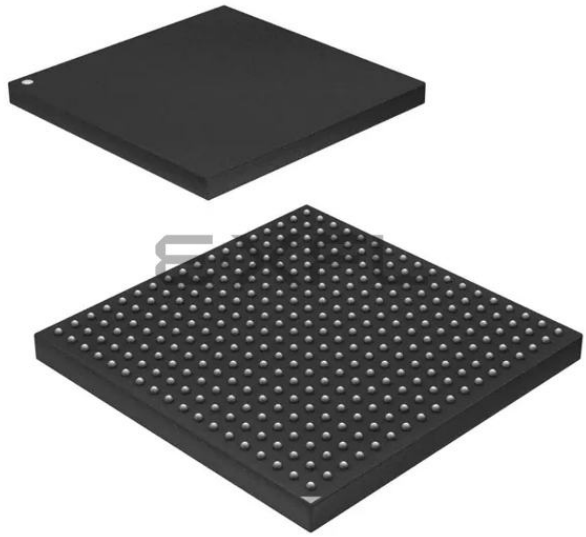

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"Embedded - Microcontrollers" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "Embedded - Microcontrollers"

Details	
Product Status	Discontinued at Digi-Key
Core Processor	AVR
Core Size	32-Bit Single-Core
Speed	200MHz
Connectivity	EBI/EMI, Ethernet, I²C, Memory Card, SPI, SSC, UART/USART
Peripherals	AC'97, DMA, I²S, LCD, POR, PWM, WDT
Number of I/O	146
Program Memory Size	-
Program Memory Type	ROMless
EEPROM Size	-
RAM Size	64K x 8
Voltage - Supply (Vcc/Vdd)	1.08V ~ 3.6V
Data Converters	D/A 2x16b
Oscillator Type	Internal
Operating Temperature	-40°C ~ 85°C (TA)
Mounting Type	Surface Mount
Package / Case	324-TFBGA
Supplier Device Package	324-TFBGA (15x15)
Purchase URL	https://www.e-xfl.com/product-detail/microchip-technology/at32ap7200-ctut

Winter 2008

Atmel Corporation • 2325 Orchard Parkway • San Jose, CA 95131
TEL: (408) 441-0311 • FAX: (408) 487-2600
Web Site:

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AVR® 8-bit RISC
ATmega AVR Series

Part Number	Flash (Kbytes)	EEPROM (Bytes)	RAM (Bytes)	I/O Pins	USI	USART	SPI	TWI	8-bit Timer	16-bit Timer	10-bit ADC	BOD	On-chip Debug.	Self-prog. (S)	Package	VCC	Speed (MHz)	Other	Availability
ATmega48	4	256	512	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	2.7-5.5V	0-20	–	Now
ATmega48V	4	256	512	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5V	0-10	–	Now
ATmega8	8	512	1K	23	–	1	1	1	2	1	8	Y	–	S	PDIP, TQFP, QFN, DIE	4.5-5.5V	0-16	–	Now
ATmega8L	8	512	1K	23	–	1	1	1	2	1	8	Y	–	S	PDIP, TQFP, QFN, DIE	2.7-5.5V	0-8	–	Now
ATmega88	8	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	2.7-5.5V	0-20	–	Now
ATmega88V	8	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5V	0-10	–	Now
ATmega8515	8	512	512	35	–	1	1	–	1	1	–	Y	–	S	PDIP, PLCC, TQFP, QFN, DIE	4.5-5.5V	0-16	XRAM	Now
ATmega8515L	8	512	512	35	–	1	1	–	1	1	–	Y	–	S	PDIP, PLCC, TQFP, QFN, DIE	2.7-5.5V	0-8	XRAM	Now
ATmega8535	8	512	512	32	–	1	1	1	2	1	8	Y	–	S	PDIP, PLCC, TQFP, QFN, DIE	4.5-5.5V	0-16	–	Now
ATmega8535L	8	512	512	32	–	1	1	1	2	1	8	Y	–	S	PDIP, PLCC, TQFP, QFN, DIE	2.7-5.5V	0-8	–	Now
ATmega168	16	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	2.7-5.5V	0-20	–	Now
ATmega168V	16	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5V	0-10	–	Now
ATmega162	16	512	1K	35	–	2	1	–	2	2	–	Y	JTAG	S	PDIP, TQFP, QFN, DIE	2.7-5.5V	0-16	XRAM	Now
ATmega162V	16	512	1K	35	–	2	1	–	2	2	–	Y	JTAG	S	PDIP, TQFP, QFN, DIE	1.8-5.5V	0-8	XRAM	Now
ATmega16A	16	512	1K	32	–	1	1	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	2.7-5.5V	0-16	–	Now
ATmega32A	32	1K	2K	32	–	1	1	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	2.7-5.5V	0-16	–	Now
ATmega325	32	1K	2K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5V	0-16	–	Now
ATmega325V	32	1K	2K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5V	0-8	–	Now
ATmega3250	32	1K	2K	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	2.7-5.5V	0-16	–	Now
ATmega3250V	32	1K	2K	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	1.8-5.5V	0-8	–	Now
ATmega64	64	2	4	54	–	2	1	1	2	2	8	Y	JTAG	S	TQFP, QFN, DIE	4.5-5.5V	0-16	XRAM	Now
ATmega64L	64	2	4	54	–	2	1	1	2	2	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5V	0-8	XRAM	Now
ATmega640	64	4	8	86	–	4	1+USART	1	2	4	16	Y	JTAG	S	TQFP, BGA, DIE	2.7-5.5V	0-16	XRAM	Now
ATmega640V	64	4	8	86	–	4	1+USART	1	2	4	16	Y	JTAG	S	TQFP, BGA, DIE	1.8-5.5V	0-8	XRAM	Now

Note: 1. All ATmega AVR Series parts are RoHS compliant.

AVR 8-bit RISC (Continued)
ATmega picoPower™ AVR Series

Part Number	Flash (Kbytes)	EEPROM (Bytes)	RAM (Bytes)	I/O Pins	USI	USART	SPI	TWI	8-bit Timer	16-bit Timer	10-bit ADC	BOD	On-chip Debug.	Self-prog. (S)	Package	VCC	Speed (MHz)	Availability
ATtiny13A	1	64	64	6	1	–	–	–	–	–	4	Y	debug-WIRE	S	QFN, PDIP, SOIC, Narrow SOIC, DIE	1.8-5.5V	0-20	Now
ATtiny48	4	64	256	28	–	–	Y	1	1	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5V	0-12	Now
ATtiny88	8	64	512	28	–	–	Y	1	1	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5V	0-12	Now
ATmega48P	4	256	512	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	2.7-5.5V	0-20	Now
ATmega48PV	4	256	512	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5V	0-10	Now
ATmega88P	8	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	2.7-5.5V	0-20	Now
ATmega88PV	8	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5V	0-10	Now
ATmega168P	16	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	2.7-5.5V	0-20	Now
ATmega168PV	16	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5V	0-10	Now
ATmega164P	16	512	1K	32	–	2	1+USART	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	2.7-5.5V	0-20	Now
ATmega164PV	16	512	1K	32	–	2	1+USART	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	1.8-5.5V	0-10	Now
ATmega165P	16	512	1K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5V	0-16	Now
ATmega165PV	16	512	1K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5V	0-8	Now
ATmega169P	16	512	1K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5V	0-16	Now
ATmega169PV	16	512	1K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5V	0-8	Now
ATmega324P	32	1K	2K	32	–	2	1+USART	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	2.7-5.5V	0-20	Now
ATmega324PV	32	1K	2K	32	–	2	1+USART	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	1.8-5.5V	0-10	Now
ATmega325P	32	1K	2K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5V	0-16	Now
ATmega325PV	32	1K	2K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5V	0-8	Now

Note: 1. All ATmega picoPower AVR Series parts are RoHS compliant.

