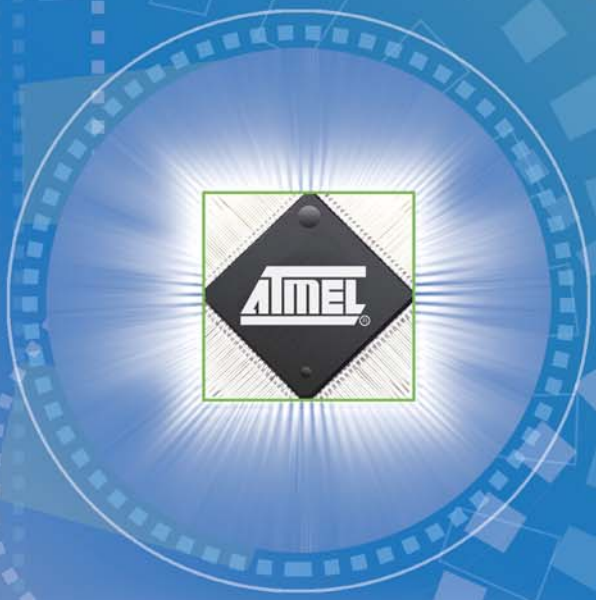

Microcontrollers
(8-bit and 32-bit)

Security Solutions

Automotive

ASICs

AVR®

Nonvolatile Memory

RF

Atmel® Products Selection Guide

January 2008

Everywhere You Are®

ATMEL PRODUCT GUIDE

January 2008

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MICROCONTROLLERS
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 (V)	Speed (MHz)	Other	Availability
ATmega48	4	256	512	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-20	–	Now
ATmega48V	4	256	512	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5	0-10	–	Now
ATmega8	8	512	1K	23	–	1	1	1	2	1	8	Y	–	S	PDIP, TQFP, QFN, DIE	4.5-5.5	0-16	–	Now
ATmega8L	8	512	1K	23	–	1	1	1	2	1	8	Y	–	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-8	–	Now
ATmega88	8	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-20	–	Now
ATmega88V	8	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5	0-10	–	Now
ATmega8515	8	512	512	35	–	1	1	–	1	1	–	Y	–	S	PDIP, PLCC, TQFP, QFN, DIE	4.5-5.5	0-16	XRAM	Now
ATmega8515L	8	512	512	35	–	1	1	–	1	1	–	Y	–	S	PDIP, PLCC, TQFP, QFN, DIE	2.7-5.5	0-8	XRAM	Now
ATmega8535	8	512	512	32	–	1	1	1	2	1	8	Y	–	S	PDIP, PLCC, TQFP, QFN, DIE	4.5-5.5	0-16	–	Now
ATmega8535L	8	512	512	32	–	1	1	1	2	1	8	Y	–	S	PDIP, PLCC, TQFP, QFN, DIE	2.7-5.5	0-8	–	Now
ATmega168	16	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-20	–	Now
ATmega168V	16	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5	0-10	–	Now
ATmega162	16	512	1K	35	–	2	1	–	2	2	–	Y	JTAG	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-16	XRAM	Now
ATmega162V	16	512	1K	35	–	2	1	–	2	2	–	Y	JTAG	S	PDIP, TQFP, QFN, DIE	1.8-5.5	0-8	XRAM	Now
ATmega16	16	512	1K	32	–	1	1	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	4.5-5.5	0-16	–	Now
ATmega16L	16	512	1K	32	–	1	1	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-8	–	Now
ATmega32	32	1K	2K	32	–	1	1	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	4.5-5.5	0-16	–	Now
ATmega32L	32	1K	2K	32	–	1	1	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-8	–	Now
ATmega325	32	1K	2K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5	0-16	–	Now
ATmega325V	32	1K	2K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5	0-8	–	Now
ATmega3250	32	1K	2K	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	2.7-5.5	0-16	–	Now
ATmega3250V	32	1K	2K	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	1.8-5.5	0-8	–	Now

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

MICROCONTROLLERS (CONTINUED)

AVR 8-bit RISC (Continued)

ATmega AVR Series (Continued)

Part Number	Flash (Kbytes)	EEPROM (Kbytes)	RAM (Kbytes)	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 (V)	Speed (MHz)	Other	Availability
ATmega64	64	2	4	54	–	2	1	1	2	2	8	Y	JTAG	S	TQFP, QFN, DIE	4.5-5.5	0-16	XRAM	Now
ATmega64L	64	2	4	54	–	2	1	1	2	2	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5	0-8	XRAM	Now
ATmega640	64	4	8	86	–	4	1+USART	1	2	4	16	Y	JTAG	S	TQFP, BGA, DIE	2.7-5.5	0-16	XRAM	Now
ATmega640V	64	4	8	86	–	4	1+USART	1	2	4	16	Y	JTAG	S	TQFP, BGA, DIE	1.8-5.5	0-8	XRAM	Now
ATmega644	64	2	4	32	–	1	1+USART	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-20	–	Now
ATmega644V	64	2	4	32	–	1	1+USART	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	1.8-5.5	0-10	–	Now
ATmega645	64	2	4	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5	0-16	–	Now
ATmega645V	64	2	4	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5	0-8	–	Now
ATmega6450	64	2	4	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	2.7-5.5	0-16	–	Now
ATmega6450V	64	2	4	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	1.8-5.5	0-8	–	Now
ATmega128	128	4	4	53	–	2	1	1	2	2	8	Y	JTAG	S	TQFP, QFN, DIE	4.5-5.5	0-16	XRAM	Now
ATmega128L	128	4	4	53	–	2	1	1	2	2	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5	0-8	XRAM	Now
ATmega1280	128	4	8	86	–	4	1+USART	1	2	4	16	Y	JTAG	S	TQFP, BGA, DIE	2.7-5.5	0-16	XRAM	Now
ATmega1280V	128	4	8	86	–	4	1+USART	1	2	4	16	Y	JTAG	S	TQFP, BGA, DIE	1.8-5.5	0-8	XRAM	Now
ATmega1281	128	4	8	54	–	2	1+USART	1	2	4	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5	0-16	XRAM	Now
ATmega1281V	128	4	8	54	–	2	1+USART	1	2	4	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5	0-8	XRAM	Now
ATmega2561	256	4	8	54	–	2	1+USART	1	2	4	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5	0-16	XRAM	Now
ATmega2561V	256	4	8	54	–	2	1+USART	1	2	4	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5	0-8	XRAM	Now
ATmega2560	256	4	8	86	–	4	1+USART	1	2	4	16	Y	JTAG	S	TQFP, BGA, DIE	2.7-5.5	0-16	XRAM	Now
ATmega2560V	256	4	8	86	–	4	1+USART	1	2	4	16	Y	JTAG	S	TQFP, BGA, DIE	1.8-5.5	0-8	XRAM	Now

Evaluation/Development Kits		
ATAVRBFLY	AVR Butterfly, ATmega169 Demo Board with LCD and Speaker	Now
ATAVRDRAGON	Starterkit Supporting On-chip Debugging and Programming for AVR (AVR Dragon Supports OCD for All AVRs with 32 Kbytes or Less Flash Memory)	Now
ATAVRISP2	AVRISP Programmer for All AVR ISP Devices	Now
ATAVRRTOS	AVR Real-time Operating System Development Kit	Now
ATJTAGICE2	AVR Low-cost In-Circuit Emulator Supporting All AVR with Debugwire or JTAG Interface	Now
ATSTK500	STK®500 AVR Starter Kit with AVR Studio® Interface	Now
ATSTK501	STK501 Expansion of STK500 to Support 64-pin megaAVR® Devices	Now
ATSTK503	STK503 Expansion of STK500 for 100-pin megaAVR Devices	Now

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

MICROCONTROLLERS (CONTINUED)

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 (V)	Speed (MHz)	Availability
ATmega48P	4	256	512	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-20	Sampling
ATmega48PV	4	256	512	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5	0-10	Sampling
ATmega88P	8	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-20	Sampling
ATmega88PV	8	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5	0-10	Sampling
ATmega168P	16	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-20	Sampling
ATmega168PV	16	512	1K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5	0-10	Sampling
ATmega164P	16	512	1K	32	–	2	1+USART	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-20	Now
ATmega164PV	16	512	1K	32	–	2	1+USART	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	1.8-5.5	0-10	Now
ATmega165P	16	512	1K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5	0-16	Now
ATmega165PV	16	512	1K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5	0-8	Now
ATmega324P	32	1K	2K	32	–	2	1+USART	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-20	Now
ATmega324PV	32	1K	2K	32	–	2	1+USART	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	1.8-5.5	0-10	Now
ATmega325P	32	1K	2K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5	0-16	Now
ATmega325PV	32	1K	2K	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5	0-8	Now
ATmega3250P	32	1K	2K	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	2.7-5.5	0-16	Now
ATmega3250PV	32	1K	2K	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	1.8-5.5	0-8	Now
ATmega328P	32	1K	2K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-20	Now
ATmega328PV	32	1K	2K	23	–	1	1+USART	1	2	1	8	Y	debug-WIRE	S	PDIP, TQFP, QFN, DIE	1.8-5.5	0-10	Now
ATmega644P	64	2K	4K	32	–	2	1+USART	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	2.7-5.5	0-20	Now
ATmega644PV	64	2K	4K	32	–	2	1+USART	1	2	1	8	Y	JTAG	S	PDIP, TQFP, QFN, DIE	1.8-5.5	0-10	Now
Evaluation/Development Kits																		
ATAVRDRAGON	Starterkit Supporting On-chip Debugging and Programming for AVR (AVR Dragon Supports OCD for All AVRs with 32 Kbytes or Less Flash Memory)																	Now
ATAVRISP2	AVRISP Programmer for All AVR ISP Devices																	Now
ATAVRRTOS	AVR Real-time Operating System Development Kit																	Now
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ATSTK501	STK501 Expansion of STK500 to Support 64-pin megaAVR® Devices																	Now
ATSTK503	STK503 Expansion of STK500 for 100-pin megaAVR Devices																	Now

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

MICROCONTROLLERS (CONTINUED)

AVR 8-bit RISC (Continued)

ATtiny AVR Series

Part Number	Flash (Kbytes)	EEPROM (Bytes)	RAM (Bytes)	I/O Pins	USI*	UART	8-bit Timer	16-bit Timer	10-bit ADC	BOD	On-chip Debug.	In-System(I)/Self-prog. (S)	Package	VCC (V)	Speed (MHz)	Availability
ATtiny11	1	–	32 Registers	6	–	–	1	–	–	–	–	–	PDIP, SOIC, DIE	4-5.5	0-6	Now
ATtiny11L	1	–	32 Registers	6	–	–	1	–	–	–	–	–	PDIP, SOIC, DIE	2.7-5.5	0-2	Now
ATtiny12	1	64	32 Registers	6	–	–	1	–	–	Y	–	I	PDIP, SOIC, DIE	4-5.5	0-8	Now
ATtiny12L	1	64	32 Registers	6	–	–	1	–	–	Y	–	I	PDIP, SOIC, DIE	2.7-5.5	0-4	Now
ATtiny12V	1	64	32 Registers	6	–	–	1	–	–	Y	–	I	PDIP, SOIC, DIE	1.8-5.5	0-1	Now
ATtiny13	1	64	64	6	–	–	1	–	4	Y	debug-WIRE	S	PDIP, SOIC, Narrow SOIC, QFN, DIE	2.7-5.5	0-20	Now
ATtiny13V	1	64	64	6	–	–	1	–	4	Y	debug-WIRE	S	PDIP, SOIC, Narrow SOIC, QFN, DIE	1.8-5.5	0-10	Now
ATtiny15L	1	64	32 Registers	6	–	–	2	–	4	Y	–	I	PDIP, SOIC, DIE	2.7-5.5	1.6	Now
ATtiny24	2	128	128	12	1	–	1	1	8	Y	debug-WIRE	S	PDIP, Narrow SOIC, QFN, DIE	2.7-5.5	0-20	Now
ATtiny24V	2	128	128	12	1	–	1	1	8	Y	debug-WIRE	S	PDIP, Narrow SOIC, QFN, DIE	1.8-5.5	0-10	Now
ATtiny25	2	128	128	6	1	–	2	–	4	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	2.7-5.5	0-20	Now
ATtiny25V	2	128	128	6	1	–	2	–	4	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	1.8-5.5	0-10	Now
ATtiny26	2	128	128	16	1	–	2	–	11	Y	–	I	PDIP, SOIC, QFN, DIE	4.5-5.5	0-16	Now
ATtiny26L	2	128	128	16	1	–	2	–	11	Y	–	I	PDIP, SOIC, QFN, DIE	2.7-5.5	0-8	Now
ATtiny261	2	128	128	16	1	–	1	1	11	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	2.7-5.5	0-20	Now
ATtiny261V	2	128	128	16	1	–	1	1	11	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	1.8-5.5	0-10	Now
ATtiny2313	2	128	128	18	1	1	1	1	–	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	2.7-5.5	0-20	Now
ATtiny2313V	2	128	128	18	1	1	1	1	–	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	1.8-5.5	0-10	Now

Notes:
1. *USI = Universal Serial Interface.
2. All ATtiny AVR Series parts are RoHS compliant.

MICROCONTROLLERS (CONTINUED)

AVR 8-bit RISC (Continued)

ATtiny AVR Series (Continued)

Part Number	Flash (Kbytes)	EEPROM (Bytes)	RAM (Bytes)	I/O Pins	USI*	UART	8-bit Timer	16-bit Timer	10-bit ADC	BOD	On-chip Debug.	In-System(I)/Self-prog. (S)	Package	VCC (V)	Speed (MHz)	Availability
ATtiny28L	2	–	32 Registers	11	–	–	1	–	–	–	–	–	PDIP, QFN, TQFP, DIE	2.7-5.5	0-4	Now
ATtiny28V	2	–	32 Registers	11	–	–	1	–	–	–	–	–	PDIP, QFN, TQFP, DIE	1.8-5.5	0-1	Now
ATtiny44	4	256	256	12	1	–	1	1	8	Y	debug-WIRE	S	PDIP, Narrow SOIC, QFN, DIE	2.7-5.5	0-20	Now
ATtiny44V	4	256	256	12	1	–	1	1	8	Y	debug-WIRE	S	PDIP, Narrow SOIC, QFN, DIE	1.8-5.5	0-10	Now
ATtiny45	4	256	256	6	1	–	2	–	4	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	2.7-5.5	0-20	Now
ATtiny45V	4	256	256	6	1	–	2	–	4	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	1.8-5.5	0-10	Now
ATtiny461	4	256	256	16	1	–	1	1	11	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	2.7-5.5	0-20	Now
ATtiny461V	4	256	256	16	1	–	1	1	11	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	1.8-5.5	0-10	Now
ATtiny84	8	512	512	12	1	–	1	1	8	Y	debug-WIRE	S	PDIP, QFN, DIE	2.7-5.5	0-20	Now
ATtiny84V	8	512	512	12	1	–	1	1	8	Y	debug-WIRE	S	PDIP, QFN, DIE	1.8-5.5	0-10	Now
ATtiny85	8	512	512	6	1	–	2	–	4	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	2.7-5.5	0-20	Now
ATtiny85V	8	512	512	6	1	–	2	–	4	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	1.8-5.5	0-10	Now
ATtiny861	8	512	512	16	1	–	1	1	11	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	2.7-5.5	0-20	Now
ATtiny861V	8	512	512	16	1	–	1	1	11	Y	debug-WIRE	S	PDIP, SOIC, QFN, DIE	1.8-5.5	0-10	Now
Evaluation/Development Kits																
ATAVRDRAGON	Starterkit Supporting On-chip Debugging and Programming for AVR (AVR Dragon Supports OCD for All AVRs with 32 Kbytes or Less Flash Memory)															Now
ATAVRISP2	AVRISP Programmer for All AVR ISP Devices															Now
ATJTAGICE2	AVR Low-cost In-Circuit Emulator Supporting All AVR with Debugwire or JTAG Interface															Now
ATSTK500	STK®500 AVR Starter Kit with AVR Studio® Interface															Now
ATSTK505	STK505 Expansion of STK500 for 14-pin SOIC and 20-pin PDIP AVR Devices															Now

Notes: 1. *USI = Universal Serial Interface.
2. All ATtiny AVR Series parts are RoHS compliant.

Microcontrollers (Continued)

AVR 8-bit RISC (Continued)

Automotive AVR

Part Number	Description	Package	Availability
AT90CAN32	AVR Microcontroller with 32-Kbyte Flash MCU, 15-message Objects CAN Controller, 2-Kbyte RAM, 1-Kbyte EEPROM, 10-bit ADC, TWI, Up to 16 MIPS, LIN-capable UART, -40 to +125°C Qualified	QFN64, QFP64	Now
AT90CAN64	AVR Microcontroller with 64-Kbyte Flash MCU, 15-message Objects CAN Controller, 4-Kbyte RAM, 2-Kbyte EEPROM, 10-bit ADC, TWI, Up to 16 MIPS, LIN-capable UART -40 to +125°C Qualified	QFN64, QFP64	Now
AT90CAN128	AVR Microcontroller with 128-Kbyte Flash MCU, 15-message Objects CAN Controller, 4-Kbyte RAM, 4-Kbyte EEPROM, 10-bit ADC, TWI, Up to 16 MIPS, LIN-capable UART -40 to +125°C Qualified	QFN64, QFP64	Now
ATtiny24	AVR Microcontroller with 2-Kbyte Flash MCU, 128-byte RAM, 128-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, -40 to +125°C Qualified	SOIC14, QFN20	Now
ATtiny25	AVR Microcontroller with 2-Kbyte Flash MCU, 128-byte RAM, 128-byte EEPROM, 10-bit ADC, Up to 16 MIPS, Internal Calibrated Oscillator, -40 to +125°C Qualified	SO8	Now
ATtiny44	AVR Microcontroller with 4-Kbyte Flash MCU, 256-byte RAM, 256-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, -40 to +125°C Qualified	SOIC14, QFN20	Now
ATtiny45	AVR Microcontroller with 4-Kbyte Flash MCU, 256-byte RAM, 256-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, SO8 (-40 to +125°C Qualified), QFN20 (-40 to +150°C Qualified)	SO8, QFN20	Now
ATtiny84	AVR Microcontroller with 8-Kbyte Flash MCU, 512-byte RAM, 512-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, -40 to +125°C Qualified	QFN20	Feb. 2008
ATtiny85	AVR Microcontroller with 8-Kbyte Flash MCU, 512-byte RAM, 512-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, -40 to +125°C Qualified	SO8	Now
ATmega48	AVR Microcontroller with 4-Kbyte Flash MCU, 512-byte RAM, 256-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable UART, Internal Calibrated Oscillator, -40 to +125°C Qualified	QFN32, QFP32	Now
ATmega88	AVR Microcontroller with 8-Kbyte Flash MCU, 1-Kbyte RAM, 512-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable UART, Internal Calibrated Oscillator, QFP32 (-40 to +125°C Qualified), QFN32 (-40 to +150°C Qualified)	QFN32, QFP32	Now
ATmega168	AVR Microcontroller with 16-Kbyte Flash MCU, 1-Kbyte RAM, 512-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, QFP32 (-40 to +125°C Qualified), QFN32 (-40 to +150°C Qualified)	QFP32, QFN32	Now
ATmega164P	AVR Microcontroller with 16-Kbyte Flash MCU, 1-Kbyte RAM, 512 byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, -40 to +125°C Qualified	QFN44, TQFP44	Now
ATmega324P	AVR Microcontroller with 32-Kbyte Flash MCU, 2-Kbyte RAM, 1-Kbyte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, -40 to +125°C Qualified	QFN44, TQFP44	Now
ATmega644P	AVR Microcontroller with 64-Kbyte Flash MCU, 4-Kbyte RAM, 2-Kbyte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, -40 to +125°C Qualified	QFN44, TQFP44	Now
Evaluation/Development Kits			
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

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

MICROCONTROLLERS (CONTINUED)

AVR 8-bit RISC (Continued)

CAN AVR

Part Number	Flash (Kbytes)	EEPROM (Kbytes)	RAM (Kbytes)	I/O Pins	CAN Message Objects	16-bit Timers	8-bit Timers	PWM (Channels)	RTC	SPI	USART	TWI (I2C Compatible)	ISP	10-bit ADC	BOD	WDT	Int. RC	HW MULT	Interrupts	Interrupts Ext.	SPM	VCC (V)	Clock Speed (MHz)	Package	Temperature	Availability
AT90CAN32	32	1	2	53	15	2	2	6+2	1	1	2	1	1	8	1	1	1	1	37	8	1	2.7-5.5	16	MLF64, TQFP64	-40 to +85°C	Now
AT90CAN64	64	2	4	53	15	2	2	6+2	1	1	2	1	1	8	1	1	1	1	–	–	1	2.7-5.5	16	TQFP64, MLF64	-40 to +85°C	Now
AT90CAN128	128	4	4	53	15	2	2	6+2	1	1	2	1	1	8	1	1	1	1	37	8	1	2.7-5.5	16	MLF64, TQFP64	-40 to +85°C	Now

Evaluation/Development Kits		
ATADAPCAN01	Replacement: STK500/501/90CAN128 CAN Adapter	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
ATSTK501	STK501 Expansion of STK500 to Support 64-pin megaAVR® Devices	Now

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

LCD Control AVR

Part Number	Flash (Kbytes)	EEPROM (Bytes)	RAM (Kbytes)	I/O Pins	USI	USART	SPI	TWI	8-bit Timer	16-bit Timer	10-bit ADC	BOD	On-chip Debugging	Self-prog. (S)	Package	VCC (V)	Speed (MHz)	LCD	Availability
ATmega169P	16	512	1	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5	0-16	4x25	Now
ATmega169PV	16	512	1	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5	0-8	4x25	Now
ATmega329	32	1K	2	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5	0-16	4x25	Now
ATmega329V	32	1K	2	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5	0-8	4x25	Now
ATmega329P	32	1K	2	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5	0-16	4x25	Now
ATmega329PV	32	1K	2	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5	0-8	4x25	Now
ATmega3290	32	1K	2	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	2.7-5.5	0-16	4x40	Now
ATmega3290V	32	1K	2	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	1.8-5.5	0-8	4x40	Now
ATmega3290P	32	1K	2	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	2.7-5.5	0-16	4x40	Now
ATmega3290PV	32	1K	2	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	1.8-5.5	0-8	4x40	Now
ATmeg649	64	2K	4	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	2.7-5.5	0-16	4x25	Now
ATmega649V	64	2K	4	54	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, QFN, DIE	1.8-5.5	0-8	4x25	Now

Note: 1. All LCD Control AVR parts are RoHS compliant.

MICROCONTROLLERS (CONTINUED)

AVR 8-bit RISC (Continued)

LCD Control AVR (Continued)

Part Number	Flash (Kbytes)	EEPROM (Kbytes)	RAM (Kbytes)	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 (V)	Speed (MHz)	LCD	Availability
ATmega6490	64	2	4	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	2.7-5.5	0-16	4x40	Now
ATmega6490V	64	2	4	69	1	1	1+USI	USI	2	1	8	Y	JTAG	S	TQFP, DIE	1.8-5.5	0-8	4x40	Now
Evaluation/Development Kits																			
ATAVRBFLY	AVR Butterfly, ATmega169 Demo Board with LCD and Speaker																		Now
ATAVRISP2	AVRISP Programmer for All AVR ISP 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
ATSTK502	STK502 Expansion of STK500 for 64-pin LCD AVR Devices																		Now
ATSTK504	STK504 Expansion of STK500 for 100-pin LCD AVR Devices																		Now

Note: 1. All LCD Control AVR parts are RoHS compliant.

