

New Cortex-M3 SAM3S Family Lot's of new stuff, but still compatible !

Introduction

Atmel extends its **Cortex-M3** portfolio the SAM3S, a Cortex-M3 Flash MCU series that integrates features to simplify PCB design and reduce power consumption **down to 2.3 mW at 1 MHz** operation. Inspired by the best-selling SAM7S series, the SAM3S provides the ideal migration path to a more powerful and feature-rich MCU, while preserving hardware and software investments. .

Pin-to-pin Compatibility between SAM3S and SAM7S MCUs

In its 64-pin version, the **SAM3S is pin-to-pin compatible with the SAM7S**, enabling customers to upgrade performance while maintaining hardware, thus preserving previously made investments.

Special Features

True 1.8V±10% operation extends device operation when running from two AA alkaline batteries. The SAM3S only consumes **1.45 mW/MHz at 64 MHz** operation and 1.6 uA in backup mode with the RTC running. The SAM3S is the first ARM MCU with **Parallel Data Capture Mode** on PIOs and DMA support. The parallel data capture mode on the PIOs complements the external bus interface for data collection from external devices that are not compliant with standard memory read protocols, such as low-cost image sensors.

Memory protection unit (MPU) improves code protection and secures multi-application/task execution. **Unique 128-bit ID and scrambled external bus interface** ensure software confidentiality while the **hardware CRC checks** memory integrity.

Integrated serial resistors eliminate the need for external resistors to preserve signal integrity, resulting in reduced BOM cost, real estate savings and simplified PCB design.

Peripherals, Memories and Packages

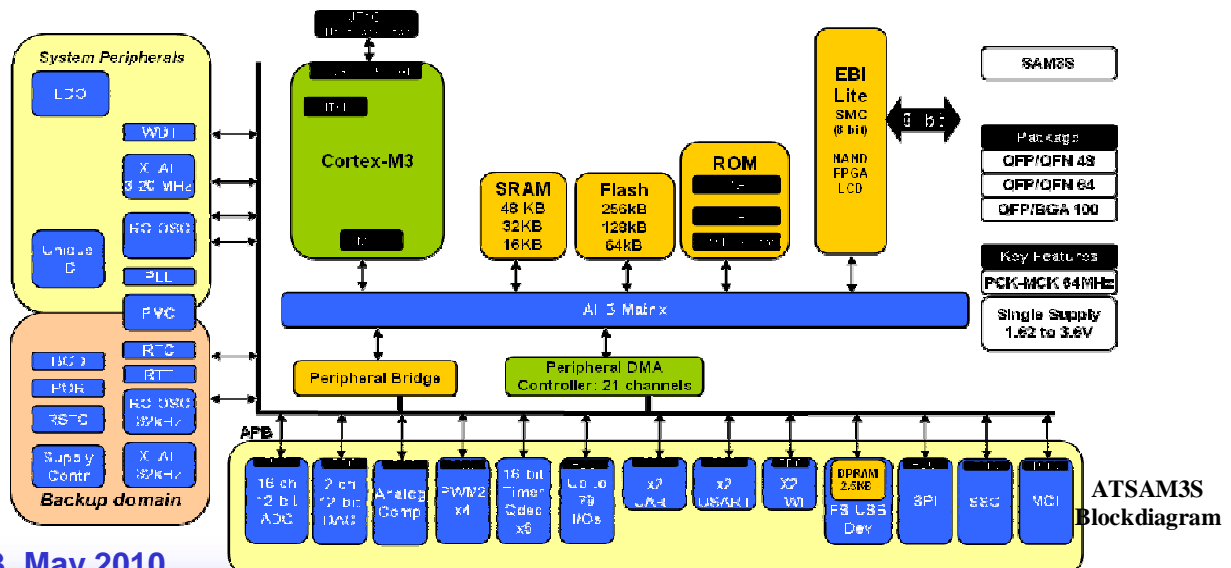
SAM3S Family includes USB FS Device, 8-bit EBI Light (100pin), SPI, I²C, Usarts, **Quadratur Decoder**, powerful PWM, **12-bit ADC, 12-bit DAC, HS SDI/SDIO**, SSC, analog comparators, RTC, SAM-BA Boot ROM. SAM3S comes in 48-pin, 64-pin (QFN, QFP) and 100-pin (BGA, QFP) from 64K-256K Flash. 32K and 512K Flash versions will be available end of 2010.