AVR 8-bit RISC (Continued)
Automotive AVR (Continued)

Part Number	Flash (Kbytes)	EEPROM (Bytes)	RAM (Bytes)	I/O Pins	CAN Mess. Obj.	Timers 16-bit	Timers 8-bit	PWM (Channels)	RTC	SPI	USART	TWI (I2C Compatible)	ISP	ADC 10-bit (Channels)	BOD	WDT	Int. RC	HW Mult.	Interrupts	Ext. Interrupts	SPM	VCC	Clock Speed (MHz)	Package	Temperature	Availability
ATmega88	8	512	1K	23	–	1	2	6	Y	1+USART	1	Y	Y	8	Y	Y	Y	Y	26	5	Y	2.7-5.5V	16	TQFP32, MLF32	-40° C to +150° C	Now
ATmega88V	8	512	1K	23	–	1	2	6	Y	1+USART	1	Y	Y	8	Y	Y	Y	Y	26	5	Y	1.8-3.6V	8	TQFP32, MLF32	-40° C to +85° C	Now
ATmega164P	16	512	1K	32	–	1	2	6	Y	1+USART	2	Y	Y	8	Y	Y	Y	Y	31	7	Y	2.7-5.5V	16	TQFP44, MLF44	-40° C to +125° C	Now
ATmega168	16	512	1K	23	–	1	2	6	Y	1+USART	1	Y	Y	8	Y	Y	Y	Y	26	5	Y	2.7-5.5V	16	TQFP32, MLF32	-40° C to +150° C	Now
ATmega169P	16	512	1K	54	–	1	2	4	Y	1+USI	1	USI	Y	8	Y	Y	Y	Y	23	3	Y	2.7-5.5V	16	TQFP64, MLF64	-40° C to +85° C	Now
ATmega16M1	16	1K	2K	32	6	1	1	6+4	–	1	–	–	Y	11	Y	Y	Y	Y	31	4	Y	2.7-5.5V	16	TQFP32, MLF32	-40° C to +150° C	Feb. 2009
ATmega324P	32	1K	2K	32	–	1	2	6	Y	1+USART	2	Y	Y	8	Y	Y	Y	Y	31	7	Y	2.7-5.5V	16	TQFP44, MLF44	-40° C to +125° C	Now
ATmega328P	32	1K	2K	23	–	1	2	6	Y	1+USART	1	Y	Y	8	Y	Y	Y	Y	26	5	Y	2.7-5.5V	16	TQFP32, MLF32	-40° C to +125° C	Nov. 2008
ATmega32M1	32	1K	2K	32	6	1	1	6+4	–	1	–	–	Y	11	Y	Y	Y	Y	31	4	Y	2.7-5.5V	16	TQFP32, MLF32	-40° C to +150° C	Oct. 2008
ATmega32C1	32	1K	2K	32	6	1	1	4	–	1	–	–	Y	11	Y	Y	Y	Y	31	4	Y	2.7-5.5V	16	TQFP32, MLF32	-40° C to +150° C	Oct. 2008
ATmega64M1	64	2K	4K	32	6	1	1	6+4	–	1	–	–	Y	11	Y	Y	Y	Y	31	4	Y	2.7-5.5V	16	TQFP32, MLF32	-40° C to +150° C	Jan. 2009
ATmega64C1	64	2K	4K	32	6	1	1	4	–	1	–	–	Y	11	Y	Y	Y	Y	31	4	Y	2.7-5.5V	16	TQFP32, MLF32	-40° C to +150° C	Jan. 2009
ATmega644P	64	2K	4K	32	–	1	2	6	Y	1+USART	2	Y	Y	8	Y	Y	Y	Y	31	7	Y	2.7-5.5V	16	TQFP44, MLF44	-40° C to +125° C	Now
AT90CAN32	32	1K	2K	53	15	2	2	6+2	Y	1	2	Y	Y	8	Y	Y	Y	Y	37	8	Y	2.7-5.5V	16	TQFP64, MLF64	-40° C to +125° C	Now
AT90CAN64	64	2K	4K	53	15	2	2	6+2	Y	1	2	Y	Y	8	Y	Y	Y	Y	37	8	Y	2.7-5.5V	16	TQFP64, MLF64	-40° C to +125° C	Now
AT90CAN128	128	4K	4K	53	15	2	2	6+2	Y	1	2	Y	Y	8	Y	Y	Y	Y	37	8	Y	2.7-5.5V	16	TQFP64, MLF64	-40° C to +125° C	Now

ATAVRDRAGON	Starter Kit Supporting On-chip Debugging and Programming for AVR (AVR Dragon Supports OCD for All AVRs with 32 Kbytes or Less Flash Memory)	Now
ATAVRAUTO102	AVR Automotive Debugger Kit for CAN-LIN	Now
ATAVRAUTOEK1	AVR Automotive Evaluation Kit	Now
ATAVRISP2	AVRISP Programmer for All AVR ISP Devices	Now
ATDVK90CAN1	DVK90CAN1 Development Kit for AT90CAN Devices	Now
ATJTAGICE2	AVR Low-cost In-Circuit Emulator Supporting All AVR with debugWIRE or JTAG Interface	Now
ATSTK500	STK500 AVR Starter Kit with AVR Studio Interface	Now
ATSTK524	AVR Automotive Starter Kit for 32 Pins ATmega32M1 – ATmega32C1	Now
ATSTK600	Starter Kit and Development System for AVR and AVR32	Now

Note: 1. All Automotive AVR parts are RoHS compliant.