Lighting/Pulse Width Modulation AVR

Part Number	Flash (Kbytes)	EEPROM (Bytes)	RAM (Bytes)	I/O Pins	DALI	16-bit Timers	8-bit Timers	PWM (Channels)	RTC	SPI	USART	TWI (I2C Compatible)	ISP	ADC 10-bit (Channels)	BOD	WDT	Int. RC	HW MULT	Interrupts	Interrupts Ext.	SPM	VCC (V)	Clock Speed (MHz)	Package	Temperature	Availability
AT90PWM1	8	512	512	19	–	1	1	7	–	1	–	–	1	8	1	1	1	1	26	4	1	2.7-5.5	16	SOIC24	-40 to +105°C	Now
AT90PWM2	8	512	512	19	1	1	1	7	1	1	1	–	1	8	1	1	1	1	29	4	1	2.7-5.5	16	SOIC24	-40 to +105°C	Now
AT90PWM3	8	512	512	27	1	1	1	10	1	1	1	–	1	11	1	1	1	1	29	4	1	2.7-5.5	16	MLF32, SOIC32	-40 to +105°C	Now
AT90PWM216	16	512	1024	19	1	1	1	7	1	1	1	–	1	8	1	1	1	1	29	4	1	2.7-5.5	16	SOIC24	-40 to +105°C	Now
AT90PWM316	16	512	1024	27	1	1	1	10	1	1	1	–	1	11	1	1	1	1	29	4	1	2.7-5.5	16	MLF32, SOIC32	-40 to +105°C	Now
Evaluation/Development Kits																										
ATAVRFBKIT	DALI Controlled Dimmable Fluorescent Demo Kit for AT90PWM2																									Now
ATAVRISP2	AVRISP Programmer for All AVR ISP Devices																									Now
ATAVRMC100	Brushless DC Motor Control Evaluation Kit																									Now
ATAVRMC200	Asynchronous AC Induction Motor Control Evaluation Kit																									Now
ATAVRMC201	Asynchronous AC Induction Motor for ATAVRMC200 Evaluation Kit																									Now
ATSTK500	STK500 AVR Starter Kit with AVR Studio Interface																									Now
ATSTK520	STK520 Expansion for STK500 to Support 90 PWM Devices																									Now

Note: 1. All Lighting/Pulse Width Modulation AVR parts are RoHS compliant.

MICROCONTROLLERS (CONTINUED)

AVR 8-bit RISC (Continued)

Smart Battery AVR

Part Number	Flash (Kbytes)	EEPROM (Bytes)	RAM (Bytes)	Battery Prot.	CC-ADC (Resolution)	# Battery Cells	SMBus	Voltage ADC	Highside FET	VCC (V)	Clock Speed (MHz)	Package	Temperature	Availability
ATmega406	40	512	2K	Y	7	2/3/4	1	6	P-ch	4.0-25	1	LQFP48	-40 to +85° C	Now
ATmega16HVA	16	256	512	Y	7	1/2	SW	3	N-ch	1.8-9	4	LGA36, TSOP28	-10 to +70° C	Sampling
Evaluation/Development Kits														
ATAVRSB100	Smart Battery Development Kit for Atmega406													Now
ATJTAGICE2	AVR Low-cost In-Circuit Emulator Supporting All AVR with Debugwire or JTAG Interface													Now

Note: 1. All Smart Battery AVR parts are RoHS compliant.

USB Controllers AVR

Part Number	Flash (Kbytes)	EEPROM (Bytes)	RAM (Bytes)	I/O Pins	USB Host/OTG	USB DRAM (Bytes)	USB Endpoints	USB Full Speed	USB Low Speed	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	Interrupts Ext.	SPM	VCC (V)	Clock Speed (MHz)	Package	Temperature	Availability
AT90USB82	8	512	512	22	–	176	4	1	–	1	1	5	–	1	1	–	1	–	1	1	1		29	10	1	2.7-5.5	16	MLF32	-40 to +85°C	Now
AT90USB162	16	512	512	22	–	176	4	1	–	1	1	5	–	1	1	–	1	–	1	1	1		29	10	1	2.7-5.5	16	MLF32, TQFP32	-40 to +85°C	Now
AT90USB646	64	2K	4K	48	–	832	7	1	1	2	2	6+2	1	1	1	1	1	8	1	1	1	1	38	9	1	2.7-5.5	16	MLF64	-40 to +85°C	Now
AT90USB647	64	2K	4K	48	1	832	7	1	1	2	2	6+2	1	1	1	1	1	8	1	1	1	1	38	9	1	2.7-5.5	16	MLF64, TQFP64	-40 to +85°C	Now
AT90USB1286	128	4K	8K	48	–	832	7	1	1	2	2	6+2	1	1	1	1	1	8	1	1	1	1	38	9	1	2.7-5.5	16	MLF64	-40 to +85°C	Now
AT90USB1287	128	4K	8K	48	1	832	7	1	1	2	2	6+2	1	1	1	1		8	1	1	1	1	38	9	1	2.7-5.5	16	MLF64, TQFP64	-40 to +85°C	Now
Evaluation/Development Kits																														
AT90USBKEY	Demo Kit for AT90USB Devices																													Now
ATEVK525	Mass Storage Evaluation Kit for AT90USB Devices (STK525 Add-on)																													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
ATSTK520	STK520 Expansion for STK500 to Support 90 PWM Devices																													Now
ATSTK525	STK525 AVR Starter Kit to Support 64-pin AT90USB Devices																													Now
ATSTK526	STK526 AVR Starter Kit to Support 32-pin AT90USB Devices																													Now

Note: 1. All USB Controllers AVR parts are RoHS compliant.

Microcontrollers (Continued)

AVR 8-bit RISC (Continued)

Z-Link (ZigBee) AVR

Part Number	AVR	Radio	Flash (Kbytes)	EEPROM (Kbytes)	RAM (Kbytes)	ISM Band (GHz)	Sensitivity (dBm)	Output Power (dBm)	VCC (V)	I/Os	Availability
ATmega64RZA	ATmega644	RF230	64	1	4	2.4	-101	3	1.8-3.6	32	Now
ATmega64RZAP	ATmega644	RF230	64	1	4	2.4	-101	3	1.8-3.6	32	Sampling
ATmega128RZA	ATmega1281	RF230	128	4	8	2.4	-101	3	1.8-3.6	54	Now
ATmega128RZB	ATmega1280	RF230	128	4	8	2.4	-101	3	1.8-3.6	86	Now
ATmega256RZA	ATmega2561	RF230	256	4	8	2.4	-101	3	1.8-3.6	54	Now
ATmega256RZB	ATmega2560	RF230	256	4	8	2.4	-101	3	1.8-3.6	86	Now
Evaluation/Development Kits											
ATAVRZ200	Z-Link Demonstration Kit										Now
ATAVRZ502	Z-Link RF Accessory Kit										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

Note: 1. All Z-link ZigBee AVR parts are RoHS compliant.

MICROCONTROLLERS (CONTINUED)

AVR32 32-bit Microcontrollers

AP7000 Series

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	AC97	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	3	1	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	3	1	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	1xS	2048x 2048	4	4	85	Stereo	Y	Y	6	1	3	1	CMOS	Y	3	1	1	Y	Y	Y	1.65-1.95 Core 3.0-3.6 IO	BGA196	150	Now

Evaluation/Development Kits		
ATNGW100	AVR32 Network Gateway Kit – A Linux Plug and Play Evaluation Platform	Now
ATSTK1000	Starter Kit for AT32AP7xxx Devices	Now

Note: 1. All AP7000 Series parts are RoHS compliant.

UC3 Series

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 Layers	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	7	109	1	6	15	3	1	Y	2	1	1	Y	Y	3.0-3.6	QFP144	66	Sampling
AT32UC3A0256	256	64	1	1xFS	Y	4	7	109	1	6	15	3	1	Y	2	1	1	Y	Y	3.0-3.6	QFP144	66	Sampling
AT32UC3A0512	512	64	1	1xFS	Y	4	7	109	1	6	15	3	1	Y	2	1	1	Y	Y	3.0-3.6	QFP144	66	Sampling
AT32UC3A1128	128	32	1	1xFS	Y	4	7	69	0	6	15	3	1	Y	2	1	1	Y	Y	3.0-3.6	QFP100	66	Sampling
AT32UC3A1256	256	64	1	1xFS	Y	4	7	69	0	6	15	3	1	Y	2	1	1	Y	Y	3.0-3.6	QFP100	66	Sampling
AT32UC3A1512	512	64	1	1xFS	Y	4	7	69	0	6	15	3	1	Y	2	1	1	Y	Y	3.0-3.6	QFP100	66	Sampling
AT32UC3B064	64	16	0	1xFS	Y	3	7	44	0	5	7	3	1	Y	1	1	1	Y	Y	3.0-3.6	QFP/MLF64	60	Limited Sampling
AT32UC3B0128	128	32	0	1xFS	Y	3	7	44	0	5	7	3	1	Y	1	1	1	Y	Y	3.0-3.6	QFP/MLF64	60	Limited Sampling
AT32UC3B0256	256	32	0	1xFS	Y	3	7	44	0	5	7	3	1	Y	1	1	1	Y	Y	3.0-3.6	QFP/MLF64	60	Limited Sampling
AT32UC3B164	64	16	0	1xFS	–	2	7	28	0	5	7	3	1	Y	1	0	1	Y	Y	3.0-3.6	QFP/MLF48	60	Limited Sampling
AT32UC3B1128	128	32	0	1xFS	–	2	7	28	0	5	7	3	1	Y	1	0	1	Y	Y	3.0-3.6	QFP/MLF48	60	Limited Sampling
AT32UC3B1256	256	32	0	1xFS	–	2	7	28	0	5	7	3	1	Y	1	0	1	Y	Y	3.0-3.6	QFP/MLF48	60	Limited Sampling

Evaluation/Development Kits		
ATEVK1100	Evaluation Kit for AVR32 UC3A Series	Now
ATEVK1101	Evaluation Kit for AVR32 UC3B Series	Now

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

MICROCONTROLLERS (CONTINUED)

AT91SAM ARM-based Microcontrollers

ARM7-based Microcontrollers

Part Number	Flash (Kbytes)	SRAM (Kbytes)	External Bus Interface	Peripheral DMA (Channels)	UART	SPI	TWI	SSC/I2S	MCI	CAN	USB Device	Ethernet MAC 10/100	Triple-DES/AES Engine	Timers	PWM Controller	High Current Pads	RTC/RTT	10-bit ADC Channel	10-bit DAC Channel	Power-On Reset	Brown Out Detection	I/O Voltage Domain (V)	Clock Speed (MHz)	Packages	Availability
AT91SAM7L128	128	6	–	11	1	1	1		–	–	–	–	–	4	4	4	1	4	–	1	1	2.5/3.3	36	QFP128, BGA144	Now
AT91SAM7L64	64	6	–	11	1	1	1		–	–	–	–	–	4	4	4	1	4	–	1	1	2.5/3.3	36	QFP128, BGA144	Now
AT91SAM7X512	512	128	–	11	3	2	1	1	–	1	FS	1	–	5	4	4	1	8	–	1	1	3.3	55	QFP100, BGA100	Now
AT91SAM7X256	256	64	–	11	3	2	1	1	–	1	FS	1	–	5	4	4	1	8	–	1	1	3.3	55	QFP100, BGA100	Now
AT91SAM7X128	128	32	–	11	3	2	1	1	–	1	FS	1	–	5	4	4	1	8	–	1	1	3.3	55	QFP100, BGA100	Now
AT91SAM7XC512	512	128	–	11	3	2	1	1	–	1	FS	1	1	5	4	4	1	8	–	1	1	3.3	55	QFP100, BGA100	Now
AT91SAM7XC256	256	64	–	11	3	2	1	1	–	1	FS	1	1	5	4	4	1	8	–	1	1	3.3	55	QFP100, BGA100	Now
AT91SAM7XC128	128	32	–	11	3	2	1	1	–	1	FS	1	1	5	4	4	1	8	–	1	1	3.3	55	QFP100, BGA100	Now
AT91SAM7S512	512	64	–	11	3	1	1	1	–	–	FS	–	–	5	4	4	1	8	–	1	1	3.3	55	QFP64, QFN64	Now
AT91SAM7S256	256	64	–	11	3	1	1	1	–	–	FS	–	–	5	4	4	1	8	–	1	1	3.3	55	QFP64, QFN64	Now
AT91SAM7S128	128	32	–	11	3	1	1	1	–	–	FS	–	–	5	4	4	1	8	–	1	1	3.3	55	QFP64, QFN64	Now
AT91SAM7S64	64	16	–	11	3	1	1	1	–	–	FS	–	–	5	4	4	1	8	–	1	1	3.3	55	QFP64, QFN64	Now
AT91SAM7S321	32	8	–	11	3	1	1	1	–	–	FS	–	–	5	4	4	1	8	–	1	1	3.3	55	QFP64, QFN64	Now
AT91SAM7S32	32	8	–	9	3	1	1	1	–	–	–	–	–	5	4	4	1	8	–	1	1	3.3	55	QFP48, QFN48	Now
AT91SAM7S161	16	4	–	11	3	1	1	1	–	–	FS	–	–	5	4	4	1	8	–	1	1	3.3	55	QFP64, QFN64	Now
AT91SAM7S16	16	4	–	9	3	1	1	1	–	–	–	–	–	5	4	4	1	8	–	1	1	3.3	55	QFP48, QFN48	Now
AT91SAM7SE512	512	32	1	11	3	1	1	1	–	–	FS	–	–	5	4	4	1	8	–	1	1	3.3	48	QFP128, BGA144	Now
AT91SAM7SE256	256	32	1	11	3	1	1	1	–	–	FS	–	–	5	4	4	1	8	–	1	1	3.3	48	QFP128, BGA144	Now
AT91SAM7SE32	32	8	1	11	3	1	1	1	–	–	FS	–	–	5	4	4	1	8	–	1	1	3.3	48	QFP128, BGA144	Now
AT91SAM7A3	256	32	–	19	4	2	1	2	1	2	FS	–	–	11	8	–	1	16	–	3	–	3.3	60	QFP100	Now
AT91M55800A	–	8	1	10	3	1	–	–	–	–	–	–	–	7	–	–	1	8	2	–	–	3.3/5.0	33	QFP176, BGA176	Now

Note: 1. All ARM7-based Microcontrollers parts are RoHS compliant.

MICROCONTROLLERS (CONTINUED)

AT91SAM ARM-based Microcontrollers (Continued)

ARM7-based Microcontrollers (Continued)

Part Number	Flash (Bytes)	SRAM (Kbytes)	External Bus Interface	Peripheral DMA (Channels)	UART	SPI	TWI	SSC/I2S	MCI	CAN	USB Device	Ethernet MAC 10/100	Triple-DES/AES Engine	Timers	PWM Controller	High Current Pads	RTC/RTT	10-bit ADC Channel	10-bit DAC Channel	Power-On Reset	Brown Out Detection	I/O Voltage Domain (V)	Clock Speed (MHz)	Packages	Availability
AT91M42800A	–	8	1	8	2	2	–	–	–	–	–	–	–	8	–	–	1	–	–	–	–	3.3/5.0	33	QFP144, BGA144	Now
AT91FR40162S	2M	256	1	4	2	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	–	3.3	75	BGA121	Now
AT91R40008	–	256	1	4	2	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	–	3.3	75	QFP100	Now
AT91M40800	–	8	1	4	2	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	–	1.8/3.3	40	QFP100	Now
Evaluation/Development Kits																									
AT91SAM7L-EK	Evaluation Kit for AT91SAM7L Products (SAM7L128 and SAM7L64); Includes IAR® Toolchain (32-Kbyte Limited Compiler)																								On Request
AT91SAM7L-EK2	Evaluation Kit for AT91SAM7L Products (SAM7L128 and SAM7L64); Includes IAR Toolchain (32-Kbyte Limited Compiler)																								March 2008
AT91SAM7S-EK	Evaluation Kit for AT91SAM7S Products (SAM7S16 to SAM7S512); Includes IAR Toolchain (32-Kbyte Limited Compiler)																								Now
AT91SAM7SE-EK	Evaluation Kit for AT91SAM7SE Products (SAM7SE32 to SAM7SE512); Includes IAR Toolchain (32-Kbyte Limited Compiler)																								Now
AT91SAM7X-EK	Evaluation Kit for AT91SAM7X Products (SAM7X128 to SAM7X512); Includes IAR Toolchain (32-Kbyte Limited Compiler)																								Now
AT91SAM7A3-EK	Evaluation Kit for AT91SAM7A3																								Now
AT91EB55	Evaluation Kit for AT91M55800A																								Now
AT91EB42	Evaluation Kit for AT91M42800A																								Now
AT91EB40A	Evaluation Kit for AT91FR40162S, AT91R40008 and AT91M40800																								Now

Note: 1. All ARM7-based Microcontrollers parts are RoHS compliant.

MICROCONTROLLERS (CONTINUED)

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
Evaluation/Development Kits																								
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.

MICROCONTROLLERS (CONTINUED)

AT91 Customizable Atmel Processor (CAP) 32-bit ARM-based MCUs

CAP ARM-based Microcontrollers

Part Number	Clock Frequency (MHz)	Cache Memory (Kbytes)	ROM (Kbytes)	SRAM (Kbytes)	NAND Flash/ECC	SDRAM Controller	DDR RAM Controller	Static Memory Controller	Burst/Cellular RAM	Usable Gates (K)	MP Block SRAM (Kbytes)	MP Block DPRAM (Kbytes)	General Purpose I/O [2]	USB OHCI Host Full Speed Ports	USB Device High Speed UTMI+/PHY Endpoints	USB Device Full Speed Endpoints	Ethernet MAC 10/100	Image Sensor Interface	LCD Controller	PLL/Osc	Power-on Reset	Shut-down Controller	Watch-dog Timer	Real-time Timer	Battery Markup Registers	SSC	SPI Master/Slave	MMCard, SDCard, SDIO Host	TWI Master/Slave	USART	Debugging UART	CAN 2.0A & B Controller Mailboxes	16-bit Timer/Counter Channels	16-bit PWM Channels	AC97 Controller Channels	10-bit ADC Channels	AES/TDES	32-bit Parallel I/O Controller	Package	Availability
ARM7TDMI Core																																								
AT91CAP7S450A	80	–	256	160	1	1		1		450	–	8	90	–	–	6	–	–	–	1/1	2	1	1	1	20	–	1	–	–	2	1	–	3	2[1]	–	8	–	1	144, 176, 208 QFP/ BGA, 225 BGA	Now
AT91CAP7S250A	80	–	256	160	1	1		1		250	–	8	90	–	–	6	–	–	–	1/1	2	1	1	1	20	–	1	–	–	2	1	–	3	2[1]	–	8	–	1	144, 176, 208 QFP/ BGA, 225 BGA	Now
ARM926EJ-S Core																																								
AT91CAP9S500A	200	16/ 16	32	32	1	1	1	1	1	500	36	160	77	2	8	–	1	1	1	1/1	2	1	1	1	4	2	2	2	1	3	1	16	3	4	6	8	–	4	LFBGA400, TFBGA324	Now
AT91CAP9S250A	200	16/ 16	32	32	1	1	1	1	1	250	36	160	77	2	8	–	1	1	1	1/1	2	1	1	1	4	2	2	2	1	3	1	16	3	4	6	8	–	4	LFBGA400, TFBGA324	Now
AT91CAP9SC500A	200	16/ 16	32	32	1	1	1	1	1	500	36	160	77	2	8	–	1	1	1	1/1	2	1	1	1	4	2	2	2	1	3	1	16	3	4	6	8	1/1	4	LFBGA400, TFBGA324	Now
AT91CAP9SC250A	200	16/ 16	32	32	1	1	1	1	1	250	36	160	77	2	8	–	1	1	1	1/1	2	1	1	1	4	2	2	2	1	3	1	16	3	4	6	8	1/1	4	LFBGA400, TFBGA324	Now

Evaluation/Development Kits		
AT91CAP7X-DK	Development Kit for AT91CAP7 with Xilinx FPGA	Now
AT91CAP7A-DK	Development Kit for AT91CAP7 with Altera® FPGA	2Q2008
AT91CAP7A-STK	Starter Kit for AT91CAP7 with Altera FPGA	March 2008
AT91CAP7X-STK	Starter Kit for AT91CAP7 with Xilinx FPGA	2Q2008
AT91CAP9A-DK	Development Kit for AT91CAP9 with Altera FPGA	Now
AT91CAP9X-DK	Development Kit for AT91CAP9 with Xilinx FPGA	1H2008
AT91CAP9A-STK	Starter Kit for AT91CAP9 with Altera FPGA	Now
AT91CAP9X-STK	Starter Kit for AT91CAP9 with Xilinx FPGA	1H2008

Notes:
1. CAP7 PWMs implemented via timer block.
2. Number of general-purpose I/O for the largest package.
3. All CAP parts are RoHS compliant.
4. Any of the ASIC IP Cores listed on Page 22 can be integrated into the AT91CAP Metal Programmable Block, together with compatible third-party IPs, and IP blocks developed by the CAP user.

