standard DIL64 socket to your design, insert the module, and take advantage of the high performance and low power consumption of this advanced cpu module. Versatile interfacing options will meet all your needs. The module combines modern interfaces such as 100 Mbit Ethernet, USB 2.0 and serial interfaces and allows easy usage of SD-cards as memory extension and storage device. There is just one micro-SD card slot on the module but all signals are connected to the base board, so you can add the same or a second SD-Card socket on your base board.

Software development made easy

Just use the free GNU ARM toolchains delivered with our board support package to implement your own software. A full open source embedded real-time operating system with full TCP/IP stack and multitasking support is included in the Board Support Package. Its posix like API allows you to easily port your applications from other architectures. Use the same programming style you are familiar with on Linux or Windows platforms. Together with the Starter Kit, the board support package will give you an intuitive introduction for your own development. A bunch of sample applications are included, including a full web server example to control I/O ports of your starter kit.

Free programmable 32 Bit ARM7TDMI CPU core

- AT91SAM7XC512 CPU with PLL
- Programmable clock (PLL), up to 55 MHz
- Integrated 17 channel DMA controller
- Power management controller and memory controller
- 32 Bit PWM controller
- Interrupt controller
- Integrated 128K SRAM
- Integrated 512K Flash
- Mask programmed USB bootloader (SAM-BA)
- Encryption accelerator for AES and 3DES
- DMA controller for fast access to integrated peripherals

Starter Kit

- Easy hardware development and large pin grid for your own extensions
- USB 2.0 connector
- Ethernet connector
- CAN-bus tranceiver and connector
- RS232 connectors with level converters
- LEDs for easy testing
- ADC connector
- Connector for I/O Pins
- JTAG connector
- Pin header for direct access to all module pins

Peripherals

- 10/100 MBit Ethernet interface with PHY integrated on the module
- Two full USARTs (with hardware handshake) supporting RS485, Manchester encoding, IrDA)
- One debug UART
- Two SPI interfaces, one TWI (I2C) interface and one SSI (synchronous serial) interface
- USB 2.0 (12 Mbit/s) (device)
- CAN-bus controller (2.0A and 2.0B compatible)
- 8 ADC channels
- 63 programmable I/O pins, 43 accessible on the board connector
- Micro-SD slot on board (also base board connectable)
- Micro USB connector on the board (also base board connectable)
- Real Time Clock on board (can be battery backed up)
- 4 MB Dataflash on board
- Power supply with USB powered option on module (optional)
- JTAG interface for programming, debugging and boundary scan

Package

- Easy to integrate DIL64 package format
- 82 x 27mm

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