AVR32 32-bit Microcontrollers/Application Processors
*AP7 Family (*Application Processors)

Part Number	SRAM (Kbytes)	Vector Multiplier Co-proc.	Ether. MAC 10/100	USB	LCD Controller	USART	PWM (Channel)	Max I/O Pins	Audio DAC (16-bit)	Ext. Bus Interface	SDRAM Interface	16-bit Timer	RTC	SPI	Audio	Camera Interf.	PS/2	SSC	TWI	MCI	Watch. Timer	POR	ECCC	Power Supply (V)	Package	Speed (MHz)	Availability
AT32AP7000	32	Y	2	1xHS	2048x 2048	4	4	160	Stereo	Y	Y	6	1	2	AC97, 3xI2S	CMOS	Y	3	1	1	Y	Y	Y	1.65-1.95 Core 3.0-3.6 IO	BGA256	150	Now
AT32AP7001	32	Y	0	1xHS	–	4	4	90	Stereo	Y	Y	6	1	2	AC97, 3xI2S	CMOS	Y	3	1	1	Y	Y	Y	1.65-1.95 Core 3.0-3.6 IO	QFP208	150	Now
AT32AP7002	32	Y	0	1xHS	2048x 2048	4	4	85	Stereo	Y	Y	6	1	2	AC97, 3xI2S	CMOS	Y	3	1	1	Y	Y	Y	1.65-1.95 Core 3.0-3.6 IO	BGA196	150	Now
AT32AP7200	64	Y	2	–	2048x 2048	6	4	146	Stereo	Y	Y	3	1	4	AC97, 3xI2S	–	–	3	1	1	Y	Y	Y	1.08-1.32 Core 3.0-3.6 IO	CTBGA324	200	4Q20 08

ATAVRONEKIT	AVR ONE! Development Tool for On-chip Debugging and Programming of All AVR32 Devices	Now
ATJTAGICE2	AVR Low-cost In-Circuit Emulator Supporting All AVR with debugWIRE or JTAG Interface	Now
ATNGW100	AVR32 Network Gateway Kit – A Linux® Plug-and-Play Evaluation Platform	Now
ATSTK1000	Starter Kit for AT32AP7xxx Devices	Now

Note: 1. All AP7 Family parts are RoHS compliant.

AVR32 32-bit Microcontrollers (Continued)

UC3 Family

Part Number	Flash (Kbytes)	RAM (Bytes)	Ether. MAC 10/100	USB	USB On-the-Go	USART	PWM (Channel)	Max I/O Pins	Ext. Bus Interface	System Bus	Peripheral DAM Ch.	16-bit Timer	OS Timer	RTC	SPI	SSC	TWI	Watch. Timer	POR	Power Supply (V)	Package	Speed (MHz)	Availability
AT32UC3A0128	128	32	1	1xFS	Y	4	13	109	1	6	7	3	1	Y	2	1	1	Y	Y	3.0-3.6	QFP144	66	Now
AT32UC3A0256	256	64	1	1xFS	Y	4	13	109	1	6	7	3	1	Y	2	1	1	Y	Y	3.0-3.6	QFP144	66	Now
AT32UC3A0512	512	64	1	1xFS	Y	4	13	109	1	6	7	3	1	Y	2	1	1	Y	Y	3.0-3.6	QFP144	66	Now
AT32UC3A1128	128	32	1	1xFS	Y	4	13	69	0	6	7	3	1	Y	2	1	1	Y	Y	3.0-3.6	QFP100	66	Now
AT32UC3A1256	256	64	1	1xFS	Y	4	13	69	0	6	7	3	1	Y	2	1	1	Y	Y	3.0-3.6	QFP100	66	Now
AT32UC3A1512	512	64	1	1xFS	Y	4	13	69	0	6	7	3	1	Y	2	1	1	Y	Y	3.0-3.6	QFP100	66	Now
AT32UC3B064	64	16	0	1xFS	Y	3	13	44	0	5	7	3	1	Y	1	1	1	Y	Y	3.0-3.6	QFP/ MLF64	60	Now
AT32UC3B0128	128	32	0	1xFS	Y	3	13	44	0	5	7	3	1	Y	1	1	1	Y	Y	3.0-3.6	QFP/ MLF64	60	Now
AT32UC3B0256	256	32	0	1xFS	Y	3	13	44	0	5	7	3	1	Y	1	1	1	Y	Y	3.0-3.6	QFP/ MLF64	60	Now
AT32UC3B164	64	16	0	1xFS	–	2	13	28	0	5	7	3	1	Y	1	0	1	Y	Y	3.0-3.6	QFP/ MLF48	60	Now
AT32UC3B1128	128	32	0	1xFS	–	2	13	28	0	5	7	3	1	Y	1	0	1	Y	Y	3.0-3.6	QFP/ MLF48	60	Now
AT32UC3B1256	256	32	0	1xFS	–	2	13	28	0	5	7	3	1	Y	1	0	1	Y	Y	3.0-3.6	QFP/ MLF48	60	Now

ATAVRONEKIT	AVR ONE! Development Tool for On-chip Debugging and Programming of All AVR32 Devices	Now
ATEVK1100	Evaluation Kit for AVR32 UC3A Series	Now
ATEVK1101	Evaluation Kit for AVR32 UC3B Series	Now
ATJTAGICE2	AVR Low-cost In-Circuit Emulator Supporting All AVR with debugWIRE or JTAG Interface	Now
ATSTK600	Starter Kit and Development System for AVR and AVR32	Now
ATSTK600-TQFP48	The STK600-TQFP48 Contains a Socket Board and Adapter Boards for 48-pins, 0.5 mm Pitch TQFP Devices and Is an Expansion Module for STK600.	Now
ATSTK600-TQFP64-2	The STK600-TQFP64-2 Contains a Socket Board and Adapter Boards for 64-pins, 0.5 mm Pitch TQFP Devices and Is an Expansion Module for STK600.	Now
ATSTK600-TQFP100	The STK600-TQFP100 Contains a Socket Board and Adapter Boards for 100-pins, 0.5 mm Pitch TQFP Devices and Is an Expansion Module for STK600.	Now
ATSTK600-TQFP144	The STK600-TQFP144 Contains a Socket Board and Adapter Boards for 144-pins, 0.5 mm Pitch TQFP Devices and Is an Expansion Module for STK600.	Now

Note: 1. All UC3 Family parts are RoHS compliant.