Microcontrollers (Continued)

8051 Architecture

Can Networking

Part Number	Description	Program Flash Memory	RoHS Compliance	Availability
AT89C51CC02	8-bit Microcontroller with 4-channel CAN Controller, 16-Kbyte of Flash, 512-byte RAM, 2-Kbyte EEPROM, 10-bit ADC, PCA	16-Kbyte	Yes	Now
AT89C51CC01	8-bit Microcontroller with 15-channel CAN Controller, 32-Kbyte Flash, 1280-byte RAM, 2-Kbyte EEPROM, 10-bit ADC, PCA	32-Kbyte	Yes	Now
AT89C51CC03	8-bit Microcontroller with 15-channel CAN Controller, 64-Kbytes Flash, 2304-byte RAM, 2-Kbyte EEPROM, 10-bit ADC, PCA	64-Kbyte	Yes	Now
Development Kits and Tools				
AT89STK-06	Starter Kit for CAN Microcontrollers AT89C51CC01, AT89C51CC02 and AT89C51CC03			Now
CANADAPT28	PLCC28 Adapter for AT89C51CC02 to AT89C51CC02 PLCC44 Socket			Now

Flash (Reprogrammable)

Part Number	Description	Memory Size	RoHS Compliance	Availability
AT89C2051	Microcontroller with 2-Kbyte Flash with Analog Comparator	2K x 8	Yes	Now
AT89C4051	Microcontroller with 4-Kbyte Flash with Analog Comparator	4K x 8	Yes	Now
AT89C55WD	Microcontroller with 20-Kbyte Flash, 256-byte RAM, Watchdog Timer	20K x 8	Yes	Now
AT89C51RC	Microcontroller with 32-Kbyte Flash, 512-byte RAM, Watchdog Timer	32K x 8	Yes	Now

Flash ISP (In-System Programmable)

Part Number	Description	Memory Size	RoHS Compliance	Availability
AT89S51	In-System Programmable Microcontroller with 4-Kbyte Flash	4K x 8	Yes	Now
AT89LS51	2.7-volt, In-System Programmable Microcontroller with 4-Kbyte Flash	4K x 8	Yes	Now
AT89S52	In-System Programmable Microcontroller with 8-Kbyte Flash	8K x 8	Yes	Now
AT89LS52	2-7-volt, In-System Programmable Microcontroller with 8-Kbyte Flash	8K x 8	Yes	Now
AT89S8253	In-System Programmable Microcontroller with 12-Kbyte Flash, 256-byte RAM, 2-Kbyte EEPROM, SPI	12K x 8	Yes	Now
AT89C5115	Low-pin Count, In-System Programmable Microcontroller with 16-Kbyte Flash, 2-Kbyte EEPROM, 512-byte RAM, 10-bit ADC, PCA	16K x 8	Yes	Now
AT89C51RB2	In-System Programmable Microcontroller with 16-Kbyte Flash, 1280-byte RAM, SPI, PCA	16K x 8	Yes	Now
AT89C51RC2	In-System Programmable Microcontroller with 32-Kbyte Flash, 1280-byte RAM, SPI, PCA	32K x 8	Yes	Now
AT89C51IC2	In-System Programmable Microcontroller with 32-Kbyte Flash, 1280-byte RAM, TWI, SPI, PCA	32K x 8	Yes	Now
AT89C51AC2	In-System Programmable Microcontroller with 32-Kbyte Flash, 1280-byte RAM, 2-Kbyte EEPROM, 10-bit ADC, PCA	32K x 8	Yes	Now

MICROCONTROLLERS (CONTINUED)

8051 Architecture (Continued)

Flash ISP (In-System Programmable) (Continued)

Part Number	Description	Memory Size	RoHS Compliance	Availability
AT89C51AC3	In-System Programmable Microcontroller with 64-Kbyte Flash, 2048-byte RAM, 2-Kbyte EEPROM, 10-bit ADC, PCA	64K x 8	Yes	Now
AT89C51RD2	In-System Programmable Microcontroller with 64-Kbyte Flash, 2048-byte RAM, PCA, SPI	64K x 8	Yes	Now
AT89C51ED2	In-System Programmable Microcontroller with 64-Kbyte Flash, 2048-byte RAM, 2-Kbyte EEPROM, PCA, SPI	64K x 8	Yes	Now
AT89C51ID2	In-System Programmable Microcontroller with 64-Kbyte Flash, 2048-byte RAM, 2-Kbyte EEPROM, PCA, TWI, SPI	64K x 8	Yes	Now
AT89C51RE2	In-System Programmable Microcontroller with 128-Kbyte Flash, 8192-byte RAM, PCA, SPI, 2 UART	128K x 8	Yes	1Q2008
Development Kits and Tools				
AT89ISP	In-System Programmer for AT89S Series			Now
AT89OCD-01	On Chip Debug Tool for 8051 Flash Microcontrollers: AT89C51RE2 and Derivatives			Now
AT89STK-11	Starter Kit for In-System Programming 8051 Flash Microcontrollers			Now
FLIP	FLexible In-System Programmer – PC-based Software for In-System Programming of C51-based Flash Micro-controllers – Available in Microsoft Windows (Support RS-232, CAN, USB Interfaces), Linux® (RS-232 Interface)			Now

Flash ISP – Single Cycle Core

Part Number	Description	Memory Size	RoHS Compliance	Availability
AT89LP2052	Single-cycle 8051 Core, In-System Programmable Microcontroller with 2-Kbyte Flash, 256-byte RAM, Analog Comparator	2K x 8	Yes	Now
AT89LP4052	Single-cycle 8051 Core, In-System Programmable Microcontroller with 4-Kbyte Flash, 256-byte RAM, Analog Comparator	4K x 8	Yes	Now
AT89LP213	Single-cycle 8051 Core, In-System Programmable Microcontroller with 2-Kbyte Flash, 128-byte RAM, On-chip Debug, SPI, 14-pin, PWM, Internal RC Oscillator, Analog Comparator	2K x 8	Yes	Now
AT89LP214	Single-cycle 8051 Core, In-System Programmable Microcontroller with 2-Kbyte Flash, 128-byte RAM, On-chip Debug, SPI, 14-pin, UART, Analog Comparator, Internal RC Oscillator	2K x 8	Yes	Now
AT89LP216	Single-cycle 8051 Core, In-System Programmable Microcontroller with 2-Kbyte Flash, 128-byte RAM, On-chip Debug, SPI, 16-pin, UART, PWM, Analog Comparator, Internal RC Oscillator	2K x 8	Yes	Now
AT89LP428	Single-cycle 8051 Core, In-System Programmable Microcontroller with 4-Kbyte Flash, 512-byte Flash Data, 768-byte RAM, On-chip Debug, SPI, 28-/32-pin, UART, PWM, Dual Analog Comparator, Internal RC Oscillator, In-Application Programming	4K x 8	Yes	Samples 1Q2008
AT89LP828	Single-cycle 8051 Core, In-System Programmable Microcontroller with 8-Kbyte Flash, 1024-byte Flash Data, 768-byte RAM, On-chip Debug, SPI, 28-/32-pin, UART, PWM, Dual Analog Comparator, Internal RC Oscillator, In-Application Programming	8K x 8	Yes	Samples 1Q2008
Development Kits				
AT89ISP	In-System Programmer for AT89S Series			Now

Microcontrollers (Continued)

8051 Architecture (Continued)

Lighting Microcontrollers

Part Number	Description	Program Memory	RoHS Compliance	Availability
AT83EB5114	Microcontroller with 256-byte RAM, 256-byte EEPROM, 10-bit 6-channel ADC, 16-bit Timers, Analog Comparator, RC Oscillator, Amplifier/Rectifier	4-Kbyte ROM	Yes	Now
AT89EB5114	Microcontroller with 256-byte RAM, 256-byte EEPROM, 10-bit 6-channel ADC, 16-bit Timers, Analog Comparator, RC Oscillator, Amplifier/Rectifier	4-Kbyte Flash	Yes	Now
Development Kits				
AT89RFD-10	Non Dimmable Fluorescent Demo Kit for AT8xEB5114			Now

OTP (One Time Programmable)

Part Number	Description	Memory Size	RoHS Compliance	Availability
AT87C52X2	Microcontroller with 8-Kbyte OTP	8K x 8	Yes	Now
AT87C5103	Low-pin Count Microcontroller with 12-Kbyte OTP, 512-byte RAM, SPI, PCA	12K x 8	Yes	Now
AT87C54X2	Microcontroller with 16-Kbyte OTP	16K x 8	Yes	Now
AT87C51RB2	Microcontroller with16-Kbyte Flash, 512-byte RAM, PCA	16K x 8	Yes	Now
AT87C58X2	Microcontroller with 32-Kbyte OTP	32K x 8	Yes	Now
AT87C51RC2	Microcontroller with 32-Kbyte OTP, 512-byte RAM, PCA	32K x 8	Yes	Now
AT87251G2D	C251 Microcontroller with 32-Kbyte OTP, 1024-byte RAM, SPI, TWI, EWC	32K x 8	Yes	Now
AT87C51RD2	Microcontroller with 64-Kbyte OTP, 1024-byte RAM, PCA	64K x 8	Yes	Now

ROM

Part Number	Description	Memory Size	RoHS Compliance	Availability
AT80C52X2	Microcontroller with 8-Kbyte ROM	8K x 8	Yes	Now
AT83C5103	Low-pin Count, Microcontroller with 12-Kbyte ROM, 512-byte RAM, SPI, PCA	12K x 8	Yes	Now
AT80C54X2	Microcontroller with 16-Kbyte ROM	16K x 8	Yes	Now
AT83C51RB2	Microcontroller with 16-Kbyte ROM, 1280-byte RAM, PCA, SPI, Keyboard Interface	16K x 8	Yes	Now
AT80C58X2	Microcontroller with 32-Kbyte ROM	32K x 8	Yes	Now
AT83C51RC2	Microcontroller with 32-Kbyte ROM, 1280-byte RAM, PCA, SPI, Keyboard Interface	32K x 8	Yes	Now
ATC83251G2D	C251 Microcontroller with 32-Kbyte ROM, 1024-byte RAM, SPI, TWI, EWC	32K x 8	Yes	Now
AT83C51RD2	Microcontroller with 64-Kbyte ROM, 1024-byte RAM	64K x 8	Yes	Now

ROMless

Part Number	Description	RoHS Compliance	Availability
AT80C31X2	Microcontroller with 128 Bytes of RAM	Yes	Now
AT80C32X2	Microcontroller with 256 Bytes of RAM	Yes	Now
AT80C51RA2	Microcontroller with 512 Bytes of RAM, PCA	Yes	Now
AT80251G2D	C251 Microcontroller with 1024 Bytes of RAM, SPI, TWI, EWC	Yes	Now

Microcontrollers (Continued)

8051 Architecture (Continued)

Smart Card Readers – 8051 Microcontrollers

Part Number	Description	Program Memory	RoHS Compliance	Availability
AT83C5121	Microcontroller with Multi-protocol Smart Card Interface, 512-byte RAM, ISO 7816, DC/DC, UART	16-Kbyte ROM	Yes	Now
AT85C5121	Microcontroller with Multi-protocol Smart Card Interface, 512-byte RAM, ISO 7816, DC/DC, UART	16-Kbyte Code RAM, 16-Kbyte Bootloader	Yes	Now
AT89C5121	Microcontroller with Multi-protocol Smart Card Interface, 512-byte RAM, ISO 7816, DC/DC, UART	16-Kbyte Flash, 16-Kbyte Bootloader	Yes	Now
AT83C5122	Microcontroller with Multi-protocol Smart Card Interface, 768-byte RAM, ISO 7816, DC/DC, USB 2.0 (12 Mbps), SPI	32-Kbyte ROM	Yes	Now
AT85C5122	Microcontroller with Multi-protocol Smart Card Interface, 768-byte RAM, ISO 7816, DC/DC, USB 2.0 (12 Mbps), SPI	32-Kbyte Code RAM	Yes	Now
AT89C5122	Microcontroller with Multi-protocol Smart Card Interface, 768-byte RAM, ISO 7816, DC/DC, USB 2.0 (12 Mbps), SPI	32-Kbyte Flash	Yes	Now
AT83C5123	Microcontroller with Multi-protocol Smart Card Interface, 768-byte RAM, ISO 7816, DC/DC, USB 2.0 (12 Mbps), Optional EEPROM 256 Bytes	30-Kbyte ROM	Yes	Now
AT83C5127	Microcontroller with Multi-protocol Smart Card Interface, 768-byte RAM, ISO 7816, DC/DC, USB 2.0 (12 Mbps), Optional EEPROM 256 Bytes	16-Kbyte ROM	Yes	Now
Development Kits and Tools				
AT89STK-03	Starter Kit for AT8xC5122/23/27 USB Smart Card Reader Microcontrollers			Now
AT89STK-05	Starter Kit for AT89C5130A/AT89C5131A/AT89C5122 USB Microcontroller			Now
AT89STK-10	USB Mass Storage Starter Kit for AT89C5130A/AT89C5131A/AT89C5122 USB Microcontrollers			Now

USB Microcontrollers 8051-based

Part Number	Description	Program Memory	RoHS Compliance	Availability
AT89C5130A	Microcontroller with 1280-byte RAM, 1-Kbyte EEPROM, USB 2.0 (12 Mbps), SPI, TWI, PCA	16-Kbyte Flash	Yes	Now
AT89C5131A	Microcontroller with 1280-byte RAM, 1-Kbyte EEPROM, USB 2.0 (12 Mbps), SPI, TWI, PCA	32-Kbyte Flash	Yes	Now
AT89C5132	Microcontroller with 2304-byte RAM, TWI, USB, SPI, I2S, 10-bit ADC, Flash Memory Interfaces	64-Kbyte Flash	Yes	Now
AT83C5134	Microcontroller with 1280-byte RAM, USB 2.0 (12 Mbps), 6 Endpoints, SPI, TWI, PCA	8-Kbyte ROM	Yes	Now
AT83C5135	Microcontroller with 1280-byte RAM, USB 2.0 (12 Mbps), 6 Endpoints, SPI, TWI, PCA	16-Kbyte ROM	Yes	Now
AT83C5136	Microcontroller with 1280-byte RAM, USB 2.0 (12 Mbps), 6 Endpoints, SPI, TWI, PCA	32-Kbyte ROM	Yes	Now
AT83EC5136	Microcontroller with 1280-byte RAM, 512-byte EEPROM and USB 2.0 (12 Mbps), 6 Endpoints, SPI, TWI, PCA	32-Kbyte ROM	Yes	Now
AT83EI5136	Microcontroller with 1280-byte RAM, 32-Kbyte EEPROM and USB 2.0 (12 Mbps), 6 Endpoints, SPI, TWI, PCA	32-Kbyte ROM	Yes	Now
Development Kits				
AT89DVK-04	AT89C5132 Development Kit			Now
AT89STK-05	Starter Kit for AT89C5130A/AT89C5131A/AT89C5122 USB Microcontroller			Now
AT89STK-10	USB Mass Storage Starter Kit for AT89C5130A/AT89C5131A/AT89C5122 USB Microcontrollers			Now

Microcontrollers (Continued)

MARC4 4-bit Architecture Microcontrollers

4-bit Microcontrollers/MARC4 Family

Part Number	Description	Package	RoHS Compliance	Availability
ATAM862x-TNz3	Complete UHF ASK/FSK Transmitter, Flash Microcontroller and Transmitter PLL T5753 in One IC, Temperature Range: -40° C to +125° C, Frequency Range: 310 to 330 MHz	SSO24	Pb-free Only	Now
ATAM862x-TNz4	Complete UHF ASK/FSK Transmitter, Flash Microcontroller and Transmitter PLL T5754 in One IC, Temperature Range: -40° C to +125° C, Frequency Range: 429 to 439 MHz	SSO24	Pb-free Only	Now
ATAM862x-TNz8	Complete UHF ASK/FSK Transmitter, Flash Microcontroller and Transmitter PLL T5750 in One IC, Temperature Range: -40° C to +125° C, Frequency Range: 868 to 928 MHz	SSO24	Pb-free Only	Now
ATAM893 (MTP Version)	1.8 to 6.5V, Extended Voltage Range with Very Low Current Consumption for IR and RF Remote Control, Security and Wireless Communication Systems, Sleep current <1 µA, 4-Kbyte Flash Memory, 2 x 64 Bytes EEPROM, 3 Multifunction Timer, Watchdog, POR & Brown-out, SSI, 16 I/O Lines, TAMB -40° C to +125° C, MTP Version for ATAR080/090/890/092/892	SSO20	Pb-free Only	Now
ATAM893-D (MTP Version)	1.8 to 6.5V, Extended Voltage Range with Very Low Current Consumption for IR and RF Remote Control, Security and Wireless Communication Systems, Sleep current <1 µA, 4-Kbyte Flash Memory, 2 x 64 Bytes EEPROM, 3 Multifunction Timer, Watchdog, POR & Brown-out, SSI, 16 I/O Lines, T_{AMB} -40° C to +125° C, MTP Version for ATAR080/090/890/092/892	SSO20	Pb-free Only	Now
ATAM894 (MTP Version)	1.8 to 6.5V, Extended Voltage Range with Very Low Current Consumption for IR and RF Remote Control, Security and Wireless Communication Systems, Sleep current <1 µA, 8-Kbyte Flash Memory, 2 x 64 Bytes EEPROM, 3 Multifunction Timer, Watchdog, POR & Brown-out, SSI, 16 I/O Lines, T_{AMB} -40° C to +85° C	SSO24	Pb-free Only	Now
ATAR080	1.8 to 6.2V, Extended Voltage Range with Very Low Current Consumption for IR and RF Remote Control, Security and Wireless Communication Systems, Very Low Power Consumption in Active, Power-down and Sleep Mode, Watchdog Timer, POR and Brown-out Function, 2 x Multifunctional Timers/Counters Including IR/RF Remote Control Carrier Generation, 2048-byte ROM + 1024 Bytes for Test Purposes, 256 Nibbles RAM, I/O 12 Bi-directional Ports Inclusive 4 High-current Outputs, 8-bit Synchronous Serial Interface, Battery-low Detection, Comparator for Zero Cross Detection, 3 Internal, 4 External Interrupts, 32 kHz Quartz Oscillator, 4 MHz Oscillator (Internal RC, External R, Quartz or Ceramic Resonator, External Clock), Operating Temperature Range T_{AMB} = -40° C to +85° C	SSO20	Pb-free Only	Now
ATAR080-D	See ATAR080, Operating Temperature Range T_{AMB} = -40° C to +125° C	SSO20	Pb-free Only	Now
ATAR090	1.8 to 6.2V, Extended Voltage Range with Very Low Current Consumption for IR and RF Remote Control, Security and Wireless Communication Systems, Sleep Current <1 µA, Watchdog Timer, POR and Brown-out Function, 2 x Multifunctional Timers/ Counters Including IR/RF Remote Control Carrier Generation, 2048-byte ROM + 1024 Bytes for Test Purposes, 256 Nibbles RAM, I/O 12 Bi-directional Ports Inclusive 4 High-current Outputs, 8-bit Synchronous Serial Interface, Battery-low Detection, Comparator for Zero Cross Detection, 3 Internal, 4 External Interrupts, 32 kHz Quartz Oscillator, 4 MHz Oscillator (Internal RC, External R, Quartz or Ceramic Resonator, External Clock), Operating Temperature Range T_{AMB} = -40° C to +85° C (-40° C to +105° C) (-40° C to +125° C)	SSO20	Pb-free Only	Now
ATAR090-C	See ATAR090, Operating Temperature Range T_{AMB} = -40° C to +105° C	SSO20	Pb-free Only	Now
ATAR090-D	See ATAR090, Operating Temperature Range T_{AMB} = -40° C to +125° C	SSO20	Pb-free Only	Now

MICROCONTROLLERS (CONTINUED)

MARC4 4-bit Architecture Microcontrollers (Continued)

4-bit Microcontrollers/MARC4 Family (Continued)

Part Number	Description	Package	RoHS Compliance	Availability
ATAR092	1.8 to 6.2V, Extended Voltage Range with Very Low Current Consumption for IR and RF Remote Control, Security and Wireless Communication Systems, Sleep Current <1 µA, Watchdog Timer, POR and Brown-out Function, 3 x Multifunction Timer/Counter with Remote Control Carrier Generation and Biphase, Manchester and Pulse width Modulator and Demodulator, 4096-byte ROM + 512 Bytes for Test Purposes, 256 Nibbles RAM, I/O 16 Bi-directional Ports Including 4 High-current Outputs, 8-bit Synchronous Serial Interface, Battery Low Detection, Comparator for Zero Cross Detection, 4 Internal, 6 External Interrupts, 32 kHz Quartz Oscillator, 4 MHz Oscillator (Internal RC, External R, Quartz or Ceramic Resonator, External Clock), Operating Temperature Range T_{AMB} = -40° C to +85° C (-40° C to +105° C) (-40° C to +125° C)	SSO20	Pb-free Only	Now
ATAR092-C	See ATAR092, Operating Temperature Range T_{AMB} = -40° C to +105° C	SSO20	Pb-free Only	Now
ATAR092-D	See ATAR092, Operating Temperature Range T_{AMB} = -40° C to +125° C	SSO20	Pb-free Only	Now
ATAR510	2.4 to 6V Low-power Microcontroller, PC-keyboards/Wireless Keyboards, Motor Control with PWM, Embedded Applications Requiring Small LED- or LCD-displays Like E-cash Chip-card Reader, 4096-byte ROM + 1024 Byte for Test Purposes, 256 Nibbles RAM, 32 Bi-directional I/Os: 24 Standard I/Os, Bitwise Programmable, 8 I/Os 20 mA Push/Pull (5V) (2.4V --> 4.3 mA), 4 Internal, 10 External Interrupts, 32 kHz Quartz Oscillator as Optional Sub-clock, 4 MHz Oscillator (Internal RC, External R, Quartz or Ceramic Resonator, External Clock), <1 uA (5V) Operating Current, Sleep Current <1 µA with 32 kHz Oscillator, Watchdog Timer and CodedReset, 2 x 8-bit Timer/Counter with 8-bit Prescaler, 2 Complementary Buzzer Outputs	DIT, SSO44	Pb-free Only	Now
ATAR862x-yyy-TNz3	Complete UHF ASK/FSK Transmitter, ROM Microcontroller and Transmitter PLL T5753 in One IC, Temperature Range: -40° C to +125° C, Frequency Range: 310 to 330 MHz	SSO24	Pb-free Only	Now
ATAR862x-yyy-TNz4	Complete UHF ASK/FSK Transmitter, ROM Microcontroller and Transmitter PLL T5754 in One IC, Temperature Range: -40° C to +125° C, Frequency Range: 429 to 439 MHz	SSO24	Pb-free Only	Now
ATAR862x-yyy-TNz8	Complete UHF ASK/FSK Transmitter, ROM Microcontroller and Transmitter PLL T5750 in One IC, Temperature Range: -40° C to +125° C, Frequency Range: 868 to 928 MHz	SSO24	Pb-free Only	Now
ATAR890	See ATAR090, Additional 512-bit EEPROM (64 Bytes) On-chip, Operating Temperature Range T_{AMB} = -40° C to +85° C (-40° C to +105° C)	SSO20	Pb-free Only	Now
ATAR890-C	See ATAR090, Additional 512-bit EEPROM (64 Bytes) On-chip, Operating Temperature Range T_{AMB} = -40° C to +105° C	SSO20	Pb-free Only	Now
ATAR892	See ATAR092, Additional 512-bit EEPROM (64 Bytes) On-chip, Operating Temperature Range T_{AMB} = -40° C to +85° C (-40° C to +105° C)	SSO20	Pb-free Only	Now
ATAR892-C	See ATAR092, Additional 512-bit EEPROM (64 Bytes) On-chip, Operating Temperature Range T_{AMB} = -40° C to +105° C	SSO20	Pb-free Only	Now
Evaluation Kits and Tools				
M4EMU510	MARC4 Development System for ATAR510 and ATAM510			Now
M4EMUX9X	MARC4 Development System for the ATAR090, ATAR092, ATAR892, ATAR890 and ATAR080 Series, Including the Flash Part ATAM893 and the U9280M			Now
TMEB893	MARC4 Starter Kit Includes Core Simulator, Programmer and ATAM893 Samples			Now

Application-Specific Integrated Circuits (ASICs)

Customer Specific ICs

IP Cores

Part Number	Description	Availability
Memory Blocks	Single-port SRAM, Dual-port SRAM, Register File RAM, FIFO, Diffusion Mask ROM, Metal Mask ROM, Flash, EEPROM	Now
MCU/DSP Cores	ARM1176JZF-S™, ARM946E-S™, ARM926EJ-S™, ARM7TDMI® (ARM® Thumb®), TeakDSPCore, mAgicDSP™ Modular VLIW Computation Core, OakDSPCore®, USP9 Co-processor	Now
ARM System Bus Peripherals	Bus Interface, Arbiter, Bridge, Matrix, Cache Memory and Bus Interface Unit, Decoder, Embedded Flash Controllers	Now
ARM Peripherals	Communication: AC97 Controller, CAN2.0 A/B, 10T/100 Ethernet MAC, 1394 (FireWire), Image Sensor Interface, Multimedia Card Interface Master SDIO, 32/64-bit PCI, Pulse Width Modulator, Serial Peripheral Interface, Synchronous Serial Controller, 2-wire Interface Master/Slave, USART, USART IrDA®, USART ISO 7816, USART Manchester E/D, LIN 1.3/2.0, USB V1.1 Host, Hub and Device, USB 2.0 High-speed Device, USB 2.0 High-speed OTG, 4-wire Touch Screen Controller Memory Controllers: Burst Flash Controller, SDR-SDRAM Controller, DDR/SDR-SDRAM Controller, Burst Cellular RAM Controller, Static Memory Controller, ECC, TFT LCD Controller, Segmented LCD Controller Crypto Engines: 128/192/256-bit Advanced Encryption Standard, Secure Hash Algorithm 1, Secure Hash Algorithm 256, Triple DES, XTEA, TRNG System Peripherals: Advanced Interrupt Controller, Advanced Power Management Controller, Debug Unit, Parallel Input/Output, General Purpose DMA, Peripheral DMA Controller, Real-time Clock, System Controller, Timer/Counter	Now
Analog Cells	General-purpose ADCs, Analog Mux, Analog Input/Output, Analog Power and Ground, PLLs, POR/BOD, Tamper Detectors, Battery Monitor, GSM Voice Codec, Telecom A/D Converter, Telecom D/A Converter, Clock Squarer, Precision Voltage Reference Generator, Bandgap Reference Generator, GSM Baseband Receive Port, GSM Baseband Transmit Port	Now
IO Pads	General-purpose, PCI, LVDS, SSTL2, USB1.1 LS & FS, USB2.0 HS, PECL	Now

Process Technology and Libraries

Technology	Description	Process Name	Libraries	Availability
0.09 µm	Core Supply: 1.0V Options: 3V, MIM Capacitance, High Poly Resistance, Low Leakage	AT91K	ATC09	1H2008
0.13 µm	Core Supply: 1.2V Options: Low Leakage, Mixed, 3V, MIM Capacitance Embedded EEPROM and Flash	AT59K	ATC13	Now
		AT59.86K AT66.8K	ATC13/EEPROM ATC13/Flash	1H2008
0.15 µm	Core Supply: 1.8V, Embedded EEPROM and Flash Options: Low Leakage, Mixed, 3V, MIM Capacitance	AT58.85K	ATC15/EE	Now
0.18 µm	Core Supply: 1.8V Options: Low Leakage, Mixed, 3V, MIM Capacitance Embedded EEPROM and Flash	AT58K AT58.8K	ATC18 ATC18/EE	Now
0.35 µm	Core Supply 3.3V Options: Mixed, 5V Embedded EEPROM and Flash Option: HV 15V Devices	AT56K AT56.8K AT56.7K	ATL35 ATC35/EE, ATL35/EE ATC35	Now
CAP™	Customizable Microcontroller	See AT91 CAP in the AT91 Microcontroller section on page 15.		

