

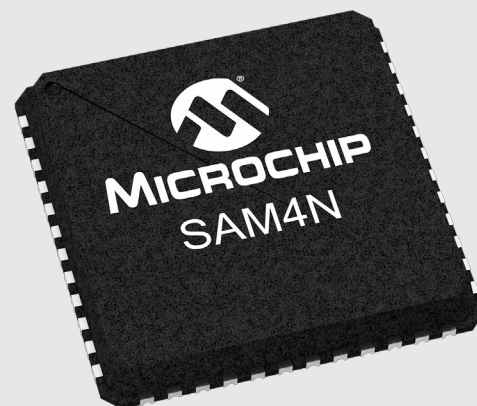
SAM4N Microcontroller Family

Entry Point to Microchip's ARM® Cortex®-M4-Based Flash MCU Portfolio

Summary

Microchip's SAM4N series comprises the entry point to our portfolio of ARM® Cortex®-M4-based Flash microcontrollers (MCUs). These MCUs feature a 100 MHz operating frequency and offer up to 1 MB of Flash, multiple serial communication peripherals and analog capability. This combination of features—plus low power consumption—makes the SAM4N series ideal for a wide range of applications in industrial automation, consumer and appliance and energy metering markets.

The SAM4N series offers pin-to-pin compatibility with SAM4S, SAM3S, SAM3N and SAM7S devices, facilitating easy migration within the portfolio.

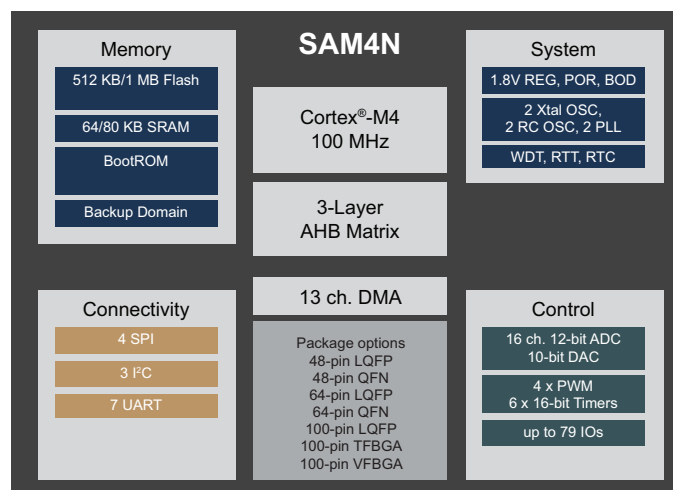


Key Features

- **High level of integration** — SAM4N devices offer fast serial communication with seven UARTs, four SPIs and three I²Cs. Additional features include 12-bit ADC, 10-bit DAC, integrated voltage reference, multiple timers, PWM and more.
- **Low power consumption** — With its low-power architecture, the SAM4N MCU achieves power consumption levels down to 170 µA/MHz in Active mode; as low as 20 µA in Sleep mode with full RAM retention and wake-up time down to 10 µs; requiring as little as 1 µA in backup mode with the RTC running.
- **Ease of use** — The ecosystem of software tools and support for the Atmel Studio Integrated Development Environment (IDE) enables an efficient design process and reduces time to market.

Key Applications

- Industrial automation and Machine-To-Machine (M2M)
 - Process transmitters
 - RF modules
 - Asset tracking
- Consumer and appliance
 - Toys and mobile accessories
- Energy metering
 - Smart meters
 - Low-end data concentrators
- Building and home control
 - Sensors and actuators
 - Control panels
 - Room control units
 - Keypads
 - Low-cost gateways (WAN/HAN) (wireless- and home-area-network)



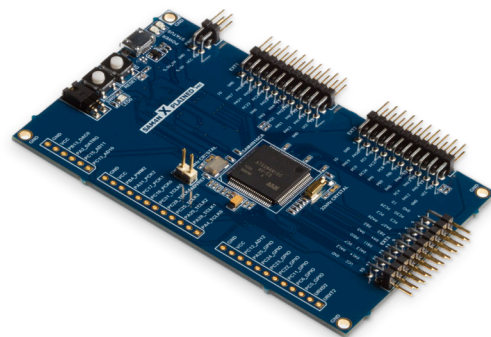
Design Tools and Ecosystem

Microchip offers a full suite of hardware tools for evaluation and prototyping with the SAM4N series. All SAM4N evaluation tools are supported by the Atmel Studio IDE and integrated Microchip QTouch® library support for buttons, sliders and wheels.

They are backed by a worldwide support ecosystem of industry-leading suppliers of development tools, real-time operating systems and middleware products to make your design process easier and reduce time-to-market.

SAM4N Xplained Pro

The SAM4N Xplained Pro platform consists of a main board with multiple expansion ports plus extension boards, including OLED LCD displays, buttons, sensors and more. The board is available as a standalone kit. The extension boards can also be purchased separately.



SAM4N Ordering Information

Device Name	Flash (KB)	SRAM (KB)	Green Packages
ATSAM4N16CA-CFU	1024	80	100-pin VFBGA
ATSAM4N16CA-CU	1024	80	100-pin TFBGA
ATSAM4N16CA-AU	1024	80	100-pin LQFP
ATSAM4N16BA-AU	1024	80	64-pin LQFP
ATSAM4N16BA-MU	1024	80	64-pin QFN
ATSAM4N8CA-CFU	512	64	100-pin VFBGA
ATSAM4N8CA-CU	512	64	100-pin TFBGA
ATSAM4N8CA-AU	512	64	100-pin LQFP
ATSAM4N8BA-AU	512	64	64-pin LQFP
ATSAM4N8BA-MU	512	64	64-pin QFN
ATSAM4N8AA-AU	512	64	64-pin LQFP
ATSAM4N8AA-MU	512	64	64-pin QFN

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