AT91SAM ARM-based Microcontrollers (Continued)
ARM9™-based Microcontrollers

Part Number	Flash (Kbytes)	SRAM (Kbytes)	Cache Memory (Bytes)	External Bus Interface	Peripheral DMA (Channels)	UART	SPI	TWI	SSC/I2S	MCI	CAN	USB Device	USB Host (Full Speed)	Ethernet MAC 10/100	LCD Controller	Image Sensor Interface	Timers	PWM Controller	RTC/RTT	10-bit ADC Channel	I/O Voltage Domain (V)	Clock Speed (MHz)	Packages	Availability
AT91SAM9261	–	160	2x16	1	19	4	2	1	3	1	–	FS	2	–	1	–	5	–	1	–	1.8/3.3	240	BGA217	Now
AT91SAM9261S	–	16	2x16	1	19	4	2	1	3	1	–	FS	2	–	1	–	5	–	1	–	1.8/3.3	240	BGA217	Now
AT91SAM9260	–	2x4	2x8	1	24	7	2	1	1	1	–	FS	2	1	–	1	8	–	1	4	1.8/3.3	210	QFP208, BGA217	Now
AT91SAM9R64	–	64	2x4	1	18	5	1	1	1	1	–	HS	–	–	–	–	5	3	2	3	3.3	240	BGA144	Now
AT91SAM9RL64	–	64	2x4	1	22	5	1	2	2	1	–	HS	–	–	1	–	5	4	2	6	3.3	240	BGA217	Now
AT91SAM9XE512	512	32	16K+8	1	24	6	2	2	1	1	–	FS	2	1	–	1	8	–	1	4	1.8/3.3	210	QFP208, BGA217	Now
AT91SAM9XE256	256	32	16K+8	1	24	6	2	2	1	1	–	FS	2	1	–	1	8	–	1	4	1.8/3.3	210	QFP208, BGA217	Now
AT91SAM9XE128	128	16	16K+8	1	24	6	2	2	1	1	–	FS	2	1	–	1	8	–	1	4	1.8/3.3	210	QFP208, BGA217	Now
AT91SAM9263	–	96	2x16	2	22	4	2	1	2	2	1	FS	2	1	1	1	5	4	2	–	1.8/3.3	240	BGA324	Now
AT91RM9200	–	16	2x16	1	20	5	1	1	3	1	–	FS	2	1	–	–	8	–	2	–	3.3	180	QFP208, BGA256	Now

AT91RM9200-EK	Evaluation Kit for AT91RM9200	Now
AT91SAM9263-EK	Evaluation Kit for AT91SAM9263	Now
AT91SAM9261-EK	Evaluation Kit for AT91SAM9261	Now
AT91SAM9260-EK	Evaluation Kit for AT91SAM9260	Now
AT91SAM9RL-EK	Evaluation Kit for AT91SAM9RL64 and AT91SAM9R64	Now
AT91SAM-ICE	SAM-ICE™ Is a USB JTAG Emulator Designed for All Atmel® AT91 Microcontrollers	Now

Note: 1. All ARM9-based Microcontrollers parts are RoHS compliant.

Keys and Scrollers

Capacitive Touch Controllers for Keys, Slider and/or Wheels

Part Number	Technology	Touch Keys	Wheel/Slider Function	Package	Package Size in (mm²)	Voltage	Temperature Range	Inputs/Outputs	Interface	FMEA Self Test & Diag. Features	AKS*	Low Power Mode	Self Calibration	Noise Filtering	Auto Drift Compensation	Spread Spectrum Acquisition	Evaluation Board	Notes	Availability
QT100A	QTouch™	1	–	WSON- 6	3 x 3	2-5V	-40 to +85° C	0/1 Digital	–	–	–	Yes	Yes	Yes	Yes	Yes	E100S	Replaces QT100	Now
QT220	QTouch	2	–	SSOP-20	5 x 7	3.9-5.5V	-40 to +85° C	0/2 Digital	–	–	–	Yes	Yes	Yes	Yes	Yes	E240B	–	Now
QT240	QTouch	4	–	SSOP-20	5 x 7	3.9-5.5V	-40 to +85° C	0/4 Digital	–	–	–	Yes	Yes	Yes	Yes	Yes	E240B	–	Now
QT1080	QTouch	8	–	QFN-32	5 x 5	2.8-5.0V	-40 to +85° C	0/8 Digital	–	–	Yes	Yes	Yes	Yes	Yes	Yes	E1080	–	Now
QT1081	QTouch	8	–	QFN-32	5 x 5	2.8-5.0V	-40 to +85° C	0/8 Digital	–	–	Yes	Yes	Yes	Yes	Yes	Yes	E1081	Low Cost QT1080	Now
QT1101	QTouch	10	–	QFN-32	5 x 5	2.8-5.0V	-40 to +85° C	0/0	1 or 2-wire	–	Yes	Yes	Yes	Yes	Yes	Yes	–	–	Now
QT1103	QTouch	10	–	QFN-32	5 x 5	2.8-5.0V	-40 to +85° C	0/0	1 or 2-wire	–	Yes	Yes	Yes	Yes	Yes	Yes	E1103	Low Cost QT1101	Now
QT1106	QTouch	7	Yes	QFN-32	5 x 5	2.8-5.0V	-40 to +85° C	0/0	SPI	–	Yes	Yes	Yes	Yes	Yes	Yes	E1106	Replaces QT411/511	Now
QT60160	Qmatrix™	16	–	QFN- 32	5 x 5	1.8-5.5V	-40 to +85° C	0/0	I2C-compatible, Parallel Shift Reg.	–	Yes	Yes	Yes	Yes	Yes	Yes	E6240	–	Now
QT60168	Qmatrix	16	–	TQFP-32	7 x 7	3-5.25V	-40 to +105° C	0/0	SPI	Yes	Yes	Yes	Yes	Yes	Yes	Yes	E6248	Ideal for Home Appliances	Now
QT60240	Qmatrix	24	–	QFN-32	5 x 5	1.8-5.5V	-40 to +85° C	0/0	I2C - compatible, Parallel Shift Reg.	–	Yes	Yes	Yes	Yes	Yes	Yes	E6240	–	Now
QT60248	Qmatrix	24	–	TQFP-32	7 x 7	3-5.25V	-40 to +105° C	0/0	SPI	Yes	Yes	Yes	Yes	Yes	Yes	Yes	E6248	Ideal for Home Appliances	Now

Keys and Scrollers (Continued)

Capacitive Touch Controllers for Keys, Slider and/or Wheels (Continued)

Part Number	Technology	Touch Keys	Wheel/Slider Function	Package	Package Size in (mm^2)	Voltage	Temperature Range	Inputs/Outputs	Interface	FMEA Self Test & Diag. Features	AKS*	Low Power Mode	Self Calibration	Noise Filtering	Auto Drift Compensation	Spread Spectrum Acquisition	Evaluation Board	Notes	Availability
QT60326	Qmatrix	32	–	TQFP-44	9x9	4.75-5.25V	-40 to +105° C	0/0	SPI, UART	Yes	Yes	Yes	Yes	Yes	Yes	Yes	E6486	Ideal for Home Appliances	Now
QT60486	Qmatrix	48	–	TQFP-44	9x9	4.75-5.25V	-40 to +105° C	0/0	SPI, UART	Yes	Yes	Yes	Yes	Yes	Yes	Yes	E6486	Ideal for Home Appliances	Now
AT42QT2160	Qmatrix	16	Yes	QFN-28	4x4	1.8-5.5V	-40 to +85° C	3/11 Digital (PWM o/p)	I2C-compatible	–	Yes	Yes	Yes	Yes	Yes	Yes	AT42EVK 2160A	Ideal for Mobile Devices	Now
AT42QT1060	QTouch	6	–	QFN-28	4x4	1.8-5.5V	-40 to +85° C	7/7 Digital (PWM o/p)	I2C-compatible	–	Yes	Yes	Yes	Yes	Yes	Yes	AT42EVK 1060	Guard Channel for Mobile Devices	Now

