

Ordering Code	Supported Device	
AT91SAM-ICE	All AT91 ARM7™ & ARM9™ Products	
AT91SAM7L-EK	AT91SAM7L64 AT91SAM7L128	
AT91SAM7L-STK	AT91SAM7L64 AT91SAM7L128	
AT91SAM7S-EK	AT91SAM7S16 AT91SAM7S161 AT91SAM7S32 AT91SAM7S321 AT91SAM7S64 AT91SAM7S128 AT91SAM7S256 AT91SAM7S512	
AT91SAM7SE-EK	AT91SAM7SE32 AT91SAM7SE256 AT91SAM7SE512	
AT91SAM7X-EK	AT91SAM7X128 AT91SAM7X256 AT91SAM7X512	
AT91SAM7XC-EK	AT91SAM7XC128 AT91SAM7XC256 AT91SAM7XC512	
AT91SAM7A3-EK	AT91SAM7A3	
AT91SAM9G20-EK	AT91SAM9G20	
AT91SAM9260-EK	AT91SAM9260	
AT91SAM9XE-EK	AT91SAM9XE128 AT91SAM9XE256 AT91SAM9XE512	
AT91SAM9261-EK	AT91SAM9261 AT91SAM9261S	
AT91SAM9263-EK	AT91SAM9263	
AT91SAM9RL-EK	AT91SAM9RL64	

Headquarters

Atmel Corporation

2325 Orchard Parkway
San Jose, CA 95131, États-Unis
Tel.: +1 (408) 441 0311
Fax: +1 (408) 487 2600

International

Atmel Asia

Unit 1-5 & 16, 19/F
BEA Tower
Millennium City 5
418 Kwun Tong Road
Kwun Tong, Kowloon
Hong Kong
Tel.: (852) 2245 6100
Fax: (852) 2722 1369

Atmel Europe

Le Krebs
8, rue Jean-Pierre Timbaud
B.P. 309
78054 Saint-Quentin-en-Yvelines Cedex
France
Tel.: +33 (0)1 30 60 70 00
Fax: +33 (0)1 30 60 71 11

Atmel Japan

9F, Tonetsu Shinkawa Bldg.
1-24-8 Shinkawa
Chuo-Ku, Tokyo 104-0033
Japon
Tel.: +81 3 3523 3551
Fax: +81 3 3523 7581

Web Site

<http://www.atmel.com>

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One-stop Shop for ARM-based Micros