FPGA/CPLD Conversion: ULCs

Part Number	Technology	Max Kgates	Max I/Os	Supply (Volts)		Other	Availability
				Core	I/O Tolerant		
UA1	0.35 µm	1400	700	3.3	5		Now
UA1E	0.35 µm	780	976	3.3	5	Embedded DPRAM, Up to 390-Kbit	Now
ATU18	0.18 µm	1575	700	1.8	3.3	Embedded DPRAM, Up to 1195-Kbit	Now

AUTOMOTIVE

Automotive Standard Products

Automotive Control

Dashboard Dimmer ICs

Part Number	Description	Package	RoHS Compliance	Availability
U6083B	PWM High-side Driver, f < 2000 Hz, 18 to 100% Duty Cycle, Minimum External Components	DIP8	Pb-free Only	Now
U6084B	PWM High-side Driver, f < 2000 Hz, 0 to 100% Duty Cycle Continuously, for High-performance Applications	SO16	Pb-free Only	Now

Flasher ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATA2069	Flasher with Trailer Control, 20 mΩ Shunt, Output to Control an Additional Pilot Lamp	DIP8, SO8	Pb-free Only	Now
ATA6140	Twin Relay Flasher for 12/24V Applications, Standby Current <10 µA	SO16	Pb-free Only	Now
U2043B	Lamp Load >10W, 30 mΩ Shunt, Pilot Lamp to V_{BATT} or GND	DIP8, SO8	Pb-free Only	Now
U2044B	Twin Relay Flasher, Lamp Load >10W, 30 mΩ Shunt, Standby Current <10 µA	SO14	Pb-free Only	Now
U6043B	Lamp Load >1W, 18 mΩ Shunt, Load-dump Protected	DIP8, SO8	Pb-free Only	Now
U6432B	Lamp Load >1W, 18 mΩ Shunt, Low Current Consumption in Standby Mode <10 µA	SO8	Pb-free Only	Now
U6433B	Lamp Load >1W, 18 mΩ Shunt, Load-dump Protected	SO8	Pb-free Only	Now
U643B	Lamp Load >1W, 30 mΩ Shunt, Load-dump Protected	DIP8, SO8	Pb-free Only	Now

Lamp-outage Monitoring ICs

Part Number	Description	Package	RoHS Compliance	Availability
U4793B	2 Comparators, 44 mV Threshold, Glow-plug Application, ESD Protection Up to 10 kV	DIP8, SO8	Pb-free Only	Now
U479B	2 Comparators, 8 mV Threshold, Single-lamp Application, ESD Protection Up to 2 kV	DIP8	Pb-free Only	Now

Long-time Timer ICs

Part Number	Description	Package	RoHS Compliance	Availability
U6032B	Toggle IC for Switch-over Function, Defined Status After POR	DIP8, SO8	Pb-free Only	Now
U6046B	Adjustable Delay Time 4s to 20h, Delay Adjustable with RC Oscillator, R < 650 kΩ, C < 4700 pF	DIP8, SO8	Pb-free Only	Now

Automotive (Continued)

Automotive Standard Products (Continued)

Automotive Control (Continued)

Safety

Part Number	Description	Package	RoHS Compliance	Availability
Fail-Safe ICs				
U6813B	Fail-safe IC, Watchdog Timer, Relay Driver, Lamp Driver and Charge Pump	SO16	Pb-free Only	Now
ATA6842	Fail-safe System IC with 4-channel Relay Driver, Power Supply, Watchdog	QFN48	Yes	Now
Airbag ICs				
U6268B	Side Airbag Sensor Dual Interface (Satellite Interface), 50 mA Sensor Supply, Data Transfer by Current Modulation	SO16	Pb-free Only	Now

Watchdog ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATA6025	Watchdog IC with Fail-safe Output, Voltage Monitors, Low-power Consumption in Standby Mode	SO8	Pb-free Only	Now
ATA6020N	Watchdog IC, µP Based, Programmable Via Metal Mask (Based on the ATAR080 Microcontroller)	SO20	Pb-free Only	Now
U5020M	Watchdog Timer, Active and Sleep Mode, 6 Wake-up Inputs, Enable Output	SO16	Pb-free Only	Now
U5021M	Watchdog Timer, Active and Sleep Mode, 1 Wake-up Input, Enable Output	SO8	Pb-free Only	Now

Wiper and Wash Control ICs

Part Number	Description	Package	RoHS Compliance	Availability
U641B	Wipe/Wash Control with Prewash Delay, INT/WIWA Switches to V_{BATT}	DIP8, SO8	Pb-free Only	Now
U642B	Wipe/Wash Control without Prewash Delay, INT/WIWA Switches to V_{BATT}	DIP8, SO8	Pb-free Only	Now

AUTOMOTIVE (CONTINUED)

Automotive Standard Products (Continued)

Automotive Microcontrollers

AVR Microcontrollers

Part Number	Description	Package	RoHS Compliance	Availability
AT90CAN32	AVR Microcontroller with 32-Kbyte Flash MCU, 15-message Objects CAN Controller, 2-Kbyte RAM, 1-Kbyte EEPROM, 10-bit ADC, TWI, Up to 16 MIPS, LIN-capable UART, -40 to +125° C Qualified	QFN64, QFP64	Yes	Now
AT90CAN64	AVR Microcontroller with 64-Kbyte Flash MCU, 15-message Objects CAN Controller, 4-Kbyte RAM, 2-Kbyte EEPROM, 10-bit ADC, TWI, Up to 16 MIPS, LIN-capable UART, -40 to +125° C Qualified	QFN64, QFP64	Yes	Now
AT90CAN128	AVR Microcontroller with 128-Kbyte Flash MCU, 15-message Objects CAN Controller, 4-Kbyte RAM, 4-Kbyte EEPROM, 10-bit ADC, TWI, Up to 16 MIPS, LIN-capable UART, -40 to +125° C Qualified	QFN64, QFP64	Yes	Now
ATtiny24	AVR Microcontroller with 2-Kbyte Flash MCU, 128-byte RAM, 128-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, -40 to +125° C Qualified	SOIC14, QFN20	Yes	Now
ATtiny25	AVR Microcontroller with 2-Kbyte Flash MCU, 128-byte RAM, 128-byte EEPROM, 10-bit ADC, Up to 16 MIPS, Internal Calibrated Oscillator, -40 to +125° C Qualified	SO8	Yes	Now
ATtiny44	AVR Microcontroller with 4-Kbyte Flash MCU, 256-byte RAM, 256-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, -40 to +125° C Qualified	SOIC14, QFN20	Yes	Now
ATtiny45	AVR Microcontroller with 4-Kbyte Flash MCU, 256-byte RAM, 256-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, SO8 (-40 to +125° C Qualified), QFN20 (-40 to +150° C Qualified)	SO8, QFN20	Yes	Now
ATtiny84	AVR Microcontroller with 8-Kbyte Flash MCU, 512-byte RAM, 512-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, -40 to +125° C Qualified	QFN20	Yes	Feb. 2008
ATtiny85	AVR Microcontroller with 8-Kbyte Flash MCU, 512-byte RAM, 512-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator -40 to +125° C Qualified	SO8	Yes	Now
ATmega48	AVR Microcontroller with 4-Kbyte Flash MCU, 512-byte RAM, 256-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable UART, Internal Calibrated Oscillator, -40 to +125° C Qualified	QFN32, QFP32	Yes	Now
ATmega88	AVR Microcontroller with 8-Kbyte Flash MCU, 1-Kbyte RAM, 512-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable UART, Internal Calibrated Oscillator, QFP32 (-40 to +125° C Qualified), QFN32 (-40 to +150° C Qualified)	QFN32, QFP32	Yes	Now
ATmega168	AVR Microcontroller with 16-Kbyte Flash MCU, 1-Kbyte RAM, 512-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, QFP32 (-40 to +125° C Qualified), QFN32 (-40 to +150° C Qualified)	QFP32 QFN32	Yes	Now
ATmega164P	AVR Microcontroller with 16-Kbyte Flash MCU, 1-Kbyte RAM, 512-byte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, -40 to +125° C Qualified	QFN44, TQFP44	Yes	Now
ATmega324P	AVR Microcontroller with 32-Kbyte Flash MCU, 2-Kbyte RAM, 1-Kbyte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, -40 to +125° C Qualified	QFN44, TQFP44	Yes	Now
ATmega644P	AVR Microcontroller with 64-Kbyte Flash MCU, 4-Kbyte RAM, 2-Kbyte EEPROM, 10-bit ADC, Up to 16 MIPS, LIN-capable USI, Internal Calibrated Oscillator, -40 to +125° C Qualified	QFN44, TQFP44	Yes	Now
Development Boards				
ATAVRAUTO102	AVR Automotive Debugger Kit for CAN-LIN			Now
ATAVRAUTOEK1	AVR Automotive Evaluation Kit			Now
ATDVK90CAN1	DVK90CAN1 Development Kit for AT90CAN Devices			Now

AUTOMOTIVE (CONTINUED)

Automotive Standard Products (Continued)

Automotive Microcontrollers (Continued)

MARC4 Microcontrollers[1]

Part Number	Description	Package	RoHS Compliance	Availability
ATAM862	Complete UHF Transmitter, MTP Flash Microcontroller and Transmitter PLL T5753 in One IC, Temperature Range: -40° C to +125° C, Frequency: 315 and 433 MHz	SSO24	Pb-free Only	Now
ATAR862	Complete UHF Transmitter, ROM Microcontroller and Transmitter PLL T5753 in One IC, Temperature Range: -40° C to +125° C, Frequency: 315 and 439 MHz	SSO24	Pb-free Only	Now
ATAM862x-TNz3	Complete UHF ASK/FSK Transmitter, Flash Microcontroller and Transmitter PLL T5753 in One IC, Frequency Range: 310 to 330 MHz	SSO24	Pb-free Only	Now
ATAM862x-TNz4	Complete UHF ASK/FSK Transmitter, Flash Microcontroller and Transmitter PLL T5754 in One IC, Frequency Range: 429 to 439 MHz	SSO24	Pb-free Only	Now
ATAM862x-TNz8	Complete UHF ASK/FSK Transmitter, Flash Microcontroller and Transmitter PLL T5750 in One IC, Frequency Range: 868 to 928 MHz	SSO24	Pb-free Only	Now
ATAR862x-yyy-TNz3	Complete UHF Transmitter, ROM Microcontroller and Transmitter PLL T5753 in One IC, Frequency Range: 300 to 330 MHz	SSO24	Pb-free Only	Now
ATAR862x-yyy-TNz4	Complete UHF Transmitter, ROM Microcontroller and Transmitter PLL T5754 in One IC, Frequency Range: 429 to 439 MHz	SSO24	Pb-free Only	Now
ATAR862x-yyy-TNz8	Complete UHF Transmitter, ROM Microcontroller and Transmitter PLL T5750 in One IC, Frequency Range: 868 to 928 MHz	SSO24	Pb-free Only	Now

Note: 1. For full 4-bit microcontroller offer, see pages 20-21.

CAN/VAN Networking

Part Number	Description	Package	RoHS Compliance	Availability
ATA6660	High-speed CAN Transceiver, Fully Compatible with ISO 11898, High-voltage Bus Protection: 40 to +40V (Qualified for Industrial Use Only)	SO8	Pb-free Only	Now
B10011S	Low-speed CAN Transceiver for High Transmission Levels, 2-wire Interface (TWI), Point-to-point Interface Between Trucks and Trailers, Interface Between Dashboard and Engine, Etc., High Reliability, 27V Operation, Hardware Fault Recognition, Immunity Against Electromagnetic Interference, High Noise Immunity, According to ISO WD 11992-1	SO16	Pb-free Only	Now
TSS461F	VAN Data Link Controller	SO24	Yes	Now
TSS463C	VAN Data Link Controller with Serial Interface	SO16	Yes	Now
TSSIO16E	VAN Peripheral Circuit – 16 I/Os	SO28	Yes	Now

AUTOMOTIVE (CONTINUED)

Automotive Standard Products (Continued)

LIN Networking

Part Number	Description	Package	RoHS Compliance	Availability
ATA6612	AVR ATmega88 Automotive Microcontroller and LIN System Basis Chip with LIN Transceiver, Integrated 5V/50 mA Voltage Regulator and Window Watchdog in a Single Package	QFN48	Yes	Now
ATA6613	AVR ATmega168 Automotive Microcontroller and LIN System Basis Chip with LIN Transceiver, Integrated 5V/50 mA Voltage Regulator and Window Watchdog in a Single Package	QFN48	Yes	Now
ATA6622	LIN System Basis Chip with LIN Transceiver, Integrated 3.3V/50 mA Voltage Regulator and Window Watchdog	QFN20	Yes	Now
ATA6623	LIN System Basis Chip with LIN Transceiver and Integrated 3.3V/50 mA Voltage Regulator	SO8	Pb-free Only	Now
ATA6624	LIN System Basis Chip with LIN Transceiver, Integrated 5V/50 mA Voltage Regulator and Window Watchdog	QFN20	Yes	Now
ATA6625	LIN System Basis Chip with LIN Transceiver and Integrated 5V/50 mA Voltage Regulator	SO8	Pb-free Only	Now
ATA6626	LIN System Basis Chip with LIN Transceiver and Integrated 5V/50 mA Voltage Regulator without TxD Timeout Timer	QFN20	Yes	Now
ATA6662	LIN Transceiver, Physical Layer According to Specification 2.0 (Backward Compatible)	SO8	Pb-free Only	Now
ATA6663	LIN Transceiver, Physical Layer According to Specification 2.1 (Backward Compatible), Also Supporting Low Baud Rates Down to 1 Kbaud	SO8	Pb-free Only	Feb. 2008
ATA6664	LIN Transceiver, Physical Layer According to Specification 2.1 (Backward Compatible), Supporting Low Baud Rates Down to 1 Kbaud, with Time-out Function	SO8	Pb-free Only	Feb. 2008
Development Boards				
ATA6612-EK	Development Board, LIN Controller Chip ATA6612			Now
ATA6613-EK	Development Board, LIN Controller Chip ATA6613			Now
ATA6622-EK	Development Board, LIN System Basis Chip ATA6622			Now
ATA6623-EK	Development Board, LIN System Basis Chip ATA6623			Now
ATA6624-EK	Development Board, LIN System Basis Chip for ATA6621 and ATA6624			Now
ATA6625-EK	Development Board, LIN System Basis Chip for ATA6620 and ATA6625			Now
ATA6626-EK	Development Board, LIN System Basis Chip for ATA6626			Now
ATA6662-EK	Development Board, LIN Transceiver for ATA6661 and ATA6662			Now
ATA6663-EK	Development Board, LIN Transceiver for ATA6663			Now
ATA6664-EK	Development Board, LIN Transceiver for ATA6664			Now

AUTOMOTIVE (CONTINUED)

Automotive Standard Products (Continued)

Serial EEPROMs

Part Number	Density (Kbits)	Organization	VCC (V)	Max Speed (MHz)	Package*	Comments	Availability
2-wire Interface							
AT24C01B	1	128 x 8	2.5	0.4	SOIC	Full Array Write Protection Cascade Up to 8 Devices	Now (Replaces AT24C01A/AT24C11)
AT24C02B	2	256 x 8	2.5	0.4	SOIC	Full Array Write Protection Cascade Up to 8 Devices	Now (Replaces AT24C02)
AT34C02C	2	256 x 8	2.7	0.4	SOIC	Lower Half Permanent SW Write Protect	Now (Replaces AT34C02)
AT24C04	4	512 x 8	2.7	0.4	SOIC	Full Array Write Protection Cascade Up to 4 Devices	Now
AT24C08A	8	1024 x 8	2.7	0.4	SOIC	Full Array Write Protection Cascade Up to 2 Devices	Now
AT24C16A	16	2048 x 8	2.7	0.4	SOIC	Full Array Write Protection	Now
AT24C32A	32	4096 x 8	2.7	0.4	SOIC	Full Array Write Protection Cascade Up to 8 Devices	Now
AT24C64A	64	8192 x 8	2.7	0.4	SOIC	Full Array Write Protection Cascade Up to 8 Devices	Now
AT24C128	128	16384 x 8	2.7	0.4	SOIC	Full Array Write Protection Cascade Up to 4 Devices	Now
AT24C256	256	32768 x 8	2.7	0.4	SOIC	Full Array Write Protection Cascade Up to 4 Devices	Now
SPI Interface							
AT25010A	1	128 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25020A	2	256 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25040A	4	512 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25080A	8	1024 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25160A	16	2048 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25320A	32	4096 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25640A	64	8192 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25128A	128	16384 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25256A	256	32768 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
3-wire Interface							
AT93C46	1	64 x 16/128 x 8	2.7	2	SOIC	x8 or x16 Memory Organization	Now
AT93C56A	2	128 x 16/256 x 8	2.7	2	SOIC	x8 or x16 Memory Organization with Sequential Read	Now
AT93C66A	4	256 x 16/512 x 8	2.7	2	SOIC	x8 or x16 Memory Organization with Sequential Read	Now
AT93C86A	16	1024 x 16/2048 x 8	2.7	2	SOIC	x8 or x16 Memory Organization with Sequential Read	Now

**Other Packages Available on Request.*

All Automotive Serial EEPROMs Parts are RoHS Compliant.

AUTOMOTIVE (CONTINUED)

Automotive ASSPs

Broadcast Radio

Audio Receiver ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATR4251-T	Low-noise AM/FM Antenna Amplifier, High Dynamic Range for AM and FM, AGC for AM and FM, High Intercept Point 3rd Order for FM, FM Amplifier Adjustable for Various Cable Impedances, High Intercept Point 2nd and 3rd Order for AM, Low Output Impedance for AM, Low Power Consumption	SSO20	Yes	Now
ATR4251-P	Low-noise AM/FM Antenna Amplifier, High Dynamic Range for AM and FM, AGC for AM and FM, High Intercept Point 3rd Order for FM, FM Amplifier Adjustable for Various Cable Impedances, High Intercept Point 2nd and 3rd Order for AM, Low Output Impedance for AM, Low Power Consumption	QFN24 (4 x 4 mm)	Yes	Now
ATR4254	Low-noise AM/FM Antenna Amplifier, Excellent FM Low-noise Performance, FM Amplifier Overload Protection (AGC), AM Low-noise Output Voltage, High Intercept Point 2nd Order for AM	SO16	Yes	Now
ATR4256	Frequency Synthesizer for Radio Receivers, Three DACs for Automatic Tuner Adjust (e.g., with ATR4255, ATR4258)	SSO20	Yes	Now
ATR4258	AM/FM Car Radio Receiver for a Global Reception Concept with Digital Tuning and Electronic Filter Adjustment, Pin Compatible to U4255BM, Receiving Condition Analyzer and Adjacent Channel/Multipath Noise Cancellation, Superior Noise Suppression by Software-controlled Filter Adjustment, Completely Integrated FM Demodulator, a Variable Bandfilter Replaces Expensive External Ceramic Filter, Automatic Tuner Adjustment with ATR4256	SSO44	No	Now
T4260	AM/FM Tuner Front End for Digital-IF Radio Solutions (Suitable for Standard AM/FM, DRM and IBOC) – Integrated Fast Fractional PLL, Up-/Down-conversion System, IF Frequencies Up to 25 MHz, DACs for Automatic Tuner Alignment, High S/N Ratio, Compatible for 3/5V Microcontrollers	SSO44	No	Now

Digital Audio Broadcasting (DAB) ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATR2730	L-band Down-converter Inclusive PLL for DAB Receivers	SSO28	Yes	Now
ATR2731	DAB One-chip Front-end Receiver for VHF Band III Reception, 8.5V Operation, External VCO	SSO44	Yes	Now
ATR2732	Highly Integrated One-chip DAB/DMB Front-end IC for VHF Band III and L-band Reception, 3.3V Operation, Internal VCO, RSSI Indicator	QFN64	Yes	Now
ATR2732M1	Highly Integrated One-chip DAB/DMB Front-end IC for VHF Band III and L-band Reception, 3.3V Operation, Internal VCO, RSSI Indicator; Automotive Compliant Variant	QFN65	Yes	Now
ATR2740-RQHH	DAB Digital Processing Device, Highly Integrated Digital Device for DAB (Eureka147) Radios, Utilizes ARM7TDMI Processor Core and TeakDSPCore™, Integrated ADC and RAM, Supports Large Variety of Interfaces such as USB, SPI, SSO, USART, I2S, SPDIF, Incorporates Audio and Data Decoder for Full Data Rate of 1.8 Mbit/s	LQFP128	Yes	Now
ATR2740M1-RQHH	DAB Digital Processing Device, Highly Integrated Digital Device for DAB (Eureka147) Radios, Utilizes ARM7TDMI Processor Core and TeakDSPCore, Integrated ADC and RAM, Supports Large Variety of Interfaces such as USB, SPI, SSO, USART, I2S, SPDIF, Incorporates Audio and Data Decoder for Full Data Rate of 1.8 Mbit/s; Automotive Compliant Variant	LQFP129	Yes	Now
ATR2740-7GHG	DAB Digital Processing Device, Highly Integrated Digital Device for DAB (Eureka147) Radios, Utilizes ARM7TDMI Processor Core, Utilizes TeakDSPCore, Integrated ADC and RAM, Supports Large Variety of Interfaces such as USB, SPI, SSO, USART, I2S, SPDIF, Incorporates Audio and Data Decoder for Full Data Rate of 1.8 Mbit/s	BGA	Yes	Now