QTouch Capacitive Touch

SAM3S will be supported by Atmel's **free QTouch Library**. So you can realise capacitive buttons, slider and wheels without additional hardware with your ATSAM3S.

Application Areas

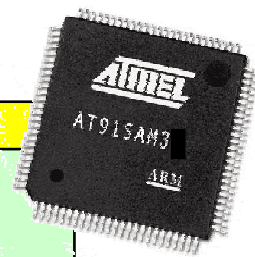
Consumer, industrial control, metering, toys, medical, test and measurement, 802.15.4 wireless networking, and PC, cell phone and gaming peripherals.



ATSAM3 Families...

Here an overview about existing and coming SAM3 families:

CM3 Family	Features	Status
ATSAM3U	Hi-Speed (480Mbps) USB Device, bis 256K Flash & 52K SRAM, Cortex-M3 (Rev2+MPU)@96MHz, 1Mbps ADC, Motor PWM, Hi Speed Flash Card Interfaces, ext. Businterface, 100/144 pin LQFP/BGA Packages	Samples NOW MP Q3 2010
ATSAM3S	Pin compatible (!) to AT91SAM7S, Motor PWM 12-bit ADC&DAC, Comparators ,QDEC, HS MCI, EBI, QTouch, 48/64/100 pin QFP/QFN/BGA	Samples NOW MP Q4 2010
ATSAM3N	Entry MCU, low cost, No USB, 48/64/100 pin QFP/QFN/BGA	Samples Q3'10
ATSAM3X	2 x CAN, Ethernet, HS USB OTG, 12-bit ADC&DAC, EBI, SDRAM 100/144/208 pin QFP/BGA	Samples Q3'10
ATSAM3A	2 x CAN, HS USB OTG, 12-bit ADC&DAC 100pin QFP/BGA	Samples Q4'10

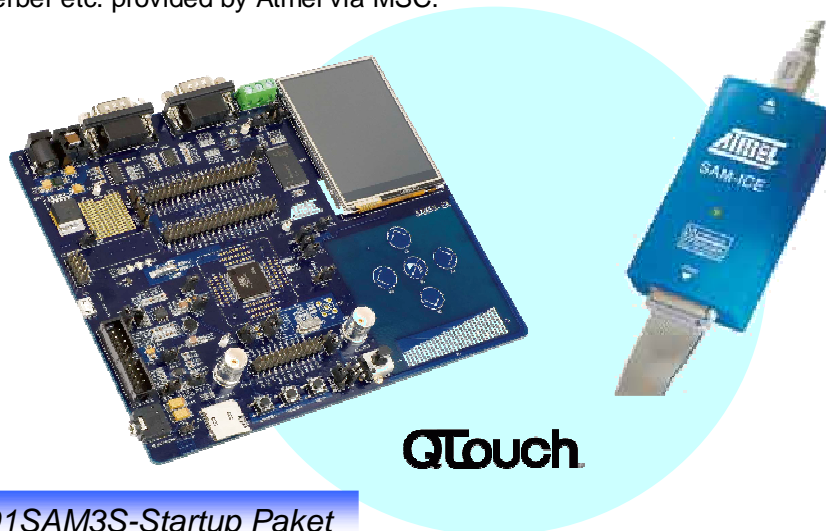


Starting SAM3 ARM® Cortex-M3™ with MSC...

Again MSC provides a ready-to-start **AT91SAM3S-Startup Paket** with AT91SAM3S-EK, AT91SAM-ICE JTAG interface.

This kit is distributed with Atmel CD-ROM containing SW drivers, examples etc.

AT91SAM3S-EK eval-board itself contains AT91SAM3S4C-AU (100 pin, 256K Flash, 48K SRAM, EBI). Interfaces on EK are USB FS device, UARTs, 2.8" QVGA TFT with Touch, Capacitive buttons & slider, SD/SDIO/MMC card slot, ZIGBEE connector, NAND Flash and JTAG. Schematics, BOM, Gerber etc. provided by Atmel via MSC.



Ordercode: *AT91SAM3S-Startup Paket*
Price €139,- + VAT + Delivery from Stutensee

Dirk Jansen djan@msc-ge.com



Learning all about SAM3 ARM® Cortex-M3™ with MSC...

MSC and Doulos will offer a 2-days **SAM3-Cortex Hands-On workshop in 2010**. Your SAM3-EK will be included. Pls inform and register on-line via MSC web site <http://www.msc-ge.com/seminare> since June 2010.