Product Guide

32-bit Flash-based ARM Microcontrollers

Part Number		ARM Core		MMU / MPU	Clock Speed (MHz)*	SRAM (Bytes)	Cache Memory (Bytes)	Flash (Bytes)	In System Programming	External Bus Interface	SDRAM Interface	NAND Flash / ECC	Periphera DMA (Channels)	DBGU / UART	USART	SPI / TWI / SSC	MCU	SDIO	CAN	USB Device	USB Host (Full/High Speed)	Ethernet MAC 10/100	LCD Controller & Drivers	Triple DES Engine	AES Engine (Bits)	Image Sensor Interface	16-bit Timers	PWM Controller	Period Interval Timer	Watchdog Timer	RTC / RTT	10-bit ADC Channel	Power-On Reset	Brown Out Detection	On-chip I2C Detection	Crystal Oscillator	High Current Pads	I/O Pins	I/O Voltage domain (V)	Single Supply	Package	Status 1Q09
AT91SAM7L64	7TDMI	-	36	6K	-	64K	Y	-	-	-	11	1	2	1/1/-	-	N	-	-	-	-	1	-	-	-	3	4	1	1	1/-	4	1	1	2	1/1	4	80	1.8 to 3.6	Y	QFP128/BGA144	P		
AT91SAM7L128	7TDMI	-	36	6K	-	128K	Y	-	-	-	11	1	2	1/1/-	-	N	-	-	-	-	1	-	-	-	3	4	1	1	1/-	4	1	1	2	1/1	4	80	1.8 to 3.6	Y	QFP128/BGA144	P		
AT91SAM7SL16	7TDMI	-	37	4K	-	16K	Y	-	-	-	15	1	2	1/2/1	-	N	-	-	-	-	-	-	-	3	4	1	1	1/1	2	1	1	2	1/1	4	28	1.8 to 3.6	Y	QFN48	D			
AT91SAM7SL161	7TDMI	-	37	4K	-	16K	Y	-	-	-	15	1	2	1/2/1	-	N	-	-	-	-	-	-	-	3	4	1	1	1/1	4	1	1	2	1/1	4	36	1.8 to 3.6	Y	QFP64/QFN64	D			
AT91SAM7SL32	7TDMI	-	37	8K	-	32K	Y	-	-	-	15	1	2	1/2/1	-	N	-	-	-	-	-	-	-	3	4	1	1	1/1	2	1	1	2	1/1	4	28	1.8 to 3.6	Y	QFN48	D			
AT91SAM7SL321	7TDMI	-	37	8K	-	32K	Y	-	-	-	15	1	2	1/2/1	-	N	-	-	-	-	-	-	-	3	4	1	1	1/1	4	1	1	2	1/1	4	36	1.8 to 3.6	Y	QFP64/QFN64	D			
AT91SAM7SL64	7TDMI	-	37	8K	-	64K	Y	-	-	-	15	1	2	1/2/1	-	N	-	-	-	-	-	-	-	3	4	1	1	1/1	2	1	1	2	1/1	4	28	1.8 to 3.6	Y	QFN48	D			
AT91SAM7SL641	7TDMI	-	37	8K	-	64K	Y	-	-	-	15	1	2	1/2/1	-	N	-	-	-	-	-	-	-	3	4	1	1	1/1	4	1	1	2	1/1	4	36	1.8 to 3.6	Y	QFP64/QFN64	D			
AT91SAM7S16	7TDMI	-	55	4K	-	16K	Y	-	-	-	9	1	1	1/1/1	-	N	-	-	-	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	21	1.8/3.3	Y	QFP48/QFN48	S			
AT91SAM7S161	7TDMI	-	55	4K	-	16K	Y	-	-	-	11	1	2	1/1/1	-	N	-	FS	-	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	32	1.8/3.3	Y	QFP64	S			
AT91SAM7S32	7TDMI	-	55	8K	-	32K	Y	-	-	-	9	1	1	1/1/1	-	N	-	-	-	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	21	1.8/3.3	Y	QFP48/QFN48	P			
AT91SAM7S321	7TDMI	-	55	8K	-	32K	Y	-	-	-	11	1	2	1/1/1	-	N	-	FS	-	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	32	1.8/3.3	Y	QFP64/QFN64	P			
AT91SAM7S64	7TDMI	-	55	16K	-	64K	Y	-	-	-	11	1	2	1/1/1	-	N	-	FS	-	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	32	1.8/3.3	Y	QFP64/QFN64	P			