Automotive (Continued)

Automotive ASSPs (Continued)

Car Access

Car Components[1]

Part Number	Description	Package	RoHS Compliance	Availability
ATA3741P2	UHF Remote Control Receiver for ASK and FSK Systems, All RF Components Integrated, IF Bandwidth 300 kHz	SO20	Pb-free Only	Now
ATA3741P3	UHF Remote Control Receiver for ASK and FSK Systems, All RF Components Integrated, IF Bandwidth 600 kHz	SO20	Pb-free Only	Now
ATA3742P3	UHF Remote Control Receiver, RSSI Output for ASK and FSK Systems	SO20	Pb-free Only	Now
ATA5278	Programmable Antenna Driver for 1A Peak Current (Regulated), LF Baud Rates Up to 8-Kbaud, SPI	QFN28	Pb-free Only	Now
ATA5279	Six-fold LF Antenna Driver IC	QFN48	Yes	1Q2008
ATA5723P3	Highly Integrated UHF Remote Control Receiver, ASK/FSK, 315 MHz, 300 kHz Bandwidth, RSSI Pin Compatible to ATA5724, ATA5728	SSO20	Pb-free Only	Now
ATA5724P3	Highly Integrated UHF Remote Control Receiver, ASK/FSK, 433 MHz, 300 kHz Bandwidth, RSSI Pin Compatible to ATA5723, ATA5728	SSO20	Pb-free Only	Now
ATA5728P6	Highly Integrated UHF Remote Control Receiver, ASK/FSK, 868 MHz, 600 kHz Bandwidth, RSSI Pin Compatible to ATA5723, ATA5724	SSO20	Pb-free Only	Now
ATA5743P3	UHF Remote Control Receiver, High FSK Sensitivity, 5 to 20V Automotive Compatible Data Interface, Data Clock Available for Manchester and Biphase Coded Signals, 300 kHz Bandwidth	SO20, SSO20	Pb-free Only	Now
ATA5743P6	UHF Remote Control Receiver, High FSK Sensitivity, 5 to 20V Automotive Compatible Data Interface, Data Clock Available for Manchester and Biphase Coded Signals, 600 kHz Bandwidth	SO20, SSO20	Pb-free Only	Now
ATA5744N	UHF Remote Control Receiver for ASK Systems/PWM Mode	SO20, SSO20	Pb-free Only	Now
ATA5745	Transparent ASK/FSK UHF Receiver IC with Fast RKE/TPMS Switching Rate, Suited to 1 to 20 Kbits/s Manchester FSK with 4 Programmable Bit-rate Ranges, High FSK Sensitivity (-114 dBm at 2.4 Kbits/s), High Blocking Capability, 433 MHz	QFN24	Pb-free Only	Now
ATA5746	Transparent ASK/FSK UHF Receiver IC with Fast RKE/TPMS Switching Rate, Suited to 1 to 20 Kbits/s Manchester FSK with 4 Programmable Bit-rate Ranges, High FSK Sensitivity (-114 dBm at 2.4 Kbits/s), High Blocking Capability, 315 MHz	QFN24	Pb-free Only	Now
ATA5760N3	UHF ASK/FSK Receiver, Frequency Receiving Range: 868 to 870 MHz, Highest Integration Level in Market, IF Bandwidth 300 kHz	SO20	Pb-free Only	Now
ATA5760N	UHF ASK/FSK Receiver, Frequency Receiving Range: 868 to 870 MHz, Highest Integration Level in Market, IF Bandwidth 600 kHz	SO20	Pb-free Only	Now
ATA5761N	UHF ASK/FSK Receiver, Frequency Receiving Range: 902 to 928 MHz, Highest Integration Level in Market	SO20	Pb-free Only	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

Note: 1. For dedicated microcontrollers, see Automotive 4-bit microcontrollers page 26.

AUTOMOTIVE (CONTINUED)

Automotive ASSPs (Continued)

Car Access (Continued)

Car Components (Continued)[1]

Part Number	Description	Package	RoHS Compliance	Availability
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
Evaluation Kits and Tools				
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			1Q2008
ATAB-LF-MB-79	LF Mainboard with AVR for ATAB5279			1Q2008
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 page 26.

Automotive (Continued)

Automotive ASSPs (Continued)

Car Access (Continued)

Key Components[1]

Part Number	Description	Package	RoHS Compliance	Availability
ATA5282	Ultra Low-power 125-kHz 3-Dimensional LF Wake-up Receiver with RSSI	TSSOP8	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
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
Evaluation Kits and Tools				
ATAB5282	Evaluation Board, LF Receiver, 3 Channels			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
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 page 26.

AUTOMOTIVE (CONTINUED)

Automotive ASSPs (Continued)

Drivers/High-Temperature Devices

High-Temperature Drivers

Part Number	Description	Package	RoHS Compliance	Availability
ATA6824	H-Bridge Gate-Driver with Serial Interface, Window Watchdog and Voltage Regulator with $T_{junction}$ up to 200° C	QFN32	Yes	Now
ATA6827	Same as ATA6826, Dedicated for High Temperature Applications with $T_{junction}$ up to 200° C	QFN18	Yes	Now
ATA6832	Triple Half-bridge Driver with Serial Input Control and 25 kHz PWM Input, 3 High-side and 3 Low-side Drivers, 1000 mA Current Limitation, Dedicated for High Temperature Applications with $T_{junction}$ up to 200° C	QFN18	Yes	Now
ATA6837	Hex Half-bridge Driver with Serial Input Control, 650 mA Current Limitation, Dedicated for High-temperature Applications with $T_{junction}$ up to 200° C	QFN24	Yes	Now
ATA6839	Hex Half-bridge Driver with Serial Input Control, 1000 mA Current Limitation, Dedicated for High-temperature Applications with $T_{junction}$ up to 200° C	QFN24	Yes	Now
Evaluation Kits and Tools				
ATA6824-DK	High-temperature Application Board for H-Bridge DC Motor Control, Board with ATA6824 and ATmega88, Including Application Note			Now
ATA6827-DK	Application Board for ATA6827; Loads Can Be Easily Adapted; the Design Software Controls the Application Board's SPI Interface Via the PC Parallel Port; the Kit Contains Everything Necessary to Start: Link Cable to PC 25-lead 1:1 and Corresponding Datasheet			Now
ATA6832-DK	High-temperature Application Board for Fully Integrated BLDC Motor Control, Board with ATA6832, ATA6625 and ATmega88, Including Application Note and BLDC Motor			Now

Standard Drivers

Part Number	Description	Package	RoHS Compliance	Availability
ATA6026	H-Bridge Gate-Driver with SCI-Interface, Window Watchdog and 5V Voltage Regulator	QFN32	Yes	Now
ATA6823	H-Bridge Gate-Driver with LIN Transceiver 2.0, Window Watchdog and 3.3/5V Voltage Regulator	QFN32	Yes	Now
ATA6826	Triple Half-bridge Driver with Serial Input Control, 3 High-side and 3 Low-side Drivers, 1000 mA Current Limitation	SO14	Pb-free Only	Now
ATA6828	Triple Half-bridge Driver with Serial Input Control, 3 High-side and 3 Low-side Drivers, 1500 mA Current Limitation	SO14, Heat Slug	Pb-free Only	Now
ATA6829	Dual Triple Driver with Serial Input Control and PWM Input, 3 High-side and 3 Low-side Drivers, 1500 mA Current Limitation	SO16, Heat Slug	Pb-free Only	Now
ATA6830	Intelligent Stepper Motor Driver, Typical Application Headlamp Adjustment	QFN28	Yes	Now
ATA6831	Triple Half-bridge Driver with Serial Input Control and 25 kHz PWM Input, 3 High-side and 3 Low-side Drivers, 1000 mA Current Limitation	QFN18	Yes	Now
ATA6836	Hex Half-bridge Driver with Serial Input Control, 650 mA Current Limitation	SO28, QFN24	Yes	Now
ATA6838	Hex Half-bridge Driver with Serial Input Control, 1000 mA Current Limitation	QFN24	Yes	Now
T6801	Single-channel Driver, 25 mA Output with Thermal Monitoring, Thermal Shutdown, Short-circuit Protection	SO8	Pb-free Only	Now

Automotive (Continued)

Automotive ASSPs (Continued)

Drivers/High-Temperature Devices (Continued)

Standard Drivers (Continued)

Part Number	Description	Package	RoHS Compliance	Availability
T6816	40V Dual Hex Driver with Serial Input Control, 6 High-side and 6 Low-side Drivers, 600 mA Current Limitation	SO28	Pb-free Only	Now
T6817	Dual Triple Driver with Serial Input Control, 3 High-side and 3 Low-side Drivers, 600 mA Current Limitation	SSO20	Pb-free Only	Now
T6818	Triple Half-bridge Driver with Serial Input Control, 3 High-side and 3 Low-side Drivers, 1500 mA Current Limitation	SO14	Pb-free Only	Now
T6819	Dual Triple Driver with Serial Input Control and PWM Input, 3 High-side and 3 Low-side Drivers, 1500 mA Current Limitation	SO16	Pb-free Only	Now
U6803B	Triple Driver, 3 x 25 mA Output with Thermal Monitoring, Common Thermal Shutdown, Short-circuit Protection	SO8	Pb-free Only	Now
U6805B	Hex Driver, 6 x 25 mA Output with Thermal Monitoring, Common Thermal Shutdown, Short-circuit Protection	SO14	Pb-free Only	Now
U6815BM	Dual Hex Driver with Serial Input Control, 6 High-side and 6 Low-side Drivers, 600 mA Current Limitation	SO28	Pb-free Only	Now
U6820BM	Dual Quad Driver with Serial Input Control, 4 High-side Output Stages, 4 Low-side Output Stages, 50 mA Capability, Current Limitation	SO16	Pb-free Only	Now
Evaluation Kits and Tools				
ATAB6816	Application Board for U6815M or T6816; Loads Can Be Easily Adapted; the Design Software Controls the Application Board's SPI Interface Via the PC Parallel Port; the Kit Contains Everything Necessary to Start: Link Cable to PC 25-lead 1:1, Application Note and Corresponding Datasheet			Now
ATAB6817	Application Board for T6817; Loads Can Be Easily Adapted; the Design Software Controls the Application Board's SPI Interface Via the PC Parallel Port; the Kit Contains Everything Necessary to Start: Link Cable to PC 25-lead 1:1, Application Note and Corresponding Datasheet			Now
ATAB6818	Application Board for T6818; Loads Can Be Easily Adapted; the Design Software Controls the Application Board's SPI Interface Via the PC Parallel Port; the Kit Contains Everything Necessary to Start: Link Cable to PC 25-lead 1:1, Application Note and Corresponding Datasheet			Now
ATAB6819	Application Board for T6819; Loads Can Be Easily Adapted; the Design Software Controls the Application Board's SPI Interface Via the PC Parallel Port; the Kit Contains Everything Necessary to Start: Link Cable to PC 25-lead 1:1, Application Note and Corresponding Datasheet			Now
ATA6826-DK	Application Board for ATA6823; Loads Can Be Easily Adapted; the Design Software Controls the Application Board's SPI Interface Via the PC Parallel Port; the Kit Contains Everything Necessary to Start: Link Cable to PC 25-lead 1:1, Application Note and Corresponding Datasheet			Now
ATAB6823	Application Board for ATA6823 and ATA6824, Including External FETs, DC Motor, Supply Voltage 8 to 18V; Including Microcontroller Board for Generating PWM and Watchdog Signal, Application Note and Corresponding Datasheet			Now
ATA6831-DK	Application Board for ATA6831; Loads Can Be Easily Adapted; the Design Software Controls the Application Board's SPI Interface Via the PC Parallel Port; the Kit Contains Everything Necessary to Start: Link Cable to PC 25-lead 1:1, Application Note and Corresponding Datasheet			Now

AUTOMOTIVE (CONTINUED)

Automotive ASSPs (Continued)

GPS for Automotive

Part Number	Description	Package	RoHS Compliance	Availability
ATR0621P1	ANTARIS4 GPS 16-channel Baseband Controller, ARM7TDMI, RAM, ROM V5, Up to -158 dBm Sensitivity with External Software, Low Power, Automotive Qualification According to AEC-Q100	BGA100 (9 x 9 mm)	Yes	Now
ATR0622P1	ANTARIS4 GPS 16-channel Baseband Controller, ARM7TDMI, RAM, ROM V5, Up to -150 dBm Sensitivity, Low Power, Automotive Qualification According to AEC-Q100	QFN56 (8 x 8 mm)	Green	Now
ATR0625P1	ANTARIS4 GPS 16-channel Baseband Controller, ARM7TDMI, RAM, SuperSense ROM V5, Up to -158 dBm Sensitivity, Low Power, Automotive Qualification According to AEC-Q100	QFN56 (8 x 8 mm)	Green	Now
ATR0630P1	ANTARIS4 Single-chip, 16-channel GPS Engine, RF-receiver, Baseband Controller, ARM7TDMI, RAM, ROM V5, Up to -150 dBm Sensitivity, Automotive Qualification According to AEC-Q100	BGA96 (7 x 10 mm)	Yes	Now
Development/Evaluation Kits and Tools				
ATR0625-DK1	ANTARIS4 GPS Design Kit Based on Atmel's ANTARIS4 GPS Module, Chipset ATR0601, ATR0610, ATR0625, 2 Golden Samples Modules, Manufacturing Data, Design Guide			Now
ATR0625-EK1	ANTARIS4 GPS Evaluation Kit/Road Test Kit Based on Atmel's ANTARIS4 GPS Module, Chipset ATR0601, ATR0610, ATR0625			Now

AUTOMOTIVE (CONTINUED)

Automotive ASSPs (Continued)

Tire Pressure Monitoring ICs

LF Receiver[1]

Part Number	Description	Package	RoHS Compliance	Availability
ATA5283	1-D LF Receiver IC for 125 kHz, 1.3 µA Current Consumption in Active Listening Mode	TSSOP8	Pb-free Only	Now
Evaluation Kits and Tools				
ATAB5283	Evaluation Board, LF Receiver, 1 Channel			Now

LF Antenna Driver IC[1]

Part Number	Description	Package	RoHS Compliance	Availability
ATA5276M	Integrated 1.5A Peak Current BCDMOS Antenna Driver IC Dedicated as a 125 kHz Wake-up Channel Transmitter	QFN20	Pb-free Only	Now
Evaluation Kits and Tools				
ATAB5276	Evaluation Board, LF Antenna Driver, Preferred for Tire Pressure Monitoring Systems			Now
ATAB-LFMB76	LF Mainboard with AVR for ATA5276M			Now
ATAB-LFTX-MOD1	Antenna Module for LF TX Systems			Now

Microcontroller Transmitter ICs[1]

Part Number	Description	Package	RoHS Compliance	Availability
ATA6285	Complete 8-bit Flash AVR Microcontroller with ATA5756, LF Wake-up and Temperature Sensor Integrated On-chip, Suited for Combination with Simple Capacitive MEMS Sensors; Temperature Range: -40° C to +125° C, Frequency: 315 MHz	QFN32	Pb-free Only	Samples
ATA6286	Complete 8-bit Flash AVR Microcontroller with ATA5756, LF Wake-up and Temperature Sensor Integrated On-chip, Suited for Combination with Simple Capacitive MEMS Sensors; Temperature Range: -40° C to +125° C, Frequency: 433 MHz	QFN32	Pb-free Only	Samples
Evaluation Kits and Tools				
ATA6285-EK1	Application Board for ATA6285			Now
ATA6286-EK1	Application Board for ATA6286			Now

Note: 1. For dedicated microcontrollers, see Automotive 4-bit microcontrollers page 26.

Automotive (Continued)

Automotive ASSPs (Continued)

Tire Pressure Monitoring ICs (Continued)

UHF Receiver/Transceiver ICs[1]

Part Number	Description	Package	RoHS Compliance	Availability
ATA5723P3	Highly Integrated UHF Remote Control Receiver, ASK/FSK, 315 MHz, 300 kHz Bandwidth, RSSI Pin Compatible to ATA5724, ATA5728	SSO20	Pb-free Only	Now
ATA5724P3	Highly Integrated UHF Remote Control Receiver, ASK/FSK, 433 MHz, 300 kHz Bandwidth, RSSI Pin Compatible to ATA5723, ATA5728	SSO20	Pb-free Only	Now
ATA5728P6	Highly Integrated UHF Remote Control Receiver, ASK/FSK, 868 MHz, 600 kHz Bandwidth, RSSI Pin Compatible to ATA5723, ATA5724	SSO20	Pb-free Only	Now
ATA5745	Transparent ASK/FSK UHF Receiver IC with Fast RKE/TPMS Switching Rate, Suited to 1 to 20 Kbits/s Manchester FSK with 4 Programmable Bit-rate Ranges, High FSK Sensitivity (-114 dBm at 2.4 Kbits/s), High Blocking Capability, 433 MHz	QFN24	Pb-free Only	Now
ATA5746	Transparent ASK/FSK UHF Receiver IC with Fast RKE/TPMS Switching Rate, Suited to 1 to 20 Kbits/s Manchester FSK with 4 Programmable Bit-rate Ranges, High FSK Sensitivity (-114 dBm at 2.4 Kbits/s), High Blocking Capability, 315 MHz	QFN24	Pb-free Only	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
Evaluation Kits and Tools				
ATA5745-EK	Receiver Board for ATA5745			Now
ATA5746-EK	Receiver Board for ATA5746			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
ATAB5812-3-B	UHF ASK/FSK Transceiver Basestation Board for 315 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-SPI-LPT	SPI to Parallel Port (LPT) Interface Board for TRX Basestation Boards			Now
ATAB-STK-F	Flamingo® Interface Board for Connecting RF Boards to STK500			Now

UHF Transmitter ICs[1]

Part Number	Description	Package	RoHS Compliance	Availability
ATA5756	UHF ASK/FSK Transmitter, Frequency Range 313 to 317 MHz, 6 dBm/8.1 mA Current in Tx Mode, 2.0V Min. Voltage, -40° C to +125° C	TSSOP10	Pb-free Only	Now
ATA5757	UHF ASK/FSK Transmitter, Frequency Range 432 to 448 MHz, 6 dBm/8.5 mA Current in Tx Mode, 2.0V Min. Voltage, -40° C to +125° C	TSSOP10	Pb-free Only	Now
Evaluation Kits and Tools				
ATAB5756	Reference Design for UHF Transmitter ATA5756, Operation Frequency 315 MHz			Now
ATAB5757	Reference Design for UHF Transmitter ATA5757, Operation Frequency 433 MHz			Now

Note: 1. For dedicated microcontrollers, see Automotive 4-bit microcontrollers page 26.

BIOMETRICS

FingerChip®

Part Number	Description	Interface	Voltage (V)	Overall Dimensions (MM^2)	Visible Area (MM^2)	Availability
AT77C102B-CB01YV	508 dpi, Digital Fingerprint Linear Sensor, 2240 Pixels (8 x 280) Image Array, Digital Output (On-chip ADC) Chip-on-board Packaging with Elastomer Connections, -40° C to +85° C Operating Temperature Range	Parallel 8 Bits	3 to 3.6	26.6 x 9	0.4 x 14	Now
AT77C102B-CB02YV	508 dpi, Digital Fingerprint Linear Sensor, 2240 Pixels (8 x 280) Image Array, Digital Output (On-chip ADC) Chip-on-board Packaging Connector for Flex Cable, -40° C to +85° C Operating Temperature Range	Parallel 8 Bits	3 to 3.6	26.6 x 9	0.4 x 14	Now
AT77C104B-CB08YV	508 dpi, Digital Fingerprint Linear Sensor, 1856 Pixels (8 x 232) Image Array, Digital Output (On-chip ADC) Menu Navigation and Item Selection Features, Optimized Chip-on-board Packaging with Elastomer Connections, -40° C to +85° C Operating Temperature Range	SPI	2.3 to 3.6	23 x 5	0.4 x 11.6	Now
AT77C104B-CH08YV	508 dpi, Digital Fingerprint Linear Sensor, 1856 Pixels (8 x 232) Image Array, Digital Output (On-chip ADC) Menu Navigation and Item Selection Features, Optimized Chip-on-board Packaging with Elastomer Connections, -40° C to +85° C Operating Temperature Range, Delivered in Pre-assembled Socket and Zebra Connector, Can Easily Be Pinned Into 0.8 mm PCB with 4 Pins	SPI	2.3 to 3.6	24.4 x 7	0.4 x 11.6	Now
AT77C104B-CB09YV	Mechanical Shrink Version of AT77C104B-CB08YV	SPI	2.3 to 3.6	18 x 5	0.4 x 11.6	Now

GPS

GPS for Automotive

Part Number	Description	Package	RoHS Compliance	Availability
ATR0621P1	ANTARIS4 GPS 16-channel Baseband Controller, ARM7TDMI, RAM, ROM V5, Up to -158 dBm Sensitivity with External Software, Low Power, Automotive Qualification According to AEC-Q100	BGA100 (9 x 9 mm)	Yes	Now
ATR0622P1	ANTARIS4 GPS 16-channel Baseband Controller, ARM7TDMI, RAM, ROM V5, Up to -150 dBm Sensitivity, Low Power, Automotive Qualification According to AEC-Q100	QFN56 (8 x 8 mm)	Green	Now
ATR0625P1	ANTARIS4 GPS 16-channel Baseband Controller, ARM7TDMI, RAM, SuperSense ROM V5, Up to -158 dBm Sensitivity, Low Power, Automotive Qualification According to AEC-Q100	QFN56 (8 x 8 mm)	Green	Now
ATR0630P1	ANTARIS4 Single-chip, 16-channel GPS Engine, RF-receiver, Baseband Controller, ARM7TDMI, RAM, ROM V5, Up to -150 dBm Sensitivity, Automotive Qualification According to AEC-Q100	BGA96 (7 x 10 mm)	Yes	Now
Development/Evaluation Kits and Tools				
ATR0625-DK1	ANTARIS4 GPS Design Kit Based on Atmel's ANTARIS4 GPS Module, Chipset ATR0601, ATR0610, ATR0625, 2 Golden Samples Modules, Manufacturing Data, Design Guide			Now
ATR0625-EK1	ANTARIS4 GPS Evaluation Kit/Road Test Kit Based on Atmel's ANTARIS4 GPS Module, Chipset ATR0601, ATR0610, ATR0625			Now

