Smart ARM Microcontrollers

AT91 Series Smart ARM Microcontrollers

Atmel's AT91-series Smart ARM Microcontrollers give you immediate access to market-leading ARM® processors. They are complemented with evaluation boards and powerful third-party software development tools to make application development fast and trouble-free.

Performance

Atmel's Smart ARM MCUs provide up to 200 MIPS performance, with integrated Flash ranging from 32k bytes up to 2M bytes and up to 256k bytes of high-speed on-chip SRAM. A rich peripheral set provides the connectivity, communications and control functions required by most applications. Advanced power management allows you to optimize the power consumption for any level of processor and peripheral activity.

Applications

Products recently introduced and in development enlarge the scope of application for Atmel's Smart ARM MCUs. Target applications include computing and communication accessories, in-car navigation, consumer applications, industrial automation, medical, low-end routers and telecom infrastructure. In-built security features make the products ideal for security applications like access control and secure payment.

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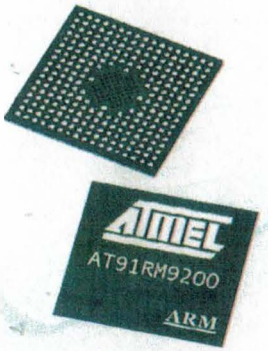
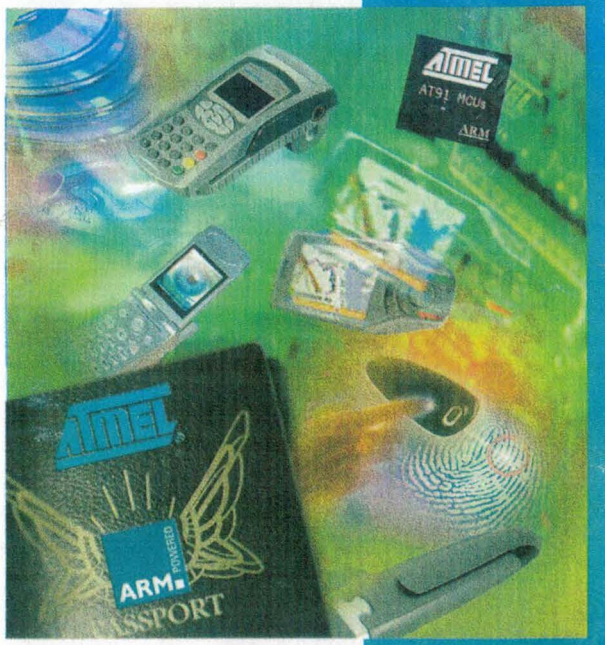