E100S	1-channel Touch Sense Evaluation Kit Demonstrating the QT100A	Now
E240B	2- and 4-channels Touch Sense Evaluation Kit Demonstrating the QT220 and QT240	Now
E1080	Discontinued, as the QT1081 Replaces the QT1080. Please See E1081 Evaluation Kit	Disc.
E1081	10-channels Touch Sense Evaluation Kit Demonstrating the QT1081	Now
E1103	8-channels Touch Sense Evaluation Kit Demonstrating the QT1103	Now
E1106	Touch Sense Evaluation Kit Demonstrating the QT1106	Now
E6240	24-channels Touch Sense Evaluation Kit Demonstrating the QT60160 and the QT60240	Now
E6248	24-channels Touch Sense Evaluation Kit Demonstrating the QT60168 and the QT60248	Now
E6486	48-channls Touch Sense Evaluation Kit Demonstrating the QT60326 and the QT60486	Now
EVK2160A	16-channels Touch Sense Evaluation Kit Demonstrating the AT42QT2160	Now
EVK1060	6-channels Touch Sense Evaluation Kit Demonstrating the AT42QT1060	Now

Automotive ASSPs (Continued)
Car Access (Continued)
Car Components (Continued)

Part Number	Description	Package	RoHS Compliance	Availability
ATA5812	UHF Transceiver for ASK and FSK Systems, 315 MHz	QFN48	Yes	Now
ATA5823	UHF Transceiver for ASK and FSK Systems, 315 MHz, Full Duplex	QFN48	Yes	Now
ATA5824	UHF Transceiver for ASK and FSK Systems, 433 to 435 MHz or 868 to 870 MHz, Full Duplex	QFN48	Yes	Now
U2270B	Read/Write Base Station IC, 100 to 150 kHz Carrier Frequency, Amplitude Modulation Typically Up to 5-Kbaud, Manchester/Biphase RF/32, RF/64, RF/128	SO16	Pb-free Only	Now
ATA5723-DK	Receiver Board ATA5723, 315 MHz, no SAW Filter			Now
ATA5724-DK	Receiver Board ATA5724, 433 MHz, no SAW Filter			Now
ATA5728-DK	Receiver Board ATA5728, 868 MHz, no SAW Filter			Now
ATAB5278	Evaluation Board, LF Antenna Driver, Preferred for Passive Entry Systems			Now
ATAB5760-N	Receiver Board ATA5760N, 868.3 MHz, No SAW Filter			Now
ATAB5760-S	Receiver Board ATA5760N, 868.3 MHz, SAW Filter			Now
ATAB5761-N	Receiver Board ATA5761N, 915 MHz, No SAW Filter			Now
ATAB5744-N3	Receiver Board ATA5744N, 315 MHz, No SAW Filter			Now
ATAB5744-S3	Receiver Board ATA5744N, 315 MHz, SAW Filter			Now
ATAB5744-N4	Receiver Board ATA5744N, 433.92 MHz, No SAW Filter			Now
ATAB5744-S4	Receiver Board ATA5744N, 433.93 MHz, SAW Filter			Now
ATAB5812-3-B	UHF ASK/FSK Transceiver Basestation Board for 315 MHz			Now
ATAB5811-4-B	UHF ASK/FSK Transceiver Basestation Board for 433.92 MHz			Now
ATAB5811-8-B	UHF ASK/FSK Transceiver Basestation Board for 868.3 MHz			Now
ATAB5823-3-B	UHF ASK/FSK Transceiver Basestation Board for 315 MHz			Now
ATAB5824-4-B	UHF ASK/FSK Transceiver Basestation Board for 433.92 MHz			Now
ATAB5824-8-B	UHF ASK/FSK Transceiver Basestation Board for 868.3 MHz			Now
ATAB-LFMB78	LF Mainboard with AVR for ATAB5278			Now
ATAB5279	Evaluation Board for Six-fold LF Antenna Driver, Preferred for Passive Entry Systems			Now
ATAB-LF-MB-79	LF Mainboard with AVR for ATAB5279			Now
ATAKSTK511-8	AVR-based RF Starter Kit for 868 MHz			Now
ATAKSTK511-9	AVR-based RF Starter Kit for 915 MHz			Now
ATAKSTK512-3	Remote Access Control Kit for Uni-directional Communication at 315 MHz			Now
ATAKSTK512-4	Remote Access Control Kit for Uni-directional Communication at 433 MHz			Now
ATAB-LFTX-MOD1	Antenna Module for LF TX Systems			Now
ATAB-RFMB	RF Mainboard with AVR and Interface			Now
ATAB-SPI-LPT	SPI to Parallel Port (LPT) Interface Board for TRX Basestation Boards			Now
TMEB8704	LF RFID IDIC® Evaluation Kit for U2270B and TK5561			Now

Note: 1. For dedicated microcontrollers, see Automotive 4-bit microcontrollers .