Standard GPS

Part Number	Description	Package	RoHS Compliance	Availability
ATR0601	ANTARIS®4 GPS RF Receiver, Single IF Front End Concept, Very Low Power, Immune Against RF Interference	QFN24 (4 x 4 mm)	Green	Now
ATR0603	GPS RF Receiver, Single IF Architecture, 1-bit ADC, Very Low Power, Supply Switch for TCXO	QFN24 (4 x 4 mm)	Green	Now
ATR0610	ANTARIS GPS LNA with Integrated Power-up Control and Output Matching (NF Min <1.6 dB)	PLLP (1.6 x 2 mm)	Green	Now
ATR0621P	ANTARIS4 GPS 16-channel Baseband Controller, ARM7TDMI, RAM, ROM V5, Up to -158 dBm Sensitivity with External Software, Low Power	BGA100 (9 x 9 mm)	Yes	Now
ATR0622P	ANTARIS4 GPS 16-channel Baseband Controller, ARM7TDMI, RAM, ROM V5, Up to -150 dBm Sensitivity, Low Power	QFN56 (8 x 8 mm)	Green	Now
ATR0625P	ANTARIS4 GPS 16-channel Baseband Controller, ARM7TDMI, RAM, SuperSense® ROM V5, Up to -158 dBm Sensitivity, Low Power	QFN56 (8 x 8 mm)	Green	Now
ATR0635	ANTARIS4 Single-chip, 16-channel GPS Engine, RF-receiver, Baseband Controller, ARM7TDMI, RAM, SuperSense ROM V5, Up to -158 dBm Sensitivity	BGA96 (7 x 10 mm)	Yes	Now
Development/Evaluation Kits and Tools				
ATR0603-EK1	GPS-Radio Demoboard for Performance Evaluation			Now
ATR0610-EK1	GPS-LNA Demoboard for Performance Evaluation			Now
ATR0625-DK1	ANTARIS4 GPS Design Kit Based on Atmel's ANTARIS4 GPS Module, Chipset ATR0601, ATR0610, ATR0625, 2 Golden Samples Modules, Manufacturing Data, Design Guide			Now
ATR0625-EK1	ANTARIS4 GPS Evaluation Kit/Road Test Kit Based on Atmel's ANTARIS4 GPS Module, Chipset ATR0601, ATR0610, ATR0625			Now
ATR0635-DK1	ANTARIS4 GPS Design Kit Based on Atmel's ANTARIS4 GPS Module, Chipset ATR0610, ATR0635, 2 Golden Samples Modules, Manufacturing Data, Design Guide			Now
ATR0635-EK1	ANTARIS4 GPS Evaluation Kit/Road Test Kit Based on Atmel's ANTARIS4 GPS Module, Chipset ATR0610, ATR0635			Now

Industrial Control

AC/DC Motor/Temperature/Illumination Control ICs

Clock and Watch ICs

Part Number	Description	Package	RoHS Compliance	Availability
e1466D	Clock IC with Digital Trimming, 32 kHz Crystal, Integrated Capacitors, Mask Options 1.1 to 2.2V Supply	DIP8, SO8	Pb-free Only	Now
e5130A	Low Voltage CMOS Driver Circuit, Supply Voltage: 1.1 to 3.6V, 4 Non-inverting Tri-stable Drivers	Die	Pb-free Only	Now

Phase Control ICs

Part Number	Description	Package	RoHS Compliance	Availability
U2008B	Phase Control + Retrigger, Softstart or Shunt Regulation, Line-voltage Compensation, Minimal External Components	DIP8, SO8	Pb-free Only	Now
U2010B	As U2008B + Softstart, Shunt Regulation, Overload Compensation, Overload Indication, Line-voltage Compensation, Programmable Load-current Limitation	DIP16, SO16	Pb-free Only	Now
U209B	Tacho Control IC, as U2008B + f/V Converter, Reference Voltage – Applications: All Tacho Control AC Motors	DIP14, SO16	Pb-free Only	Now
U211B	The Worldwide Standard IC for Tacho AC Motor Control, as U209B + Foldback	DIP18, SO16	Pb-free Only	Now

Sensor-controlled Timer ICs

Part Number	Description	Package	RoHS Compliance	Availability
U2100B	Timer for AC Line Applications: Motion Sensors, Fans, Hand Dryer, Stair Light, 2-wire and 3-wire Applications, Triac and Relay Switching on AC Line	DIP8, SO8	Pb-free Only	Now
U2102B	IGBT/FET Control Timer for Advanced Dimmer and Motion Sensor Applications, Programmable Trigger Window, Reverse Phase Control and Electronic Fuse	DIP16, SO16	Pb-free Only	Now

Zero Crossing Switching IC

Part Number	Description	Package	RoHS Compliance	Availability
T2117	Standard Zero Crossing Switch, Low-cost Application, Adjustable Ramp	DIP8, SO8	Pb-free Only	Now

Military and Aerospace

Military & Avionics

ASICs and FPGAs

Part Number	Description	RoHS Compliance	Availability
MG2	0.5 Micron 350K Used Gates Sea of Gates	Plastic Package	Now
MH1	0.35 Micron 1.6M Used Gates Sea of Gates/Embedded Arrays	Plastic Package	Now
ATC18M	0.18 Micron 5.5M Gates Cell-based	Plastic Package	Now
AT40KAL040	FPGA 40K ASIC Gates and 18-Kbit SRAM	Yes	Now
SERVICE	FPGA to ASIC Conversion	Plastic Package	Now

Space Radiation Tolerant/Hard ASICs and FPGAs

Part Number	Description	RoHS Compliance	Availability
MG2RT	Rad Tolerant 0.5 Micron 350K Used Gates Sea of Gates	Yes	Now
MG2RTP	Rad Hard 0.5 Micron 200K Used Gates Sea of Gates	Yes	Now
MH1RT	Rad Hard 0.35 Micron 1.6M Used Gates Sea of Gates/Embedded Gates	Yes (Except for MCGA Package)	Now
ATC18RHA	Rad Hard 0.18 Micron 5.5M Gates Cell-based	Yes (Except for MCGA Package)	Now
AT40KEL040	Rad Hard FPGA 40K ASIC Gates and 18-Kbit SRAM	Yes	Now
ATF280E	Rad Hard FPGA 280K ASIC Gates and 115-Kbit SRAM	Yes (Except for MCGA Package)	1Q2008
SERVICE	FPGA to ASIC Conversion	Yes	Now

Space Radiation Tolerant/Hard Communication ICs

Part Number	Description	RoHS Compliance	Availability
29C516E	Rad Tolerant 16-bit Flow through EDAC Error Detection and Correction Unit	Yes	Now
T7906E	Rad Tolerant Single Point-to-Point IEEE® 1355 High-speed Controller (SMCS Lite)	Yes	Now
TSS901E	Rad Tolerant Triple Point-to-Point IEEE1355 High-speed Controller (SMCS)	Yes	Now
AT7908E	Rad Hard CAN Controller	Yes	Now
AT7909E	Single Chip TeleMetry and TeleCommand (SCTMTC)	Yes	Now
AT7910E	SpaceWire Router	Yes	1Q2008
AT7911E	Triple SpaceWire links High Speed Controller (SMCS332SpW)	Yes	Now
AT7912E	Single SpaceWire links High Speed Controller (SMCS116SpW)	Yes	Now
AT7913E	SpaceWire Remote Terminal Controller	Yes	1Q2008

Military and Aerospace (Continued)

Military & Avionics (Continued)

Space Radiation Tolerant/Hard Memories

Part Number	Description	RoHS Compliance	Availability
AT61162E	Rad Hard 2-Mbit x 8 SRAM Cube (3.3V, 40 ns, 90 mA)	Yes	Now
AT60142F	Rad Hard 512K x 8 Very Low Power CMOS SRAM (3.3V, 15 ns, 180 mA)	Yes	Now
AT60142FT	Rad Hard 512K x 8 Very Low Power CMOS SRAM (3.3/5V Tolerant, 17 ns, 170 mA)	Yes	Now
AT68166F	Rad Hard 16-Mbit SRAM Multi-chip Module (3.3V, 20 ns, 180 mA/Byte)	Yes	Now
AT68166F	Rad Hard 16-Mbit SRAM Multi-chip Module (3.3V, 18 ns, 180 mA/Byte)	Yes	Now
AT68166FT	Rad Hard 16-Mbit SRAM Multi-chip Module (3.3V/5V Tolerant, 25 ns, 170 mA/Byte)	Yes	Now
AT68166FT	Rad Hard 16-Mbit SRAM Multi-chip Module (3.3V/5V Tolerant, 20 ns, 170 mA/Byte)	Yes	Now
M65608E	Rad Tolerant 128K x 8 Very Low Power CMOS SRAM (5V, 30 ns, 130 mA)	Yes	Now
M65609E	Rad Hard 128K x 8 Very Low Power CMOS SRAM (3.3V, 40 ns, 50 mA)	Yes	Now
M67025E	Rad Tolerant High-speed 8K x 16 Dual-port RAM (5V, 30 ns, 200 mA)	Yes	Now
M67206H	Rad Tolerant High-speed 16K x 9 Parallel FIFO (5V, 15 ns, 120 mA)	Yes	Now
M672061H	Rad Tolerant High-speed 16K x 9 Parallel FIFO with Programmable Flag (5V, 15 ns, 120 mA)	Yes	Now
M67204H	Rad Tolerant High-speed 4K x 9 CMOS Parallel FIFO (5V, 15 ns, 120 mA)	Yes	Now
AT28C010-12DK	Rad Tolerant 128K x 8 EEPROM (5V, 120 ns, 50 mA)	Yes	Now
AT17LV010-10DP	Rad Tolerant 1-Mbit Serial EEPROM (FPGA Configurator) (3.3V, 100 ns, 5 mA Read)	Yes	Now
AT69170E	Rad Tolerant 4-Mbit Serial EEPROM (FPGA Configurator) (3.3V, 70 ns, 70 mA Write, 5 mA Read)	Yes	1Q2008

Space Radiation Tolerant/Hard Processors and DSP

Part Number	Description	RoHS Compliance	Availability
80C32E	80C51, Radiation Tolerant 8-bit Microcontroller ROMless	Yes	Now
TSC21020F	ADI21020-compatible, Radiation and SEU Hardened 32-bit Floating Point DSP	Yes	Now
TSC695F	Radiation Hard 32-bit SPARC® Single-chip V7 Processor (5V, 20 MIPS)	Yes	Now
TSC695FL	Radiation Hard 32-bit SPARC Single-chip V7 Processor (3.3V, 12 MIPS)	Yes	Now
AT697E	Radiation Hard 32-bit SPARC V8 Processor (90 MIPS)	No	Now

MULTIMEDIA

BD/HD-DVD/DVD/CD Storage Chipsets

BD/HD-DVD/DVD/CD Front Monitor Diodes

Part Number	Description	Package	RoHS Compliance	Availability
ATR1840	Front Monitor OEIC for Blu-ray/HD-DVD/ DVD/CD	QFN Open, 3 x 3 mm	Yes	Now
ATR1841	Front Monitor OEIC for Blu-ray/HD-DVD/ DVD/CD, I2C Compatible for Gain Setting and Gain Adjustment	QFN Open, 3 x 3 mm	Yes	Now
ATR1842	Front Monitor OEIC for Blu-ray/HD-DVD/ DVD/CD with SPI Interface for Gain Setting and Gain Adjustment	QFN Open, 3 x 3 mm	Yes	Now

BD/HD-DVD/DVD/CD Laser Driver ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATR0809	Four-channel Laser Driver with RF Oscillator and Two Optional Outputs, Total Output Current to 500 mA, Rise/Fall Time 0.8 ns, Control of Swing and Frequency by 4 External Resistors	SSO20, QFN20	Yes	Now
ATR0826	Three-channel Combo Laser Driver with RF Oscillator and Two Optional Outputs, Total Output Current to 500/150 mA, Rise/Fall Time 0.8 ns, Control of Swing and Frequency by 3 External Resistors, NER Enable	SSO16, QFN16	Yes	Now
ATR0833	Four-channel LVDS Laser Driver with RF Oscillator and Two Optional Outputs, Total Output Current to 700 mA, Rise/Fall Time 0.8 ns, Control of Swing and Frequency by 4 External Resistors, NER Enable, Internal Termination	QFN32	Yes	Now
ATR0834	Four-channel LVDS Laser Driver with RF Oscillator and Two Optional Outputs, Total Output Current to 700 mA, Rise/Fall Time 0.8 ns, Control of Swing and Frequency by 4 External Resistors, NER Enable, Internal Termination	QFN24	Yes	Now
ATR0834T	Four-channel Low Head Room LVDS Laser Driver with RF Oscillator and Two Optional Outputs, Total Output Current to 700 mA, Rise/Fall Time 0.8 ns, Control of Swing and Frequency by 4 External Resistors, NER Enable, Internal Termination	QFN24	Yes	Now
ATR0835	Four-channel LVDS Laser Driver with RF Oscillator and Two Optional Outputs, Total Output Current to 700 mA, Rise/Fall Time 0.8 ns, Control of Swing and Frequency by 4 External Resistors, LVDS Oscillator Enable Internal Termination	QFN24	Yes	Now
ATR0839	Four-channel LVDS Laser Driver with RF Oscillator and Two Optional Outputs, Total Output Current to 700 mA, Rise/Fall Time 0.8 ns, Control of Swing and Frequency by 4 External Resistors, LVDS Oscillator Enable Internal Termination	QFN24	Yes	Now
ATR0841	Four-channel LVDS Laser Driver with RF Oscillator and Two Optional Outputs, Total Output Current to 500 mA, Rise/Fall Time 0.8 ns, Control of Swing and Frequency by 4 External Resistors, Internal Termination	QFN24	Yes	Now
ATR0842	Four-channel LVDS Laser Driver with RF Oscillator and Two Optional Outputs, Total Output Current to 500 mA, Rise/Fall Time 0.8 ns, Control of Swing and Frequency by 4 External Resistors, High Voltage Option for Blue Laser Diodes	QFN24	Yes	Now
ATR0849	Four-channel LVDS Laser Driver with RF Oscillator and Two Optional Outputs, Total Output Current to 700 mA, Rise/Fall Time 0.8 ns, Control of Swing and Frequency by 4 External Resistors, NER Enable, Internal Termination	QFN24	Yes	Now
ATR0881	3-output Laser Driver with 5 Channels and Serial Interface. Flexible Gain Adjustment and Oscillator Settings Via Serial Interface	QFN24	Yes	Now
T0806	Three-channel Laser Driver with RF Oscillator and Two Optional Outputs, Total Output Current to 300 mA, Rise Time 1 ns, Fall Time 1.1 ns, Control of Frequency and Swing by 3 External Resistors, Gain = 100	SSO16, QFN16	Yes	Now
T0816	Three-channel Laser Driver with RF Oscillator, Total Output Current to 300 mA, Rise Time 1 ns, Fall Time 1.1 ns, Control of Frequency and Swing by 2 External Resistors, Gain = 100 to 250	SSO16, QFN16	Yes	Now
T0820	Four-channel Laser Driver with RF Oscillator, Total Output Current to 300 mA, Rise Time 1 ns, Fall Time 1.1 ns, Control of Frequency and Swing by 2 External Resistors, Gain = 100 ns	SSO16	Pb-free Only	Now

Multimedia (Continued)

BD/HD-DVD/DVD/CD Storage Chipsets (Continued)

BD/HD-DVD/DVD/CD Photo Detector ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATR0874	2 Wavelength PDIC (650 nm and 780 nm) for CD-RW and DVD±RW, 10 Channels with 4 Configurable Gain Steps, 150 MHz Data Bandwidth, 12 Photo Diode Pattern	QFN OPEN 4 x 3.5	Yes	Now
ATR1874	2 Wavelength PDIC (650 nm and 780 nm) for CD-RW and DVD±RW, 10 Channels with 4 Configurable Gain Steps, 150 MHz Data Bandwidth, 12 Photo Diode Pattern	QFN OPEN 4 x 3.5	Yes	Now

Dream® Sound Synthesis ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATSAM9708	128-voice Integrated Sound Synthesizer	LQFP144	Yes	Now
ATSAM2553	Integrated Digital Musical Instrument	LQFP128	Yes	Now
ATSAM2133B	Low-power Synthesizer with Effects and Built-in RAM	LQFP100/ CBGA100	Yes	Now
ATSAM2533	Low-power Synthesizer with Effects and Built-in RAM	LQFP100	Yes	Now
ATSAM2195	Low-power Single-chip Synthesizer with Effects	QFN44	Yes	Now
ATSAM3703	High Performance Low-cost Effects DSP	LQFP80	Yes	Now
ATSAM3303B	GM-Lite Synthesizer/Professional Effects DSP	LQFP100	Yes	Now
ATSAM3108B	8-channel Multiprocessing DSP	LQFP64	Yes	Now
ATSAM3308B	Multi-purpose Audio DSP	LQFP100	Yes	Now

IR Control ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATA2525R	IR Receiver IC Optimized for Standard Remote Control Solutions, Supply Voltage 5V	Wafer	N/A	Now
ATA2526P	IR Receiver IC Optimized for Standard Remote Control Solutions, Supply Voltage 3 - 5V	Wafer	N/A	Now
T2525N	IR Receiver IC with Extensive Range of Options to Meet Special Remote Control Requirements, Supply Voltage 5V	Wafer	N/A	Now
T2526N	IR Receiver IC with Extensive Range of Options to Meet Special Remote Control Requirements, Supply Voltage 3-5V	Wafer	N/A	Now
U2538B	IR Preamplifier, Typically 0.55 mA Standby Current, 20 kHz to 60 kHz, Only 3 External Components Required, Packaged	SO8	Pb-free Only	Now

Video – TV/VCR ICs

Part Number	Description	Package	RoHS Compliance	Availability
Sound IF ICs				
U2860B	Double FM Demodulator (Stereo), VS = 5V, Completely Alignment-free	SO14	Pb-free Only	Now
U2861B	FM Demodulator (Mono), VS = 5V, Completely Alignment-free	SO14	Pb-free Only	Now
Video and Sound IF ICs				
TDA4470	Multi-standard Video IF (Neg/Pos) and Quasi Parallel Sound Processing (FM, NICAM, AM), VS = 5V, FPLL Detection, AFC, Alignment-free AM Demodulator, Three IF Inputs	SO28, SSO28	Pb-free Only	Now

Nonvolatile Memory

EPROM Standard Products – Industrial OTP EPROMs

Part Number	Density	Organization	VCC (V)	Speed (ns)	Package
AT27BV256	256-Kbit	x8	2.7-3.6	70	32PLCC, 28TSOP
AT27LV256A	256-Kbit	x8	3.0-3.6	90	32PLCC, 28TSOP
AT27C256R	256-Kbit	x8	4.5-5.5	45, 70	32PLCC, 28PDIP, 28TSOP
AT27BV512	512-Kbit	x8	2.7-3.6	70	32PLCC, 28TSOP
AT27LV512A	512-Kbit	x8	3.0-3.6	90	32PLCC, 28TSOP
AT27C512R	512-Kbit	x8	4.5-5.5	45, 70	32PLCC, 28PDIP, 28TSOP
AT27C516	512-Kbit	x16	4.5-5.5	45, 70	44PLCC
AT27BV010	1-Mbit	x8	2.7-3.6	90	32PLCC, 32TSOP
AT27BV1024	1-Mbit	x16	2.7-3.6	90, 120	44PLCC
AT27LV010A	1-Mbit	x8	3.0-3.6	70	32PLCC, 32TSOP
AT27C010	1-Mbit	x8	4.5-5.5	45, 70	32PLCC, 32PDIP, 32TSOP
AT27C1024	1-Mbit	x16	4.5-5.5	45, 70	44PLCC, 40PDIP
AT27BV020	2-Mbit	x8	2.7-3.6	90	32PLCC, 32TSOP
AT27LV020A	2-Mbit	x8	3.0-3.6	120	32PLCC, 32TSOP
AT27C020	2-Mbit	x8	4.5-5.5	55, 90	32PLCC, 32PDIP, 32TSOP
AT27C2048	2-Mbit	x16	4.5-5.5	55, 90	44PLCC, 40PDIP
AT27BV040	4-Mbit	x8	2.7-3.6	120	32PLCC, 32TSOP
AT27LV040A	4-Mbit	x8	3.0-3.6	90	32PLCC, 32TSOP
AT27C040	4-Mbit	x8	4.5-5.5	70, 90	32PLCC, 32PDIP, 32TSOP
AT27C4096	4-Mbit	x16	4.5-5.5	55, 90	44PLCC, 40PDIP
AT27C080	8-Mbit	x8	4.5-5.5	90	32PLCC, 32PDIP, 32TSOP

All Industrial OTP EPROMs Parts are RoHS Compliant.

Nonvolatile Memory (Continued)

Flash Memory

Part Number	Density (Mbit)	Organization	VCC (V)	Speeds (ns)	Package	Description	Availability
AT29LV512	0.5	64K x 8	3.0-3.6	120-150	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
AT29LV010A	1	128K x 8	3.0-3.6	120-150	32PLCC, 32TSOP		Recommend AT29BV010A
AT29C010A	1	128K x 8	4.5-5.5	70-120	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	100-120	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	200-250	32PLCC, 32TSOP		Now
AT29LV040A	4	512K x 8	3.0-3.6	150-200	32PLCC, 32TSOP		Now
AT29C040A	4	512K x 8	4.5-5.5	90-150	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.

Nonvolatile Memory (Continued)

Parallel EEPROM

Die Products

Part Number	Density	VCC (V)	Speed (ns)
AT28BV64B-DWF	64-Kbit	2.7-3.6	250
AT28C64B-DWF	64-Kbit	4.5-5.5	200
AT28HC64B-DWF	64-Kbit	4.5-5.5	120
AT28BV256-DWF	256-Kbit	2.7-3.6	250
AT28C256-DFWM(1)(2)	256-Kbit	4.5-5.5	200
AT28HC256-DFWM(1)(2)	256-Kbit	4.5-5.5	120
AT28C010-DFWM(1)(2)	1-Mbit	4.5-5.5	200

Notes: 1. To be used for Military Applications only.
2. Military Die Information Request Form Needs to be completed and submitted to Atmel by customer. Contact Atmel Sales for a Form.

Industrial Products

Part Number	Density	Organization	VCC (V)	Speed (ns)	Package
AT28BV64B	64-Kbit	x8	2.7-3.6	200, 250, 300	32PLCC, 28TSOP, 28SOIC
AT28C64B	64-Kbit	x8	4.5-5.5	150	32PLCC, 28TSOP, 28SOIC, 28PDIP
AT28HC64B/AT28HC64BF	64-Kbit	x8	4.5-5.5	90, 120	32PLCC, 28TSOP, 28SOIC, 28PDIP
AT28C256/AT28HC256	256-Kbit	x8	4.5-5.5	90, 120, 150	32PLCC, 28TSOP, 28SOIC, 28PDIP
AT28C256E/AT28HC256E	256-Kbit	x8	4.5-5.5	90, 150	32PLCC, 28TSOP, 28SOIC, 28PDIP
AT28C256F/AT28HC256F	256-Kbit	x8	4.5-5.5	90, 150	32PLCC, 28TSOP, 28SOIC, 28PDIP
AT28HC256N	256-Kbit	x8	4.5-5.5	90	32PLCC
AT28BV256	256-Kbit	x8	2.7-3.6	200	32PLCC, 28TSOP, 28SOIC, 28PDIP
AT28LV010	1-Mbit	x8	3.0-3.6	200	32PLCC, 32TSOP, 32PDIP
AT28C010/AT28C010E	1-Mbit	x8	4.5-5.5	120, 150	32PLCC, 32TSOP, 32PDIP
AT28C040	4-Mbit	x8	4.5-5.5	200	44LCC, 48TSOP, 32Flatpack

Military Products

Part Number	Density	Organization	VCC (V)	Speed (ns)	Package
AT28C256/AT28HC256	256-Kbit	x8	4.5-5.5	70, 90, 120	28CDIP, 28Flatpack, 32LCC, 28PGA
AT28C256E/AT28HC256E	256-Kbit	x8	4.5-5.5	70, 90, 120	28CDIP, 28Flatpack, 32LCC, 28PGA
AT28C256F/AT28HC256F	256-Kbit	x8	4.5-5.5	70, 90, 120	28CDIP, 28Flatpack, 32LCC, 28PGA
AT28C010/AT28C010E	1-Mbit	x8	4.5-5.5	120, 150, 200, 250	28CDIP, 28Flatpack, 32/44LCC, 30PGA
5962-88525 (EEPROM DSCC Military)	256-Kbit	x8	4.5-5.5	150, 200, 250	28CDIP, 28Flatpack, 32LCC, 28PGA
5962-88634 (EEPROM DSCC Military)	256-Kbit	x8	4.5-5.5	70, 90, 120	28CDIP, 28Flatpack, 32LCC, 28PGA
5962-38267 (EEPROM DSCC Military)	1-Mbit	x8	4.5-5.5	120, 150, 200	28CDIP, 28Flatpack, 32/44LCC, 30PGA

All Parallel EEPROMs Parts are RoHS Compliant.