AT91SAM7S128	7TDMI	-	55	32K	-	128K	Y	-	-	-	11	1	2	1/1/1	-	N	-	FS	-	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	32	1.8/3.3	Y	QFP64/QFN64	P			
AT91SAM7S256	7TDMI	-	55	64K	-	256K	Y	-	-	-	11	1	2	1/1/1	-	N	-	FS	-	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	32	1.8/3.3	Y	QFP64/QFN64	P			
AT91SAM7S512	7TDMI	-	55	64K	-	512K	Y	-	-	-	11	1	2	1/1/1	-	N	-	FS	-	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	32	1.8/3.3	Y	QFP64/QFN64	P			
AT91SAM7SE32	7TDMI	-/1	55	8K	-	32K	Y	1	1	1/1	11	1	2	1/1/1	-	N	-	FS	-	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	88	1.8/3.3	Y	QFP128/BGA144	P			
AT91SAM7SE256	7TDMI	-/1	55	32K	-	256K	Y	1	1	1/1	11	1	2	1/1/1	-	N	-	FS	-	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	88	1.8/3.3	Y	QFP128/BGA144	P			
AT91SAM7SE512	7TDMI	-/1	55	32K	-	512K	Y	1	1	1/1	11	1	2	1/1/1	-	N	-	FS	-	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	88	1.8/3.3	Y	QFP128/BGA144	P			
AT91SAM7X128	7TDMI	-	55	32K	-	128K	Y	-	-	-	13	1	2	2/1/1	-	N	1	FS	-	1	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	62	3.3	Y	QFP100/BGA100	P		
AT91SAM7X256	7TDMI	-	55	64K	-	256K	Y	-	-	-	13	1	2	2/1/1	-	N	1	FS	-	1	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	62	3.3	Y	QFP100/BGA100	P		
AT91SAM7X512	7TDMI	-	55	128K	-	512K	Y	-	-	-	13	1	2	2/1/1	-	N	1	FS	-	1	-	-	-	-	3	4	1	1	-/1	8	1	1	1	1/1	4	62	3.3	Y	QFP100/BGA100	P		
AT91SAM7XC128	7TDMI	-	55	32K	-	128K	Y	-	-	-	17	1	2	2/1/1	-	N	1	FS	-	1	-	1	128	-	3	4	1	1	-/1	8	1	1	1	1/1	4	62	3.3	Y	QFP100/BGA100	P		
AT91SAM7XC256	7TDMI	-	55	64K	-	256K	Y	-	-	-	17	1	2	2/1/1	-	N	1	FS	-	1	-	1	128	-	3	4	1	1	-/1	8	1	1	1	1/1	4	62	3.3	Y	QFP100/BGA100	P		
AT91SAM7XC512	7TDMI	-	55	128K	-	512K	Y	-	-	-	17	1	2	2/1/1	-	N	1	FS	-	1	-	1	256	-	3	4	1	1	-/1	8	1	1	1	1/1	4	62	3.3	Y	QFP100/BGA100	P		
AT91SAM7A3	7TDMI	-/1	60	32K	-	256K	-	-	-	-	19	1	3	2/1/2	1	N	2	FS	-	-	-	-	-	-	9	8	1	1	-/1	16	3	-	1	1/1	-	62	3.3	Y	QFP100	P		
AT91SAM9XE128	926EJ-S	1/-	210	16K	16K+8K	128K	Y	1	1	1/1	24	1	5	2/2/1	1	Y	-	FS	2FS	1	-	-	-	1	6	-	1	1	-/1	4	2	1	1	2/2	3	96	1.8/3.3	N	QFP208/BGA217	S		
AT91SAM9XE256	926EJ-S	1/-	210	32K	16K+8K	256K	Y	1	1	1/1	24	1	5	2/2/1	1	Y	-	FS	2FS	1	-	-	-	1	6	-	1	1	-/1	4	2	1	1	2/2	3	96	1.8/3.3	N	QFP208/BGA217	S		
AT91SAM9XE512	926EJ-S	1/-	210	32K	16K+8K	512K	Y	1	1	1/1	24	1	5	2/2/1	1	Y	-	FS	2FS	1	-	-	-	1	6	-	1	1	-/1	4	2	1	1	2/2	3	96	1.8/3.3	N	QFP208/BGA217	S		