Automotive ASSPs (Continued)
Car Access (Continued)
Key Components

Part Number	Description	Package	RoHS Compliance	Availability
ATA5749	Fully Programmable, Fully Integrated Fractional-N PLL RF Transmitter IC Featuring Ultra Low Power Consumption	TSSOP10	Pb-free Only	Now
ATA5756	UHF ASK/FSK Transmitter IC with Integrated FSK Application, Frequency Range: 313 to 317 MHz, 6 dBm, <1 ms Settling Time, High XTO1 Impedance for Crystal Oscillator Start-up	TSSOP10	Pb-free Only	Now
ATA5757	UHF ASK/FSK Transmitter IC with Integrated FSK Application, Frequency Range: 432 to 448 MHz, 6 dBm, <1 ms Settling Time, High XTO1 Impedance for Crystal Oscillator Start-up	TSSOP10	Pb-free Only	Now
ATA5771	Complete Key-fob IC, Including an AVR Microcontroller and an RF Transmitter PLL in One Single IC Package, f_0 = 868 MHz to 928 MHz	QFN 24	Yes	Now
ATA5773	Complete Key-fob IC, Including an AVR Microcontroller and an RF Transmitter PLL in One Single IC Package, f_0 = 310 MHz to 350 MHz	QFN 24	Yes	Now
ATA5774	Complete Key-fob IC, Including an AVR Microcontroller and an RF Transmitter PLL in One Single IC Package, f_0 = 429 MHz to 439 MHz	QFN 24	Yes	Now
ATA5811	UHF Transceiver for ASK and FSK Systems, 433 to 435 MHz or 868 to 870 MHz	QFN48	Yes	Now
ATA5812	UHF Transceiver for ASK and FSK Systems, 315 MHz	QFN48	Yes	Now
ATA5823	UHF Transceiver for ASK and FSK Systems, 315 MHz, Full Duplex	QFN48	Yes	Now
ATA5824	UHF Transceiver for ASK and FSK Systems, 433 to 435 MHz or 868 to 870 MHz, Full Duplex	QFN48	Yes	Now
T5750	UHF ASK/FSK Transmitter, Frequency Range: 868 to 928 MHz, High Output Power	TSSOP8	Pb-free Only	Now
T5753	UHF ASK/FSK Transmitter, Frequency Range: 310 to 330 MHz, High Output Power	TSSOP8	Pb-free Only	Now
T5754	UHF ASK/FSK Transmitter, Frequency Range: 429 to 439 MHz, High Output Power	TSSOP8	Pb-free Only	Now
TK5561	Read/Write Transponder for Highly Sophisticated Security Applications, 125 kHz Carrier Frequency, Encryption Algorithm, 9 x 32-bit EEPROM, Low-power/Low-voltage CMOS, No Battery Supply, Small Size, Manchester/Biphase, RF/32, RF/64	Plastic Package (PP)	Pb-free Only	Now
U3280M	Transponder Interface for Microcontroller, Contactless Power Supply and Communication Interface, 32 x 16-bit EEPROM, Serial Interface, Field Clock Extractor, Field and Gap Detection for Wake-up and Data	SSO16	Pb-free Only	Now
U9280M	4-bit Microcontroller Plus Transponder Front End for Combination of Remote Control and Immobilizer Functions, ROM Mask Version for >200 kpcs/a, Maximum Flexibility for Algorithm/ Protocol of Data Transfer, well Suitable in Combination with the U2741B, T5750/53/54, Integrated Power Management (Battery or RF-field Power Supply)	SSO20	Pb-free Only	Now

ATA5749-EK1	Reference Design for Programmable Transmitter IC ATA5749, 315 MHz	Now
ATA5749-EK2	Reference Design for Programmable Transmitter IC ATA5749, 433 MHz	Now
ATAB5749-3	Transmitter Board for ATA5749, Fitting to RF Design Kit 315 MHz	Now
ATAB5749-4	Transmitter Board for ATA5749, Fitting to RF Design Kit 433 MHz	Now
ATAB5750-8	Transmitter Board T5750, 868 MHz	Now
ATAB5750-9	Transmitter Board T5750, 915 MHz	Now
ATAB5753	Transmitter Board T5753, 315 MHz	Now
ATAB5754	Transmitter Board T5754, 433.92 MHz	Now
ATAB5756	Reference Design for UHF Transmitter ATA5756, Operation Frequency 315 MHz	Now
ATAB5757	Reference Design for UHF Transmitter ATA5757, Operation Frequency 433 MHz	Now
ATA5771-DK1	Transmitter Board for ATA5771, 868 MHz	4Q2008
ATA5771-DK2	Transmitter Board for ATA5771, 915 MHz	4Q2008
ATA5773-DK	Transmitter Board for ATA5773, 315 MHz	4Q2008
ATA5774-DK	Transmitter Board for ATA5774, 433 MHz	4Q2008
ATAKSTK511-8	AVR-based RF Starter Kit for 868 MHz	Now
ATAKSTK511-9	AVR-based RF Starter Kit for 915 MHz	Now
ATAKSTK512-3	Remote Access Control Kit for Unidirectional Communication at 315 MHz	Now
ATAKSTK512-4	Remote Access Control Kit for Unidirectional Communication at 433 MHz	Now
TMEB8704	LF RFID IDIC Evaluation Kit for U2270B and TK5561	Now

Note: 1. For dedicated microcontrollers, see Automotive 4-bit microcontrollers .

Flash Memory

Part Number	Density (Mbit)	Organization	VCC (V)	Speeds (ns)	Package	Description	Availability
AT29LV512	0.5	64K x 8	3.0-3.6	120	32PLCC, 32TSOP	–	Now
AT29C512	0.5	64K x 8	4.5-5.5	70, 90	32PLCC, 32TSOP	–	Now
AT29BV010A	1	128K x 8	2.7-3.6	120, 150	32PLCC, 32TSOP	–	Now
AT29C010A	1	128K x 8	4.5-5.5	70, 90	32PLCC, 32TSOP	–	Now
AT29BV020	2	256K x 8	2.7-3.6	120, 150	32PLCC, 32TSOP	–	Now
AT29LV020	2	256K x 8	3.0-3.6	100, 200	32PLCC, 32TSOP	–	Now
AT29C020	2	256K x 8	4.5-5.5	70, 120	32PLCC, 32TSOP	–	Now
AT29BV040A	4	512K x 8	2.7-3.6	200	32PLCC, 32TSOP	–	Now
AT29LV040A	4	512K x 8	3.0-3.6	150	32PLCC, 32TSOP	–	Now
AT29C040A	4	512K x 8	4.5-5.5	90, 120	32PLCC, 32TSOP	–	Now
AT49LV1024A	1	64K x 16	3.0-3.6	45	40VSOP	–	Now
AT49F1024A	1	64K x 16	4.5-5.5	45	40VSOP	–	Now
AT49BV040B	4	512K x 8	2.7-3.6	70	32PLCC, 32TSOP, 32VSOP	Bottom Boot (5V and 2.7V Tolerant)	Now
AT49BV040B	4	512K x 8	4.5-5.5	55	32PLCC, 32TSOP	Bottom Boot (5V and 2.7V Tolerant)	Now
AT49BV802D(T)	8	512K x 16/1M x 8	2.7-3.6	70	48CBGA, 48TSOP	(T) – Top Boot	Now
AT49SV163D(T)	16	1M x 16	1.65-1.95	80	48CBGA, 48TSOP	(T) – Top Boot	Now
AT49BV160D(T)	16	1M x 16	2.7-3.6	70	48TSOP	(T) – Top Boot	Now
AT49BV160S(T)	16	1M x 16	2.7-3.6	70	64CBGA	(T) – Top Boot	Now
AT49BV163D(T)	16	1M x 16/2M x 8	2.7-3.6	70	48CBGA, 48TSOP	(T) – Top Boot	Now
AT49SV322D(T)	32	2M x 16	1.65-1.95	80	48CBGA, 48TSOP	(T) – Top Boot	Now
AT49BV320D(T)	32	2M x 16	2.7-3.6	70	47CBGA, 48TSOP	(T) – Top Boot	Now
AT49BV320S(T)	32	2M x 16	2.7-3.6	70	64CBGA	(T) – Top Boot	Now
AT49BV322D(T)	32	2M x 16/4M x 8	2.7-3.6	70	48CBGA, 48TSOP	(T) – Top Boot	Now
AT49BV640D(T)	64	4M x 16	2.7-3.6	70	48CBGA	(T) – Top Boot	Now
AT49BV642D(T)	64	4M x 16	2.7-3.6	70	48TSOP	(T) – Top Boot	Now
AT49BV640S(T)	64	4M x 16	2.7-3.6	70	64CBGA	(T) – Top Boot	Now

All Flash Parts are RoHS Compliant.

