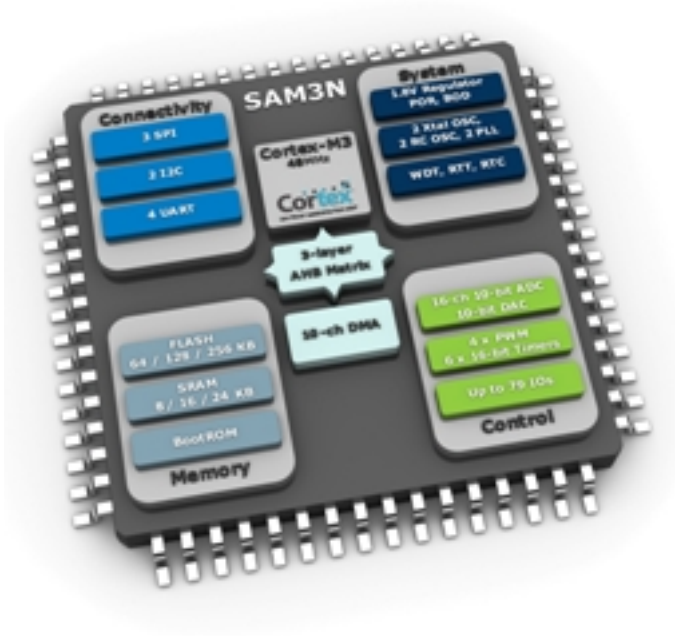
ARM Cortex-M3 Flash MCU Targets General-Purpose Apps



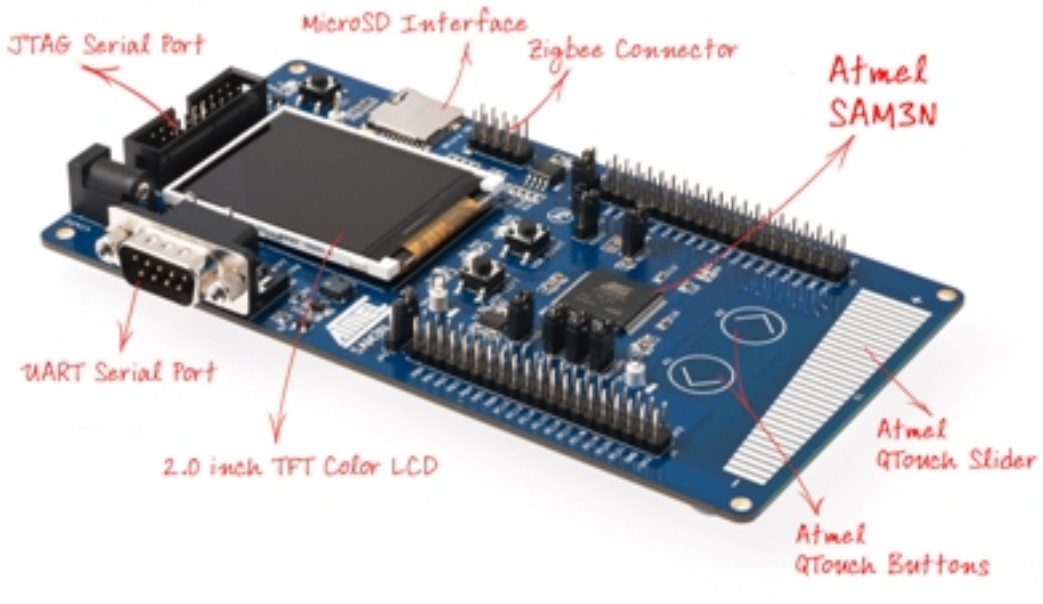
Atmel, a leader in microcontroller and touch solutions, announced the new Atmel SAM3N series to expand their ARM Cortex-M3 Flash Family. The new SAM3N series offers high performance, low-power consumption and scalable memory, pin-count, package options and capacitive touch support. The SAM3N series combines performance and simplicity by including development tools, software, In-system programming and support from the ARM third-party ecosystem network. The SAM3N series is a general-purpose microcontroller targeted at applications including consumer, industrial control, metering, toys, medical, test and measurement, 802.15.4 wireless networking, and PC, cell phone and gaming peripherals.

The Atmel SAM3N and SAM3S series are the first ARM-based microcontrollers that offer capacitive touch support for buttons, sliders and wheels with the Atmel QTouch library and studio to deploy modern-user interfaces. The new series offers an extended supply range from 1.62 to 3.6V to enable a true 1.8V operation and 0.86mW per megahertz in active mode. The lower power consumption can also be reduced to 1.9uA in 1.8V standby mode with RTC (real-time clock) running.

The Atmel SAM3N Cortex-M3 Flash series is pin-to-pin compatible with the best-selling Atmel ARM7TDMI-based SAM7S series to offer an ideal migration path to higher performance and lower power consumption. The new SAM3N series optimizes overall bill of material (BOM) with a lower price-point and by improving system-level integration with on-chip termination resistors.

“The SAM3N series offers the ideal general-purpose microcontroller with the best

cost-to-power consumption, processing power and peripheral set ratio," said Jacko Wilbrink, director of ARM microcontrollers, Atmel Corporation. "The SAM3S offers additional features with higher performance and more peripherals options including 12-bit ADC, SDIO, USB full-speed device, external bus interface, and more Flash SRAM options."



The Atmel SAM3N series is a member of a Flash microcontroller family based on the high-performance 32-bit ARM Cortex-M3 RISC processor. The new ARM-based microcontroller series provides processing power and features such as system control, sensor interfaces, 64k to 256kByte Flash memory options, connectivity capabilities and user interface support. It embeds a rich set of peripherals including ADC/DAC and up to 16 timers and four UARTs supporting ISO7816 standard. In addition, functionality like On-Die-Termination (ODT) for simplification of PCB design has been integrated.

The Atmel SAM3N series is ramping production now in 64k, 128k, 256k Bytes Flash memory densities. The devices are available in the following packages and sizes: 48-, 64- and 100-pin 0.5mm pitch QFP, in 100-ball 0.8mm pitch BGA, and 48- and 64-pin 0.45mm pitch QFN packages.

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