Nonvolatile Memory (Continued)

Serial EEPROMs – Automotive

Part Number	Density (Kbits)	Organization	VCC (V)	Max Speed (MHz)	Package*	Comments	Availability
2-wire Interface							
AT24C01B	1	128 x 8	2.5	0.4	SOIC	Full Array Write Protection Cascade Up to 8 Devices	Now (Replaces AT24C01A/AT24C11)
AT24C02B	2	256 x 8	2.5	0.4	SOIC	Full Array Write Protection Cascade Up to 8 Devices	Now (Replaces AT24C02)
AT34C02C	2	256 x 8	2.7	0.4	SOIC	Lower Half Permanent SW Write Protect	Now (Replaces AT34C02)
AT24C04	4	512 x 8	2.7	0.4	SOIC	Full Array Write Protection Cascade Up to 4 Devices	Now
AT24C08A	8	1024 x 8	2.7	0.4	SOIC	Full Array Write Protection Cascade Up to 2 Devices	Now
AT24C16A	16	2048 x 8	2.7	0.4	SOIC	Full Array Write Protection	Now
AT24C32A	32	4096 x 8	2.7	0.4	SOIC	Full Array Write Protection Cascade Up to 8 Devices	Now
AT24C64A	64	8192 x 8	2.7	0.4	SOIC	Full Array Write Protection Cascade Up to 8 Devices	Now
AT24C128	128	16384 x 8	2.7	0.4	SOIC	Full Array Write Protection Cascade Up to 4 Devices	Now
AT24C256	256	32768 x 8	2.7	0.4	SOIC	Full Array Write Protection Cascade Up to 4 Devices	Now
SPI Interface							
AT25010A	1	128 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25020A	2	256 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25040A	4	512 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25080A	8	1024 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25160A	16	2048 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25320A	32	4096 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25640A	64	8192 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25128A	128	16384 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
AT25256A	256	32768 x 8	2.7	5	SOIC	SPI Mode 0 and 3, SW/HW Write Protect	Now
3-wire Interface							
AT93C46	1	64 x 16/128 x 8	2.7	2	SOIC	x8 or x16 Memory Organization	Now
AT93C56A	2	128 x 16/256 x 8	2.7	2	SOIC	x8 or x16 Memory Organization with Sequential Read	Now
AT93C66A	4	256 x 16/512 x 8	2.7	2	SOIC	x8 or x16 Memory Organization with Sequential Read	Now
AT93C86A	16	1024 x 16/2048 x 8	2.7	2	SOIC	x8 or x16 Memory Organization with Sequential Read	Now

**Other Packages Available on Request.*

All Automotive Serial EEPROMs Parts are RoHS Compliant.

Nonvolatile Memory (Continued)

Serial EEPROMs Standard Products

Part Number	Density (Kbits)	Organization	VCC (V)	Max Speed (MHz)	Package	Comments	Availability
2-wire Interface							
AT24C01B	1	128 x 8	1.8	1	PDIP, SOIC, TSSOP, SOT23, dBGA2, DFN (MAP), XDFN*, Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	Now (Also replaces AT24C11)
AT24C02B	2	256 x 8	1.8	1	PDIP, SOIC, TSSOP, SOT23, dBGA2, DFN (MAP), XDFN*, Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	Now (Replaces AT24C02)
AT24HC02B	2	256 x 8	1.8	1	PDIP, SOIC, TSSOP, Die/Wafer	1/2 Array Write Protection Cascade Up to 8 Devices	Now (Replaces AT24C02A)
AT34C02C	2	256 x 8	1.7	0.4	SOIC, TSSOP, dBGA2, DFN (MAP), Die/Wafer	Lower Half SW Write Protect with Reversible SW Protection	Now (Replaces AT34C02/AT34C02B)
AT24C04B	4	512 x 8	1.8	1	PDIP, SOIC, TSSOP, SOT23, dBGA2, DFN (MAP), XDFN*, Die/Wafer	Full Array Write Protection Cascade Up to 4 Devices	Now (Replaces AT24C04)
AT24HC04B	4	512 x 8	1.8	1	PDIP, SOIC, TSSOP, Die/Wafer	1/2 Array Write Protection Cascade Up to 4 Devices	Now (Replaces AT24C04A)
AT24C08B	8	1024 x 8	1.8	1	PDIP, SOIC, TSSOP, SOT23, dBGA2, DFN (MAP), XDFN*, Die/Wafer	Full Array Write Protection Cascade Up to 2 Devices	Now (Replaces AT24C08A)
AT24C16B	16	2048 x 8	1.8	1	PDIP, SOIC, TSSOP, SOT23, dBGA2, DFN (MAP), XDFN*, Die/Wafer	Full Array Write Protection	Now (Replaces AT24C16/AT24C164)
AT24C32C	32	4096 x 8	1.8	1	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN*, Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	Now (Replaces AT24C32A)
AT24C64B	64	8192 x 8	1.8, 2.7	0.4	PDIP, SOIC, TSSOP, Die/Wafer	1/4 Array Write Protection, Cascadable Up to 8 Devices	Now
AT24C64C	64	8192 x 8	1.8	1	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN*, Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	Now (Replaces AT24C64A)
AT24C128B	128	16384 x 8	1.8	1	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN*, Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	Now (Replaces AT24C128)
AT24C256B	256	32768 x 8	1.8	1	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	Now
AT24C512B	512	65536 x 8	1.8, 2.5	1	PDIP, SOIC, TSSOP, dBGA2, DFN (SAP), Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	Now (Replaces AT24C512)
AT24C1024B	1-Mbit	131072 x 8	1.8, 2.5	1	PDIP, SOIC, TSSOP, DFN (SAP), dBGA2, Die/Wafer	Full Array Write Protection Cascade Up to 4 Devices	Now (Replaces AT24C1024)

* Available on Request

All Serial EEPROMs Parts are RoHS Compliant.

Nonvolatile Memory (Continued)

Serial EEPROMs Standard Products (Continued)

Part Number	Density (Kbits)	Organization	VCC (V)	Max Speed (MHz)	Package	Comments	Availability
SPI Interface							
AT25010A	1	128 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
AT25020A	2	256 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
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
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	2Q2008
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	2Q2008
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), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	2Q2008
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), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	2Q2008
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	2Q2008
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	2Q2008
AT25512	512	65536 x 8	1.8	20	SOIC, TSOP, DFN, Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	Now (Replaces AT25HP512)
3-wire Interface							
AT93C46D	1	64 x 16/128 x 8	1.8	2	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN*, Die/Wafer	x8 or x16 Organization	Now (Replaces AT93C46)
AT93C46E	1	64 x 16	1.8	2	PDIP, SOIC, TSSOP	x16 Organization	Now (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
AT93C56B	2	128 x 16/ 256 x 8	1.8	2	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN*, Die/Wafer	x8 or x16 Organization with Sequential Read	2Q2008
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
AT93C66B	4	256 x 16/ 512 x 8	1.8	2	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), XDFN*, Die/Wafer	x8 or x16 Organization with Sequential Read	2Q2008
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.

Nonvolatile Memory (Continued)

Serial Flash Memory

DataFlash® Page Erase Serial Flash

Part Number	Density (Mbits)	VCC Min (V)	Interface Architecture	Speed (MHz)	SRAM/Buffers	Sector Lockdown	Serial Number	Packages	Availability
Page-erase, Byte-alterable, 2.7 to 3.6V – Industrial Temperature Grades									
AT45DB011B	1-Mbit	2.7	Serial (SPI Bus)	20	1 (264 Bytes)			C(9C1)-S(8S2)-X(14X)	Recommend AT45DB011D
AT45DB011D	1-Mbit	2.7	Serial (SPI Bus)	66	1 (256/264 Bytes)	✓	✓	S(8S2)-SS(8S1)-M(8M1-A)	1Q2008
AT45DB021B	2-Mbit	2.7	Serial (SPI Bus)	20	2 (264 Bytes Each)			C(9C1)-S(8S2)-T(28T)-R(28R)	Recommend AT45DB021D
AT45DB021D	2-Mbit	2.7	Serial (SPI Bus)	66	1 (256/264 Bytes)	✓	✓	S(8S2)-SS(8S1)-M(8M1-A)	2Q2008
AT45DB041D	4-Mbit	2.7	Serial (SPI Bus)	66	2 (256/264 Bytes Each)	✓	✓	S(8S2)-SS(8S1)-M(8M1-A)	Now
AT45DB081D	8-Mbit	2.7	Serial (SPI Bus)	66	2 (256/264 Bytes Each)	✓	✓	S(8S2)-SS(8S1)-M(8M1-A)	Now
AT45DB161D	16-Mbit	2.7	Serial (SPI Bus)	66	2 (512/528 Bytes Each)	✓	✓	S(8S2)-M(8M1-A)-T(28T)	Now
AT45DB321D	32-Mbit	2.7	Serial (SPI Bus)	66	2 (512/528 Bytes Each)	✓	✓	S(8S2)-MW(8MW)-M(8M1-A)-T(28T)	Now
AT45DB642D	64-Mbit	2.7	Dual, SPI, Rapid8®	66/50	2 (1024/1056 Bytes Each)	✓	✓	CN(8CN3)-T(28T)	Now
Page-erase, Byte-alterable, Low Battery Voltage, 2.5 to 3.6V – Industrial Temperature Grades									
AT45DB041D-2.5	4-Mbit	2.5	Serial (SPI Bus)	50	2 (256/264 Bytes Each)	✓	✓	S(8S2)-SS(8S1)-M(8M1-A)	Now
AT45DB081D-2.5	8-Mbit	2.5	Serial (SPI Bus)	50	2 (256/264 Bytes Each)	✓	✓	S(8S2)-SS(8S1)-M(8M1-A)	Now
AT45DB161D-2.5	16-Mbit	2.5	Serial (SPI Bus)	50	2 (512/528 Bytes Each)	✓	✓	S(8S2)-M(8M1-A)-T(28T)	Now
DataFlash Cards									
Page-erase, Byte-alterable, 2.7 to 3.6V – Industrial Temperature Grades									
AT45DCB001D	1-Mbyte	2.7	Serial (SPI Bus)	66	2 (264 Bytes Each)	✓	✓	7DF1	Now
AT45DCB002D	2-Mbyte	2.7	Serial (SPI Bus)	66	2 (528 Bytes Each)	✓	✓	7DF1	Now
AT45DCB004D	4-Mbyte	2.7	Serial (SPI Bus)	66	2 (528 Bytes Each)	✓	✓	7DF1	Now
AT45DCB008D	8-Mbyte	2.7	Serial (SPI Bus)	66	2 (1056 Bytes Each)	✓	✓	7DF1	Now

Uniform Block Erase Serial Flash

Part Number	Density (Mbits)	VCC Min (V)	Interface Architecture	Speed (MHz)	Min Erase (Kbytes)	Protection	Packages	Availability
Uniform Block Erase Serial Flash, 2.7 to 3.6 – Industrial Temperature Grades								
AT25F512A	0.5	2.7	Serial (SPI Bus)	33	32	1/4, 1/2, Full Array	SS(8S1)-Y4(8Y4)	Now
AT25FS010	1	2.7	Serial (SPI Bus)	50	4	1/32, 1/16, 1/8, 1/4, 1/2, Full Array	SS(8S1)-Y7(8Y7)	Now
AT25F2048	2	2.7	Serial (SPI Bus)	33	64	1/4, 1/2, Full Array	SS(8S1)-Y7(8Y7)	Recommend AT25DF021
AT25DF021	2	2.7	Serial (SPI Bus	66	4	Individual Sector	SS(8S1)-M(8M1-A)	1Q2008
AT25FS040	4	2.7	Serial (SPI Bus)	50	4	1/64, 1/32, 1/16, 1/8, 1/4, 1/2, Full Array	SS(8S1)-Y7(8Y7)	Recommend AT25DF041A
AT26F004	4	2.7	Serial (SPI Bus)	33	4	Individual Sector	S(8S2)-SS(8S1)-M(8M1-A)	Recommend AT25DF041A
AT25DF041A	4	2.7/2.3	Serial (SPI Bus)	70	4	Individual Sector	S(8S2)-SS(8S1)-M(8M1-A)	1Q2008
AT26DF081A	8	2.7	Serial (SPI Bus)	70	4	Individual Sector	S(8S2)-SS(8S1)	Now
AT25DF081	8	1.8	Serial (SPI Bus)	66	4	Individual Sector	SS(8S1)-Y7(8Y7)	Now
AT26DF161	16	2.7	Serial (SPI Bus)	66	4	Individual Sector	S(8S2)-M(8M1-A)	Now
AT25DF161	16	2.7	Serial (SPI Bus)	70	4	Individual Sector	S(8S2)-SS(8S1)-M(8M1-A)	1Q2008
AT26DF321	32	2.7	Serial (SPI Bus)	66	4	Individual Sector	S(8S2)-S3(16S)	Recommend AT25DF321
AT25DF321	32	2.7	Serial (SPI Bus)	66	4	Individual Sector	S(8S2)-S3(16S)	Now
AT25DF641	64	2.7	Serial (SPI Bus)	70	4	Individual Sector	MW(8MW)-S3(16S)	1Q2008

Notes:
1. Package Designator: **C – CBGA**: 9C1, 9-ball, 5 x 5 x 1.2 mm; 14C1, 14-ball, 4.5 x 7 x 1.4 mm; 24C3, 24-ball, 6 x 8 x 1.2 mm (Not Recommended for New Designs). **CN – CASON**: 8CN3, 8-pad, 6 x 8 mm (Footprint Compatible with 8-pin SOIC, EIAJ). **M, MW – MLF**: 8M1-A, 8-pad, 5 x 6 mm (Footprint Compatible to 8-pin SOIC, JEDEC); 8MW, 8-pad, 6 x 8 mm (Footprint Compatible to 8-pin EIAJ SOIC). **R – SOIC**: 28R, 28-lead, 0.330 Wide(Not Recommended for New Designs). **SS – SOIC (Narrow)**: 8S1, 8-lead, 0.150 Wide. **S – SOIC**: 8S2, 8-lead, 0.209 Wide. **S3 – SOIC**: 16S, 16-lead, 0.300" Wide Body. **T – TSOP (Type 1)**: 28T, 28-lead, 8 x 13.4 mm. **X – TSSOP**: 14X, 14-lead, 4.4 mm Body. **Y4 – SAP**: 8Y4, 8-lead, 6 x 4.90 mm Body. **Y7 – UTSAP**: 8Y7, 8-lead, 6 x 4.90 mm Body. **7DF1** – 7-pad, 2.5 mm Pitch, 24 x 32 x 1.4 mm Body DataFlash Card
2. **Green (RoHS Compliance)** Packaging Available for All Serial Flash Memory Products.

Power Management

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

Programmable Logic

Field Programmable Gate Arrays (FPGAs)

AT40K Series

Part Number	Description	Registers	Usable Gates	Frequency (MHz)	RAM (bits)	RoHS Compliance	Availability
Standard Voltage (5V)							
AT40K05	128 I/O Pins, 5-volt, Very Low Power	256	5K-10K	250	2,048	No	Now
AT40K10	192 I/O Pins, 5-volt, Very Low Power	576	10K-20K	250	4,096	No	Now
AT40K20	256 I/O Pins, 5-volt, Very Low Power	1,024	20K-30K	250	8,192	No	Now
AT40K40	384 I/O Pins, 5-volt, Very Low Power	2,304	40K-50K	250	18,432	No	Now
Low-voltage Enhanced Performance (3.3V)							
AT40K05AL	128 I/O Pins, 3.3-volt, Very Low Power	512	5K-10K	250	2,048	Contact Atmel	Now
AT40K10AL	192 I/O Pins, 3.3-volt, Very Low Power	896	10K-20K	250	4,096	Yes	Now
AT40K20AL	256 I/O Pins, 3.3-volt, Very Low Power	1,440	20K-30K	250	8,192	Yes	Now
AT40K40AL	384 I/O Pins, 3.3-volt, Very Low Power	2,690	40K-50K	250	18,432	Pb-free Only	Now
Software/Hardware Tools							
Software							
ATDS2100PC	Place and Route Tools (Ordering Also Available from the Web)						Now
Hardware							
ATDH40M	AT40K Prototyping Board, 1 Daughter Board						Now
ATDH40D84	Daughter Board – 84PLCC						Now
ATDH40D100	Daughter Board – 100VQFP						Now
ATDH40D144	Daughter Board – 144TQFP						Now
ATDH40D208	Daughter Board – 208PQFP						Now

FPGA Configuration Memory

FPGA Serial Configuration EEPROM

Part Number	Description	Memory Size	RoHS Compliance	Availability
Standard (3.3 – 5V)				
AT17LV65	65-Kbit FPGA Configuration EEPROM	65,536 x 1	Yes(1)	Now
AT17LV128	128-Kbit FPGA Configuration EEPROM	131,072 x 1	Yes(1)	Now
AT17LV256	256-Kbit FPGA Configuration EEPROM	262,144 x 1	Yes	Now
AT17LV512	512-Kbit FPGA Configuration EEPROM	524,288 x 1	Yes	Now
AT17LV512A	512-Kbit FPGA Configuration EEPROM, Altera Pinout	524,288 x 1	Yes	Now
AT17LV010	1-Mbit FPGA Configuration EEPROM	1,048,576 x 1	Yes	Now
AT17LV010A	1-Mbit FPGA Configuration EEPROM, Altera Pinout	1,048,576 x 1	Yes	Now
AT17LV002	2-Mbit FPGA Configuration EEPROM	2,097,152 x 1	Yes	Now
AT17LV002A	2-Mbit FPGA Configuration EEPROM, Altera Pinout	2,097,152 x 1	Yes	Now
AT17LV040	4-Mbit FPGA Configuration EEPROM	4,194,304 x 1	Yes	Now

Note: 1. Replacement RoHS is the AT17LV256.

Programmable Logic (Continued)

FPGA Configuration Memory (Continued)

FPGA Serial Configuration EEPROM (Continued)

Part Number	Description	Memory Size	RoHS Compliance	Availability
Low-cost NTP (3.3V)				
AT17N256	256-Kbit FPGA Configuration Memory	262,144 x 1	No	Now
AT17N512	512-Kbit FPGA Configuration Memory	524,288 x 1	No	Now
AT17N010	1-Mbit FPGA Configuration Memory	1,048,576 x 1	No	Now
AT17N002	2-Mbit FPGA Configuration Memory	2,097,152 x 1	No	Now
AT17N040	4-Mbit FPGA Configuration Memory	4,194,304 x 1	No	Now
Flash-based (3.3V)				
AT17F040	4-Mbit FPGA Configuration Flash	4,194,304 x 1	Yes	Now
AT17F040A	4-Mbit FPGA Configuration Flash, Altera Pinout	4,194,304 x 1	Yes	Now
AT17F080	8-Mbit FPGA Configuration Flash	8,388,608 x 1	Yes	Now
AT17F080A	8-Mbit FPGA Configuration Flash, Altera Pinout	8,388,608 x 1	Yes	Now
AT17F16	16-Mbit FPGA Configuration Flash	16,777,216 x 1	Yes	Now
AT17F16A	16-Mbit FPGA Configuration Flash, Altera Pinout	16,777,216 x 1	Yes	Now
AT17F32	32-Mbit FPGA Configuration Flash	33,554,432 x 1	Yes	Now
AT17F32A	32-Mbit FPGA Configuration Flash, Altera Pinout	33,554,432 x 1	Yes	Now
In-System Programmable and Flash-based (3.3V)				
AT18F010	1-Mbit FPGA Configuration Flash with ISP, Pin Compatible with Xilinx Platform Flash	1,048,576 x 1	Yes	Now
AT18F002	2-Mbit FPGA Configuration Flash with ISP, Pin Compatible with Xilinx Platform Flash	2,097,152 x 1	Yes	Now
AT18F040	4-Mbit FPGA Configuration Flash with ISP, Pin Compatible with Xilinx Platform Flash	4,194,304 x 1	Yes	Now
AT18F080	8-Mbit FPGA Configuration Flash with ISP, Pin Compatible with Xilinx Platform Flash	7,340,032 x 1	Yes	Now
Software/Hardware Tools				
ATDH2200E	Configurator Programming Kit, CPS ISP Software, 8-lead LAP and 20 PLCC Adapter			Now
AT18F-DK3	Configurator Programming Kit for AT18F Family			Now
ATDH1151VPC	ISP Cable for AT18F with Converter			Now
ATF15XXDK3-SAX20	20-lead TSSOP Adapter with AT18F Converter to Be Used with ATF15XX-DK3 Kit			Now
ATDH2221	20-lead SOIC (8-lead DIP Adapter)			Now
ATDH2222	20-lead PLCC (8-lead DIP Adapter)			Now
ATDH2223	8-lead SOIC (8-lead DIP Adapter)			Now
ATDH2224	44-lead PQFP (8-lead DIP Adapter)			Now
ATDH2225	ISP Download Cable			Now
ATDH2226A	32-lead PQFP (8-lead DIP Adapter), Altera Pinout			Now
ATDH2227	44-lead PLCC (8-lead DIP Adapter)			Now
ATDH2227A	44-lead PLCC (8-lead DIP Adapter), Altera Pinout			Now
ATDH2228	8-lead LAP (8-lead DIP Adapter)			Now

Programmable Logic (Continued)

Programmable Logic Devices (PLDs)