32-bit Embedded ARM Microprocessors

Part Number	Features																																		Package	Status 1Q09					
	ARM Core	Cache Memory (Bytes)	Clock Speed (MHz)*	SRAM (Bytes)	In System Programming	External Bus Interface	SDRAM Interface	DDR2 Interface	SLC NAND Flash / ECC	Peripheral DMA (Channels)	DBGU / UART	USART	SPI / TWI / SSC	MCI	SDIO	eMMC	CAN	USB Device	USB Host (Full/High Speed)	Ethernet MAC 10/100	LCD Controller	R-Touch	Video Decoder	Triple DES Engine & SHA	Image Sensor (Bits)	16-bit Timers	PWM Controller	Period Interval Timer	Watchdog Timer	RTC / RTT	10-bit ADC Channel	Power-On Reset	On-chip I2C	Crystal Oscillator			High Current Pads	Slew Rate Control	I/O Pins	I/O Voltage domain (V)	
AT91SAM9G20	926EJ-S	2x32K	400	2x16K	Y	1	1	-	1/1	24	1	6	2/1/1	1	Y	-	-	FS	2FS	1	-	-	-	-	1	6	-	1	1	-/1	4	2	1	2/2	3	Y	96	1.8/3.3	BGA217	P	
AT91SAM9260	926EJ-S	2x8K	210	2x4K	Y	1	1	-	1/1	23	1	6	2/1/1	1	Y	-	-	FS	2FS	1	-	-	-	-	1	6	-	1	1	-/1	4	2	1	2/2	3	N	96	1.8/3.3	QFP208/ BGA217	P	
AT91SAM9261	926EJ-S	2x16K	240	160K	Y	1	1	-	1/0	19	1	3	2/1/3	1	N	-	-	FS	2FS	-	1	-	-	-	-	3	-	1	1	-/1	-	2	-	2/2	-	N	96	1.8/3.3	BGA217	P	
AT91SAM9261S	926EJ-S	2x16K	240	16K	Y	1	1	-	1/0	19	1	3	2/1/3	1	N	-	-	FS	2FS	-	1	-	-	-	-	3	-	1	1	-/1	-	2	-	2/2	-	N	96	1.8/3.3	BGA217	P	
AT91SAM9G10	926EJ-S	2x16K	266	16K	Y	1	1	-	1/0	19	1	3	2/1/3	1	Y	-	-	FS	2FS	-	1	-	-	-	-	3	-	1	1	-/1	-	2	-	2/2	-	Y	96	1.8/3.3	BGA217	D	
AT91SAM9263	926EJ-S	2x16K	240	96K	Y	2	2	-	2/2	20	1	3	2/1/2	2	Y	-	1	FS	2FS	1	1	-	-	-	1	3	4	1	1	-/2	-	2	-	2/2	-	N	160	1.8/3.3	BGA324	P	
AT91SAM9R64	926EJ-S	2x4K	240	64K	Y	1	1	-	1/1	22	1	4	1/1/1	1	Y	-	-	HS	-	-	-	-	-	-	3	3	1	1	1/1	3	2	1	2/2	-	N	49	1.8/3.3	BGA144	P		
AT91SAM9RL64	926EJ-S	2x4K	240	64K	Y	1	1	-	1/1	26	1	4	1/2/2	1	Y	-	-	HS	-	-	1	Y	-	-	-	3	4	1	1	1/1	6	2	1	2/2	-	N	118	1.8/3.3	BGA217	P	
AT91SAM9G45	926EJ-S	2x32K	400	64K	Y	2	1	2	1/1	21	1	4	2/2/2	2	Y	Y	-	HS	2HS	1	1	Y	-	-	1	6	4	1	1	1/1	8	2	1	2/2	-	Y	160	1.8/3.3	BGA324	D	
AT91SAM9M10	926EJ-S	2x32K	400	64K	Y	2	1	2	1/1	21	1	4	2/2/2	2	Y	Y	-	HS	2HS	1	1	Y	1	-	-	1	6	4	1	1	1/1	8	2	1	2/2	-	Y	160	1.8/3.3	BGA324	D
AT91SAM9M11	926EJ-S	2x32K	400	64K	Y	2	1	2	1/1	24	1	4	2/2/2	2	Y	Y	-	HS	2HS	1	1	Y	1	1	256	1	6	4	1	1	1/1	8	2	1	2/2	-	Y	160	1.8/3.3	BGA324	D

USART: Support for RS485, ISO7816, IrDA and modem control lines on selected USARTs.
DBGU: Debug Unit provides single entry to all debug capabilities as well as UART function.
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.
16-bit Timers: Capture/Compare, Waveform generation and PWM modes.
ECC: Error Corrected Code controller.
PDC: Peripheral DMA Controller, transfers data between on-chip peripherals and the on and off-chip memories without CPU intervention.
BGA Package: 0.8 mm Ball Pitch.

*Clock Speed: Max clock speed @ +85°C.

ISI: Image Sensor Interface for CMOS-type image sensor, ITU-R BT. 601/656 External Interface, Programmable Frame Capture Rate, up to 12-bit Data Interface, SAV and EAV Synchronization, Preview Path with Scaler, YCbCr Format.
LCD Controller: Supports STN & TFT displays, up to 16-bits per Pixel in STN Color Mode, up to 16M Colors in TFT Mode.
Video Decoder: Hardware video decoding & Image Post Processing : H.264, MPEG4, H.263, MPEG2, JPEG.
MCI: Multimedia Card Interface (SDCard, MMC).
eMMC: MLC NandFlash supported through MMC interface.
Status: (D)evelopment, (S)ampling, (P)roduction.

Peripheral implementation may vary among products, please consult individual product datasheet for detailed description.