Serial EEPROMs Standard Products (Continued)

Part Number	Density (Kbits)	Organization	VCC (V)	Max Speed (MHz)	Package	Comments	Availability
AT25040A	4	512 x 8	1.8, 2.7	20	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN*, Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25040B	4	512 x 8	1.8	20	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN*, Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	2Q2009 (Replaces AT25040A)
AT25080A	8	1024 x 8	1.8, 2.7	20	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25080B	8	1024 x 8	1.8	20	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN*, Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	4Q2008 (Replaces AT25080A)
AT25160A	16	2048 x 8	1.8, 2.7	20	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN, Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25160B	16	2048 x 8	1.8	20	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN, Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	4Q2008 (Replaces AT25160A)
AT25320A	32	4096 x 8	1.8, 2.7	20	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25320B	32	4096 x 8	1.8	20	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN*, Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	1Q2009 (Replaces AT25320A)
AT25640A	64	8192 x 8	1.8, 2.7	20	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25640B	64	8192 x 8	1.8	20	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN*, Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	1Q2009 (Replaces AT25640A)
AT25128A	128	16384 x 8	1.8, 2.7	20	PDIP, SOIC, TSSOP, DFN (SAP), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25128B	128	16384 x 8	1.8	20	PDIP, SOIC, TSSOP, dBGA2, DFN (SAP), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	2Q2009 (Replaces AT25128A)
AT25256A	256	32768 x 8	1.8, 2.7	20	PDIP, SOIC, TSSOP, DFN (SAP), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	Now (Replaces AT25HP256)
AT25256B	256	32768 x 8	1.8	20	PDIP, SOIC, TSSOP, dBGA2, DFN (SAP), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	2Q2009 (Replaces AT25256A)
AT25512	512	65536 x 8	1.8	20	SOIC, TSOP, dBGA2, DFN, Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	Now (Replaces AT25HP512)
AT93C46D	1	64 x 16/ 128 x 8	1.8	2	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN*, Die/Wafer	x8 or x16 Organization	Replaces AT93C46
AT93C46E	1	64 x 16	1.8	2	PDIP, SOIC, TSSOP	x16 Organization	Replaces AT93C46A
AT93C56A	2	128 x 16/ 256 x 8	1.8, 2.7	2	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), Die/Wafer	x8 or x16 Organization with Sequential Read	Now
AT93C66A	4	256 x 16/ 512 x 8	1.8, 2.7	2	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), Die/Wafer	x8 or x16 Organization with Sequential Read	Now
AT93C86A	16	1024 x 16/ 2048 x 8	1.8, 2.7	2	PDIP, SOIC, TSSOP, DFN (MAP), Die/Wafer	x8 or x16 Organization with Sequential Read	Now

* Available on Request

All Serial EEPROMs Parts are RoHS Compliant.

Power Management

Part Number	Description	RoHS Compliance	Availability
AT73C202	Power and Battery Management Unit for Wireless Devices	Yes	Now
AT73C203	Power Management IC for Datacom Platforms	Yes	Now
AT73C204	Power Management IC for Smartphones and PDAs	Yes	Now
AT73C205	Smart Battery Charger	Yes	Now
AT73C206	Audio and Power Management IC with Battery Charger for Smartphones	Yes	Now
AT73C209	Power Management and Audio Interface for Portable Devices	Yes	Now
AT73C211	Small Integration Power Management Unit	Yes	Now
AT73C212	Medium Integration Power Management Unit	Yes	Now
AT73C213	Audio Interface for Portable Devices	Yes	Now
AT73C214	Small Integration Power Management Unit with Battery Charger	Yes	Now
AT73C221	Power Management IC for 1.8V IO Chipset	Yes	Now
AT73C224	Universal PMU for Li-Ion and Alkaline Battery Powered Device	Yes	Now
AT73C236	5V Input Supply Tiny Power Management for Wireless Modules	Yes	Now
AT73C237	5V Input Supply Tiny Power Management for Wireless Modules with Hibernate Mode	Yes	Now
AT73C238	Tiny Power Management for Wireless Modules with Hibernate Mode	Yes	Now
AT73C239	Tiny Power Management for Wireless Modules	Yes	Now

Crypto & Secure Memories (Continued)

Secure Memory – Smart Cards (ISO 7816-3, T = 0)

Part Number	Description	Organization	Voltage	RoHS Compliance	Availability
AT88SC102	1K EEPROM with Password Security, Two 512-bit Zones	2 (512 x 1)	2.7 - 5.5	Yes	Now
AT88SC1003	1K EEPROM with Password Security, Three Zones	2 (256 x 1) + 512 x 1	2.7 - 5.5	Yes	Now
AT88SC153	1.5K EEPROM with Authentication, Three 512-bit Zones	3 (512 x 1)	2.7 - 5.5	Yes	Now
AT88SC1608	16K EEPROM with Authentication, Eight 2-Kbit Zones	8 (2K x 1)	2.7 - 5.5	Yes	Now

Note: 1. Not Recommended for New Designs.

CryptoCompanion (Host Side Security IC, 2-wire Interface) for CryptoMemory and CryptoRF

Part Number	Features	EEPROM Memory (Kbits)	Voltage	RoHS Compliance	Availability
AT88SC016	Secure Host Side Key Storage and Management for CryptoMemory and Crypto RF, RNG, SHA-1	4	2.7 - 3.3	Yes	Now

Embedded Security

Trusted Platform Module (TPM)/PC Security

Part Number	Description	I/O Interface	RoHS Compliance	Availability
AT97SC3203	Fully V1.2 TCG-compliant Security Processor, Microsoft Windows Vista® Logo Compliant, Secure Key Generation and Storage (15 to 21 RSA® Keys, Depending on Key Mix and Size), RNG, SHA-1, 2048/RSA Sign-in 500 ms	LPC	Yes	Now
AT97SC3203S	Fully V1.2 TCG-compliant Security Processor, Optimized for Embedded Systems, Secure Key Generation and Storage (15 to 21 RSA Keys, Depending on Key Mix and Size), RNG, SHA-1, 2048/RSA Sign-in 500 ms	SMBus	Yes	Now
AT97SC3204	Fully V1.2 TCG-compliant Security Processor, Microsoft Windows Vista Logo Compliant, Secure Key Generation and Storage (15 to 21 RSA Keys, Depending on Key Mix and Size), RNG, SHA-1, 2048/RSA Sign-in 200 ms	LPC	Yes	Now
AT97SC3204T	Fully V1.2 TCG-compliant Security Processor, Optimized for Embedded Systems, Secure Key Generation and Storage (15 to 21 RSA Keys, Depending on Key Mix and Size), RNG, SHA-1, 2048/RSA Sign-in 200 ms, I2C-compatible	TWI	Yes	Now
AT97SC3204P	Fully V1.2 TCG-compliant Security Processor, Optimized for Embedded Systems, Secure Key Generation and Storage (15 to 21 RSA Keys, Depending on Key Mix and Size), RNG, SHA-1, 2048/RSA Sign-in 200 ms	SPI	Yes	Now