ARM® Thumb® Microcontrollers

AT91 Series Smart ARM Microcontrollers



Your Passport to ARM Technology

SiliconCity™

SMART ARM MICROCONTROLLERS

PRODUCT SELECTION GUIDE

Part Number	ARM7TDMI	ARM920T	ARM926EJ-S	Clock Speed (MHz)*	SRAM (Bytes)	Flash (Bytes)	Mask ROM (Bytes)	External Bus Interface	SDRAM Interface	USART	Enhanced USART	SPI	TWI	SSC	PDC Channel	MCI	CAN	USB Device (Full Speed)	USB Host (Full Speed)	Ethernet MAC 10/100	LCD Controller	16-bit Timers	PWM Controller	System Timer	Watchdog Timer	RTC	10-bit ADC Channel	10-bit DAC Channel	Power-On Reset	Brown Out Detection	On-chip RC Oscillator	High Current Pads	I/O Pins	Power Supply (V)	Packages	Samples	Production
AT91M40800	x	-	-	40	8K	-	-	x	-	2	-	-	-	-	4	-	-	-	-	-	-	3	-	-	x	-	-	-	-	-	-	-	32	1.8-3.6	QFP100	Now	Now
AT91R40008	x	-	-	70	256K	-	-	x	-	2	-	-	-	-	4	-	-	-	-	-	-	3	-	-	x	-	-	-	-	-	-	-	32	1.65-1.95 Core 2.7-3.6 I/O	QFP100	Now	Now
AT91FR4042	x	-	-	70	256K	512K	-	x	-	2	-	-	-	-	4	-	-	-	-	-	-	3	-	-	x	-	-	-	-	-	-	-	32	1.65-1.95 Core 2.7-3.6 I/O	BGA121	Now	Now
AT91FR40161	x	-	-	33	136K	2M	-	x	-	2	-	-	-	-	4	-	-	-	-	-	-	3	-	-	x	-	-	-	-	-	-	-	32	2.7-3.6	BGA120	Now	2Q04
AT91FR40162	x	-	-	70	256K	2M	-	x	-	2	-	-	-	-	4	-	-	-	-	-	-	3	-	-	x	-	-	-	-	-	-	-	32	1.65-1.95 Core 2.7-3.6 I/O	BGA121	Now	Now
AT91M42800A	x	-	-	33	8K	-	-	x	-	2	-	2	-	-	8	-	-	-	-	-	-	6	-	x	-	-	-	-	-	-	-	-	54	2.7-3.6 Core 2.7-5.5 I/O	QFP144 BGA144	Now	Now
AT91M55800A	x	-	-	33	8K	-	-	x	-	3	-	1	-	-	10	-	-	-	-	-	-	6	-	-	x	x	8	2	-	-	-	-	58	2.7-3.6 Core/Analog 2.7-5.5 I/O	QFP176 BGA176	Now	Now
AT91RM3400	x	-	-	66	96K	-	256K	-	-	-	4	1	1	3	20	x	-	x	-	-	-	6	-	x	-	-	-	-	-	-	-	-	63	1.65-1.95 Core 1.65-3.6 I/O	QFP100	Now	Now
SAM7A1	x	-	-	40	4K	-	-	-	-	3	-	1	-	-	11	-	1	-	-	-	-	9	4	-	x	-	8	-	-	-	-	-	49	3.0-3.6 Core/Analog 3.0-5.5 I/O	QFP144	2Q04	3Q04
SAM7A2	x	-	-	30	16K	-	-	-	-	2	-	1	-	-	10	-	4	-	-	-	-	10	4	-	x	-	16	-	-	-	-	-	57	3.0-3.6 Core/Analog 3.0-5.5 I/O	QFP176	Now	2Q04
SAM7A3	x	-	-	60	32K	256K	-	-	-	-	3	2	1	2	19	x	2	x	-	-	-	9	8	x	-	-	16	-	x	-	x	-	62	3.0-3.6	QFP100	3Q04	4Q04
SAM7S32	x	-	-	66	8K	32K	-	-	-	-	2	1	1	1	11	-	-	-	-	-	-	3	4	x	-	-	4	-	x	x	x	4	32	3.0-3.6	QFP48	3Q04	4Q04
SAM7S64	x	-	-	66	16K	64K	-	-	-	-	2	1	1	1	11	-	-	x	-	-	-	3	4	x	-	-	8	-	x	x	x	4	39	3.0-3.6	QFP64	3Q04	4Q04
SAM7S128	x	-	-	66	16K	128K	-	-	-	-	2	1	1	1	11	-	-	x	-	-	-	3	4	x	-	-	8	-	x	x	x	4	39	3.0-3.6	QFP64	4Q04	4Q04
AT91RM9200	-	x	-	180	16K	-	128K	x	x	-	4	1	1	3	20	x	-	x	x	1	-	6	-	x	-	x	-	-	-	-	-	-	94	1.65-1.95 Core 1.65-3.6 I/O	QFP208 BGA256	Now	Now
SAM9261	-	-	x	180	160K	-	128K	x	x	-	3	2	1	3	19	x	-	x	x	-	x	3	-	x	-	x	-	-	-	-	-	-	96	1.08-1.32 Core 1.65-3.6 I/O	BGA217	3Q04	4Q04

ARM920T: ARM9TDMI RISC CPU, 16KB Instruction and 16KB Data caches, MMU, Write buffer and Embedded Trace Macrocell.

ARM926EJ-S: ARM9EJ-S CPU, 16KB Instruction and 16KB Data caches, MMU, Write buffer, DSP instruction extensions, Java acceleration and Embedded Trace Macrocell.

* Clock Speed: Max clock speed @ 85°C

Enhanced USART: supports RS485, ISO7816, IrDA and modem control lines.

TWI: Two Wire Interface, interconnects components on a two-wire bus.

SSC: Serial Synchronous Controller, supports many serial synchronous communications protocols used in audio and telecom applications such as I2S, short or long frame sync.

MCI: Multimedia Card Interface, supports the Multimedia Card specification V2.2 and the SD Memory Card specification V1.0.

16-bit Timers: Capture/Compare, Waveform generation and PWM modes.

System Timer: integrates three timers, Period Interval Timer setting the base time for an OS, Watchdog Timer and Real Time Timer counting elapsed seconds.

RTC: Real Time Clock, combines a complete time of day clock with alarm and a two hundred year gregorian calendar coded in Binary Code Decimal.

PDC: Peripheral Data Controller (DMA), transfers data between on-chip USART, SSC, SPI, MCI, ADC and the on and off-chip memories without CPU intervention.

LCD Controller: Supports STN and TFT displays, resolution up to 2048x2048.