RF Identification

RF Identification/Immobilization – 100 - 150 kHz

Part Number	Description	Package	RoHS Compliance	Availability
e5561	RFID Read/Write IDIC for Highly Sophisticated Security Demands “Copy Protection”, 256-bit R/W Memory, Up to 128-bit Secret Key for Authentication Password Protection, Different Codings and Bit-rates	Wafer	Pb-free Only	Now
ATA5567	RFID Read/Write IDIC for Contactless Identification, Backward Compatible to 5551 and 5557, 64-bit Unique TAG ID, Improved Operating Performance, High Temperature Data Retention, Optional 75 pF Capacitor On-chip, Programmable	Sawn Wafer on Foil, DIT, SO8, Micromodule	Pb-free Only	Now
ATA5558	RFID Read/Write IDIC for Contactless Identification, 1-Kbit Read/Write IC with Integrated Anticollision Functionality, ASK Modulation	Sawn Wafer on Foil, Wafer, DIT	Pb-free Only	Now
ATA5570	RFID Read/Write IDIC for Contactless Identification, Multifunctional 330-bit Read/Write, External Resistor-sensor Input, Threshold Detection	Wafer, DIT, SO8	Pb-free Only	Now
ATA5577M1	RFID Read/Write IDIC for Contactless Identification, Backward Compatible to 5551, 5557 and 5567 in Most Common Modes. 64-bit Unique TAG ID, Improved Operating Performance, High Temperature Data Retention, up to 330 pF Trimmed Capacitor On-chip. ISO 11784 and ISO 11785 Compatible	Sawn Wafer on Foil, DIT, Micromodule	Pb-free Only	Now
ATA5577M2	RFID Read/Write IDIC with Gold-bumped Mega Pads for Contactless Identification, Backward Compatible to 5551, 5557 and 5567 in Most Common Modes. 64-bit Unique TAG ID, Improved Operating Performance, High Temperature Data Retention, up to 330 pF Trimmed Capacitor On-chip. ISO 11784 and ISO 11785 Compatible	Sawn Gold-bumped Wafer on Foil, DIT	Pb-free Only	Now
U2270B	Read/Write Base Station IC, 100 to 150 kHz Carrier Frequency, Amplitude Modulation Typically Up to 5-Kbaud, Manchester/Biphase RF/32, RF/64, RF/128	SO16	Pb-free Only	Now
TK5551	Read/Write Transponder, Option Configurable, 125 kHz, AOR Feature for Multi-tag Access	Plastic Package (PP)	Pb-free Only	Now
TK5561	Read/Write Transponder for Highly Sophisticated Security Applications, 125 kHz Carrier Frequency, Encryption Algorithm, 9 x 32-bit EEPROM, Low-power/Low-voltage CMOS, No Battery Supply, Small Size, Manchester/Biphase, RF/32, RF/64	Plastic Package (PP)	Pb-free Only	Now
ATA5558	RFID Read/Write IDIC Transponder for Contactless Identification, 1-Kbit Read/Write IC with Integrated Anticollision Functionality, ASK Modulation	Plastic Package PAE (Formerly PP)	Pb-free Only	Now
ATA5577M1	RFID Read/Write IDIC Transponder for Contactless Identification, Backward Compatible to 5551, 5557 and 5567 in Most Common Modes. 64-bit Unique TAG ID, Improved Operating Performance, High Temperature Data Retention	Plastic Package PAE (Formerly PP)	Pb-free Only	4Q2008
U3280M	Transponder Interface for Microcontroller, Contactless Power Supply and Communication Interface, 32 x 16-bit EEPROM, Serial Interface, Field Clock Extractor, Field and Gap Detection for Wake-up and Data	SSO16	Pb-free Only	Now
U9280M	4-bit Microcontroller Plus Transponder Front End for Combination of Remote Control and Immobilizer Functions, ROM Mask Version for >200 kpcs/a, Maximum Flexibility for Algorithm/Protocol of Data Transfer, Well Suitable in Combination with the U2741B, Integrated Power Management (Battery or RF-field Power Supply)	SSO20	Pb-free Only	Now

Secure RF Memory

CryptoRF (ISO 14443 Type B 13.56 MHz) – Secure RF Memory

Part Number	Description	Organization (Bytes)	RoHS Compliance	Availability
AT88SC0404CRF	Contactless 4-Kbit User Memory with Authentication and Encryption	4 x 128	Yes	Now
AT88SC0808CRF	Contactless 8-Kbit User Memory with Authentication and Encryption	8 x 128	Yes	Now
AT88SC1616CRF	Contactless 16-Kbit User Memory with Authentication and Encryption	16 x 128	Yes	Now
AT88SC3216CRF	Contactless 32-Kbit User Memory with Authentication and Encryption	16 x 256	Yes	Now
AT88SC6416CRF	Contactless 64-Kbit User Memory with Authentication and Encryption	16 x 512	Yes	Now

AT88SC6416CRF-DK	1K to 64K CryptoRF Development Kit – Replaced by AT88SCRF-ADK2 Keen+ in November 2008	Now
AT88SCRF-ADK1 Yuma+	1K to 64K CryptoRF Development Kit	Now
AT88SCRF-ADK2 Keen+	Low-cost Development Kit for CryptoMemory and CryptoCompanion Chips on an AVR Platform	Nov. 2008
AT88CRF-S7DK2P	CryptoRF Demonstration Kit with SkyeTek® Reader and Software Technology	Now

13.56 MHz Reader IC (ISO 14443 Type B, SPI and 2-wire Interface)

Part Number	Features	Voltage	RoHS Compliance	Availability
AT88RF1354	13.56 MHz Reader IC Performs Encoding, Timing, and Protocol Functions	3.3V, 5.0V	Yes	Now

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Headquarters

Atmel Corporation
2325 Orchard Parkway
San Jose, CA 95131
USA
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
BP 309
78054 St Quentin-en-
Yvelines Cedex
France
Tel: (33) 1-30-60-70-00
Fax: (33) 1-30-60-71-11

Atmel Japan
9F, Tonetsu Shinkawa Bldg.
1-24-8 Shinkawa
Chuo-ku, Tokyo 104-0033
Japan
Tel: (81) 3-3523-3551
Fax: (81) 3-3523-7581

Product Contact

Product Line
productguide@atmel.com

Literature Requests
www.atmel.com/literature

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