SPLDs/CPLDs

Part Number	Description	Packages	Speeds (ns)	RoHS Compliance	Availability
5-volt Electrically Erasable					
ATF16V8B	8 FFs, 8 I/O Pins, Standard-power	20-lead	10-15	Yes	Now
ATF16V8BQ(L)	8 FFs, 8 I/O Pins, Quarter-power, Low-power	20-lead	10-15	Yes	Now
ATF16V8C	8 FFs, 8 I/O Pins, Standard-power	20-lead	5-7.5	Yes	Now
ATF16V8CZ	8 FFs, 8 I/O Pins, Zero-power	20-lead	12-15	Yes	Now
ATF20V8B	8 FFs, 8 I/O Pins, Standard-power	24-, 28-lead	7.5-15	Yes	Now
ATF20V8BQ(L)	8 FFs, 8 I/O Pins, Quarter-power, Low-power	24-, 28-lead	10-15	Yes	Now
ATF22V10C	10 FFs, 10 I/O Pins, Standard-power	24-, 28-lead	5-15	Yes	Now
ATF22V10CQ(Z)	10 FFs, 10 I/O Pins, Quarter-power, Zero-power	24-, 28-lead	15-20	Yes	Now
ATF22V10CZ	10 FFs, 10 I/O Pins, Zero-power	24-, 28-lead	12-15	No	Now
ATF750C(L)	20 FFs, 10 I/O Pins, Standard and Low-power	24-, 28-lead	7.5-15	Yes	Now
ATF2500C	48 FFs, 24 I/O Pins, Standard-power	40-, 44-lead	15-20	Yes	Now
ATF1500A(L)	32 Macrocell, Standard and Low-power, 5V	44-lead	7.5-20	Yes	Now
ATF1502AS(L)	32 Macrocell with ISP, Standard and Low-power, 5V	44-lead	7.5-25	Yes	Now
ATF1504AS(L)	64 Macrocell with ISP, Standard and Low-power, 5V	44-, 68-, 84-, 100-lead	7.5-20	Yes	Now
ATF1508AS(L)	128 Macrocell with ISP, Standard and Low-power, 5V	84-, 100-lead	7.5-20	Yes	Now
5-volt Electrically Erasable for Military and Aerospace Applications					
ATF22V10B	10 FFs, 10 I/O Pins, Standard-power	24-, 28-lead	10-15	No	Now
ATF750C(L)	20 FFs, 10 I/O Pins, Standard and Low-power	24-, 28-lead	10-15	No	Now
ATF2500C	48 FFs, 24 I/O Pins, Standard-power	44-lead	20	No	Now
Low-voltage (3.3V) Electrically Erasable					
ATF16LV8C	8 FFs, 8 I/O Pins, Low-voltage	20-lead	10-15	Yes	Now
ATF22LV10C	10 FFs, 10 I/O Pins, Low-voltage	24-, 28-lead	10-15	Yes	Now
ATF22LV10CZ	10 FFs, 10 I/O Pins, Low-voltage, Zero-power	24-, 28-lead	25	No	Now
ATF22LV10CQZ	10 FFs, 10 I/O Pins, Low-voltage, Quarter-power, Zero-power	24-, 28-lead	30	Yes	Now
ATF750LVC	20 FFs, 10 I/O Pins, 3.3V Standard Power	24-, 28-lead	15	Yes	Now
ATF1502ASV	32 Macrocells with ISP, 32 I/O Pins	44-lead	15	Yes	Now
Low-voltage, 3.3V Low Power					
ATF1504ASV(L)	64 Macrocells with ISP, Low-voltage and Low-power, 3.3V	44-, 84-, 100-lead	15-20	Yes	Now
ATF1508ASV(L)	128 Macrocells with ISP, Low-voltage and Low-power, 3.3V	84-, 100-lead	15-20	Yes	Now
5-volt EPROM-based					
ATV750B(L)	20 FFs, 10 I/O Pins, Standard and Low-power	24-, 28-lead	10-15	Yes	Military Only
1.8-volt, Low Power CPLD					
ATF1502BE	32 Macrocells with ISP, 1.8-volt, High Speed and Very Low-power	44-lead	5-7	Yes	Now
ATF1504BE	64 Macrocells with ISP, 1.8-volt, High Speed and Very Low-power	44-, 100-lead	5-7	Yes	Now
ATF1508BE	128 Macrocells with ISP, 1.8-volt, High Speed and Very Low-power	100-lead	5-7	Yes	Now

Programmable Logic (Continued)

Programmable Logic Devices (PLDs) (Continued)

SPLDs/CPLDs (Continued)

Part Number	Description	Availability
Software		
ATDS1500PC	Licensed Version of Altium® Tools (VHDL, CUPL® Schematic) for ProChip Designer®	Now
ATDS1000PC	Atmel – WinCUPL (Includes CUPL, Compiler, Place and Route)	Now
ATDS15xxKSW1	Annual License for Mentor Graphics® Precision® Synthesis and ModelSim® Tools for ProChip Designer	Now
Hardware		
ATDH1150VPC	Atmel – ISP Kit Software and Cable (3V or 5V)	Now
ATF15xx-DK3-SAJ44	Atmel – 44-lead PLCC Adapter for ATF15xx-DK3 Kit	Now
ATF15xx-DK3-SAJ84	Atmel – 84-lead PLCC Adapter for ATF15xx-DK3 Kit	Now
ATF15xx-DK3-SAA100	Atmel – 100-lead TQFP Adapter for ATF15xx-DK3 Kit	Now
ATF15xx-DK3-SAA128	Atmel – 128-lead LQFP Adapter for ATF15xx-DK3 Kit	Now
Development Kits		
ATF15xx-DK3	CPLD Development Programming Kit (Includes Software, 2 Sample PLDs, 44-lead TQFP Socket Adapter and ISP Cable)	Now

Field Programmable System-Level Integration Circuits (FPSLIC®) – AVR, FPGA & SRAM on a Single Chip

AT94K Series

Part Number	FPGA Gates	FreeRAM (Bits)	FPGA I/O[1]	Program/Data SRAM (Bytes)	RoHS Compliance	Availability
AT94K05AL Micro FPSLIC	5K	2,048	Up to 96	4K-16K/4K-16K	Yes	Now
AT94K10AL	10K	4,096	Up to 192	20K-32K/4K-16K	Yes	Now
AT94K40AL	40K	18,432	Up to 384	20K-32K/4K-16K	Yes	Now
Software						
ATDS94KSW1	AT94K Series Design System Annual Subscription					Now
Hardware						
ATSTK94	FPSLIC Starter Kit, Cable, Software (4-month Software License)					Now
ATSTK594	FPSLIC Add-on Card to STK500					Now
ATDH94STKB	FPSLIC Starter Kit Board, Cable (Hardware Only – No Software)					Now
ATDH2225	ISP Download Cable (For Configurator, Included in FPSLIC Starter Kit)					Now
ATDH94DNG	Hardware Dongle (If No Network Card to Key License Off)					Now

Note: 1. There are up to 16 AVR programmable I/Os on each device, plus several dedicated AVR I/Os.

AT94S Secure Series

Part Number	FPGA Gates	FreeRAM (Bits)	FPGA I/O	Program/Data SRAM (Bytes)	RoHS Compliance	Availability
AT94S05AL Micro FPSLIC	5K	2,048	Up to 95	4K-16K/4K-16K	Yes	Now
AT94S10AL	10K	4,096	Up to 120	20K-32K/4K-16K	Yes	Now
AT94S40AL	40K	18,432	Up to 384	20K-32K/4K-16K	Yes[1]	Now

Note: 1. Note: Available in lead-free; not RoHS compliant.

Radio Frequency (RF) ICs

Communications

Cellular/Infrastructure ICs[1]

Part Number	Description	Package	RoHS Compliance	Availability
U2790B-N	1000 MHz Quadrature Modulator for Digital Cellular Radio Systems, Very Low Power Consumption (Typically 150 mW), 0 dBm O/P Level	SO16	Pb-free Only	Now
U2793B-N	30 to 300 MHz Quadrature Modulator for Digital Cellular Radio Systems and Hybrid Fiber Coax Applications, Current Consumption 15 mA at 5V	SSO20	Pb-free Only	Now
U2794B-N	1000 MHz Quadrature Demodulator for Cellular Phones and Hybrid Fiber Coax Applications, Low DC Offset f_{IN} = 70 to 1000 MHz	SSO20	Pb-free Only	Now

Note: 1. Demo boards are available on request.

Private Mobile Radios (PMRs)

Part Number	Description	Package	RoHS Compliance	Availability
ATR0981	Monolithic SiGe Tx/Rx Front-end IC, Frequency Range 300 MHz to 500 MHz; It Consists of a Low-Noise Amplifier (LNA) and a Power Amplifier (PA) with Good Power-added Efficiency (PAE)	PSSO20	Pb-free Only	Now

Corded Phone ICs

High-end Telephone ICs

Part Number	Description	Package	RoHS Compliance	Availability
U4089B	Multi-standard Feature Phone Circuit with Voice Switch, Speech Circuit, Speaker Amplifier	SSO44	Yes	Now
U4090B	Multi-standard Feature Phone Circuit with Voice Switch, Speech Circuit, DC/DC Converter, Speaker Amplifier	SSO44	Yes	Now
U4091BM	Multi-standard Feature Phone IC, Bus Controlled, DTMF, Voice Switch, Interface to Cordless Phones and Answering Machines	SSO44	Yes	Now

Modular Telephone ICs

Part Number	Description	Package	RoHS Compliance	Availability
U4082B	Voice-switched Circuit, Fast Channel Switching for Quasi Duplex Operation	SO28	Yes	Now
U4083B	Low-power Audio Amplifier, Low Current Consumption	SO8	Yes	Now

Cordless Phone ICs

CT0/900 MHz

Part Number	Description	Package	RoHS Compliance	Availability
U3600BM	CT0 Programmable Transceiver, One-chip RF, IF and CT0, Programmable PLL, Adjustment Free	SSO44	Pb-free Only	Now

DECT/DCT RF ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATR2806	2.4 GHz Transceiver, Low IF Architecture, VCO and Voltage Regulator On-chip	QFN32	Yes	Now
ATR2807	3.3 GHz VCO/PLL, Voltage Regulator	QFN32	Yes	Now
ATR2808	2.9 GHz Transceiver, Non-blind-slot Operation, VCO and Voltage Regulator On-chip, Open Loop Modulation	QFN48	Yes	Now
ATR2809	5.8 GHz Down-conversion Triple-balanced Mixer with High LO Rejection	QFN16	Yes	Now
ATR2820	5.8 GHz Transceiver, Low IF Architecture, VCO and Voltage Regulator On-chip	QFN32	Yes	Now
ATR7035	5.8 GHz PA with 27 dBm Output Power	QFN16	Yes	Now
ATR7039	Up-converting Mixer with Buffer Amplifier for 5.8 GHz Applications	QFN16	Yes	Now
ATR7040	5.8 GHz PA with 25 dBm Output Power	QFN16	Yes	Now
T2803	2.4 GHz Transceiver, Non-blind-slot Operation, VCO and Voltage Regulator On-chip, Open Loop Modulation, Wide Band 2.4 GHz TRX	QFN48	Yes	Now
T7024	DECT/DCT 2.4 GHz Tx/Rx Front End IC	PSSO20, QFN20	Yes	Now
T7026	2.4 GHz LNA/PA	QFN20	Yes	Now

Radio Frequency (RF) ICs (Continued)

Industrial, Scientific and Medical (ISM)

Part Number	Description	Package	RoHS Compliance	Availability
T7024	ISM 2.4 GHz Tx/Rx Front End, P_{OUT} = 23 dBm, NF = 2 dBm	PSSO20, QFN20	Yes	Now
ATR2406	Single-chip RF Transceiver, 2.400-2.483 GHz ISM Band, 3 dBm Output Power, 93 dBm Receiver Sensitivity, Fully Integrated Design, No External SAW Filter Needed, Digital Baseband Interface for Easy Interconnection to 8-bit AVR Flash Microcontrollers, 32-pin QFN (5 x 5 x 0.9 mm)	QFN32	Yes	Now

Smart RF[1]

Part Number	Description	Package	RoHS Compliance	Availability
ATA5423	UHF Transceiver for ASK and FSK Systems, 315 MHz	QFN44	Yes	Now
ATA5425	UHF Transceiver for ASK and FSK Systems, 345 MHz	QFN44	Yes	Now
ATA5428	UHF Transceiver for ASK and FSK Systems, 433 MHz or 868 MHz	QFN44	Yes	Now
ATA5429	UHF Transceiver for ASK and FSK Systems, 915 MHz	QFN44	Yes	Now
ATAR862x-yyy-TNz3	Complete UHF ASK/FSK Transmitter, ROM Microcontroller and Transmitter PLL T5753 in One IC, Frequency Range: 310 to 330 MHz	SSO24	Pb-free Only	Now
ATAR862x-yyy-TNz4	Complete UHF ASK/FSK Transmitter, ROM Microcontroller and Transmitter PLL T5754 in One IC, Frequency Range: 429 to 439 MHz	SSO24	Pb-free Only	Now
ATAR862x-yyy-TNz8	Complete UHF ASK/FSK Transmitter, ROM Microcontroller and Transmitter PLL T5750 in One IC, Frequency Range: 868 to 928 MHz	SSO24	Pb-free Only	Now
ATAM862x-TNz3	Complete UHF ASK/FSK Transmitter, Flash Microcontroller and Transmitter PLL T5753 in One IC, Frequency Range: 310 to 330 MHz	SSO24	Pb-free Only	Now
ATAM862x-TNz4	Complete UHF ASK/FSK Transmitter, Flash Microcontroller and Transmitter PLL T5754 in One IC, Frequency Range: 429 to 439 MHz	SSO24	Pb-free Only	Now
ATAM862x-TNz8	Complete UHF ASK/FSK Transmitter, Flash Microcontroller and Transmitter PLL T5750 in One IC, Frequency Range: 868 to 928 MHz	SSO24	Pb-free Only	Now
ATR2406	Single-chip RF Transceiver, 2.400-2.483 GHz ISM Band, 3 dBm Output Power, 93 dBm Receiver Sensitivity, Fully Integrated Design, No External SAW Filter Needed, Digital Baseband Interface for Easy Interconnection to 8-bit AVR Flash Microcontrollers, 32-pin QFN (5 x 5 x 0.9 mm)	QFN32	Yes	Now
ATA5723P3	Highly Integrated UHF Remote Control Receiver, ASK/FSK, 315 MHz, 300 kHz Bandwidth, RSSI Pin Compatible to ATA5724, ATA5728	SSO20	Pb-free Only	Now
ATA5724P3	Highly Integrated UHF Remote Control Receiver, ASK/FSK, 433 MHz, 300 kHz Bandwidth, RSSI Pin Compatible to ATA5723, ATA5728	SSO20	Pb-free Only	Now
ATA5728P6	Highly Integrated UHF Remote Control Receiver, ASK/FSK, 868 MHz, 600 kHz Bandwidth, RSSI Pin Compatible to ATA5723, ATA5724	SSO20	Pb-free Only	Now
ATA5743P3	UHF Remote Control Receiver, High FSK Sensitivity, 5 to 20V Automotive Compatible Data Interface, Data Clock Available for Manchester and Biphase Coded Signals, 300 kHz Bandwidth	SO20 SSO20	Pb-free Only	Now

Note: 1. For Other Smart RF Products, see "Car Access" and "Tire Pressure Monitoring" sections.

Radio Frequency (RF) ICs (Continued)

Smart RF (Continued)[1]

Part Number	Description	Package	RoHS Compliance	Availability
ATA5743P6	UHF Remote Control Receiver, High FSK Sensitivity, 5 to 20V Automotive Compatible Data Interface, Data Clock Available for Manchester and Biphase Coded Signals, 600 kHz Bandwidth	SO20 SSO20	Pb-free Only	Now
ATA5744N	UHF Remote Control Receiver for ASK Systems/PWM Mode	SO20, SSO20	Pb-free Only	Now
ATA8201	Transparent ASK/FSK UHF Receiver IC with Fast RKE/TPMS Switching Rate, Suited to 1 to 20 Kbits/s Manchester FSK with 4 Programmable Bit-rate Ranges, High FSK Sensitivity (-114 dBm at 2.4 Kbits/s), High Blocking Capability, 315 MHz	QFN24	Pb-free Only	Now
ATA8202	Transparent ASK/FSK UHF Receiver IC with Fast RKE/TPMS Switching Rate, Suited to 1 to 20 Kbits/s Manchester FSK with 4 Programmable Bit-rate Ranges, High FSK Sensitivity (-114 dBm at 2.4 Kbits/s), High Blocking Capability, 433 MHz	QFN24	Pb-free Only	Now
ATA8401	UHF ASK/FSK Transmitter, Frequency Range: 310 to 350 MHz, High Output Power	TSSOP8	Pb-free Only	Now
ATA8402	UHF ASK/FSK Transmitter, Frequency Range: 429 to 439 MHz, High Output Power	TSSOP8	Pb-free Only	Now
ATA8403	UHF ASK/FSK Transmitter, Frequency Range: 868 to 928 MHz, High Output Power	TSSOP8	Pb-free Only	Now
ATA5760N3	UHF ASK/FSK Receiver, Frequency Receiving Range: 868 to 870 MHz, Highest Integration Level in Market, IF Bandwidth 300 kHz	SO20	Pb-free Only	Now
ATA5760N	UHF ASK/FSK Receiver, Frequency Receiving Range: 868 to 870 MHz, Highest Integration Level in Market, IF Bandwidth 600 kHz	SO20	Pb-free Only	Now
ATA5761N	UHF ASK/FSK Receiver, Frequency Receiving Range: 902 to 928 MHz, Highest Integration Level in Market	SO20	Pb-free Only	Now
U2741B	UHF Remote Control Transmitter for ASK and FSK Systems, On-chip PLL Transmitter with Integrated VCO	SSO16	Pb-free Only	Now
ATA2745	UHF ASK Transmitter, Frequency Range: 310 to 440 MHz, Supply Voltage: 2.2 to 4V, Temperature Range: -40° C to +85° C	SSO16	Pb-free Only	Now
ATA3741P2	UHF Remote Control Receiver for ASK and FSK Systems, All RF Components Integrated, IF Bandwidth 300 kHz	SO20	Pb-free Only	Now
ATA3741P3	UHF Remote Control Receiver for ASK and FSK Systems, All RF Components Integrated, IF Bandwidth 600 kHz	SO20	Pb-free Only	Now
ATA3742P3	UHF Remote Control Receiver, RSSI Output for ASK and FSK Systems	SO20	Pb-free Only	Now
ATA3745	UHF ASK Receiver, Frequency Range: 310 to 440 MHz, Supply Voltage: 4.5 to 5.5V, Temperature Range: -40° C to 85° C	SO20	Pb-free Only	Now
Evaluation Kits and Tools				
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
ATAB-SPI-LPT	SPI to Parallel Port (LPT) Interface Board			Now
ATAB5423-3-B	UHF ASK/FSK Transceiver Basestation Board for 315 MHz			Now

Note: 1. For Other Smart RF Products, see "Car Access" and "Tire Pressure Monitoring" sections.

Radio Frequency (RF) ICs (Continued)

Smart RF (Continued)[1]

Part Number	Description	Availability
Evaluation Kits and Tools (Continued)		
ATAB5428-4-B	UHF ASK/FSK Transceiver Basestation Board for 433.92 MHz	Now
ATAB5428-8-B	UHF ASK/FSK Transceiver Basestation Board for 868.3 MHz	Now
ATAB5429-9-B	UHF ASK/FSK Transceiver Basestation Board for 915 MHz	Now
ATAB5423-3-WB	UHF TRx Application Board, 315 MHz	Now
ATAB5428-4-WB	UHF TRx Application Board, 433 MHz	Now
ATAB5428-8-WB	UHF TRx Application Board, 868 MHz	Now
ATAB5429-9-WB	UHF TRx Application Board, 915 MHz	Now
ATAB-RFMB	RF Mainboard with AVR Microcontroller and Interfaces	Now
ATAK4015744U	315 MHz RF Control System Evaluation Kit for AT86RF401 and ATA5744N; Kit Contains: Sample Transmitter and Receiver PCBs, Two Samples of Each Device, a Programming Dongle/Cable Assembly and CD-ROM Containing All the Necessary Tools to Develop Software	Now
ATAK4015744E	433.92 MHz RF Control System Evaluation Kit for AT86RF401 and ATA5744N; Kit Contains: Sample Transmitter and Receiver PCBs, Two Samples of Each Device, a Programming Dongle/Cable Assembly and CD-ROM Containing All the Necessary Tools to Develop Software	Now
ATAKSTK511-8	AVR-based RF Transmitter & Receiver Starter Kit, 868 MHz, Tx Using T5750 and Rx Using T5760	Now
ATAKSTK511-9	AVR-based RF Transmitter & Receiver Starter Kit, 915 MHz, Tx Using T5750 and Rx Using T5761	Now
ATAKSTK512-3	AVR-based RF Transmitter & Receiver Starter Kit with AES Encryption, 315 MHz, Tx Using T5753 and Rx Using T5743	Now
ATAKSTK512-4	AVR-based RF Transmitter & Receiver Starter Kit with AES Encryption, 434 MHz, Tx Using T5754 and Rx Using T5743	Now
ATAB5744-N3	ASK Receiver Board ATA5744N, 315 MHz, No SAW Filter	Now
ATAB5744-N4	ASK Receiver Board ATA5744N, 433.92 MHz, No SAW Filter	Now
ATAB5744-S3	ASK Receiver Board ATA5744N, 315 MHz, SAW Filter	Now
ATAB5744-S4	ASK Receiver Board ATA5744N, 433.93 MHz, SAW Filter	Now
ATAB5743P3-S3	ASK/FSK Receiver Board ATA5743, 315 MHz, 300 kHz BW, SAW Filter	Now
ATAB5743P3-S4	ASK/FSK Receiver Board ATA5743, 433.92 MHz, 300 kHz BW, SAW Filter	Now
ATAB5743P6-S3	ASK/FSK Receiver Board ATA5743, 315 MHz, 600 kHz BW, SAW Filter	Now
ATAB5743P6-S4	ASK/FSK Receiver Board ATA5743, 433.92 MHz, 600 kHz BW, SAW Filter	Now
ATAB5750-8	ASK/FSK Transmitter Board T5750, 868.3 MHz	Now
ATAB5750-9	ASK/FSK Transmitter Board T5750, 915 MHz	Now
ATAB5753	ASK/FSK Transmitter Board T5753, 315 MHz	Now
ATAB5754	ASK/FSK Transmitter Board T5754, 433.92 MHz	Now
ATAB5760-N	ASK/FSK Receiver Board ATA5760N, 868.3 MHz, No SAW Filter	Now
ATAB5760-S	ASK/FSK Receiver Board ATA5760N, 868.3 MHz, SAW Filter	Now
ATAB5761-N	ASK/FSK Receiver Board ATA5761N, 915 MHz, No SAW Filter	Now
ATR2406-DEV-KIT2	RF Evaluation Kit for ATR2406 Includes Reference Design Based on ATR2406 and ATmega88	Now
ATR2406-DEV-BOARD	Low-cost Reference Design Board for ATR2406	Now

Note: 1. For Other Smart RF Kits and Tools, see “Car Access” and “Tire Pressure Monitoring” sections.

Radio Frequency (RF) ICs (Continued)

MAX-Link™ – WiMAX Solutions

Part Number	Description	RoHS Compliance	Availability
AT86RF535B	3.5 GHz Low-IF Conversion Transceiver for WiMAX Applications; Zero-IF is Supported with Control from Baseband. Frequency Range 3.3 - 3.8 GHz; Supports 3.5 MHz, 5 MHz, 7 MHz, 8.75 MHz, and 10 MHz Channel Bandwidths with Modulation Up to 64QAM at Sensitivity < -69 dBm. Requires no External Filters and Combines LNA, PA Driver, Rx/Tx Mixer, Rx/Tx Filters, VCO, Synthesizer, Rx Gain Control, and Tx Power Control, All Fully Digital Controlled and Residing in a 56-lead QFN Package	Yes	Now
AT86RF525B	2.5 GHz Low-IF Conversion Transceiver for WiMAX Applications; Zero-IF is Supported with Control from Baseband. Frequency Range 2.3 - 2.7 GHz; Supports 3.5 MHz, 5 MHz, 7 MHz, 8.75 MHz, and 10 MHz Channel Bandwidths with Modulation Up to 64QAM at Sensitivity < -69 dBm. Requires no External Filters and Combines LNA, PA Driver, Rx/Tx Mixer, Rx/Tx Filters, VCO, Synthesizer, Rx Gain Control, and Tx Power Control, All Fully Digital Controlled and Residing in a 56-lead QFN Package	Yes	Now
AT86RF540C	A Fully Integrated, Low-cost RF Dual Band (2.5 and 3.5 GHz) Low-IF/Zero-IF Conversion Transceiver for WiMAX Applications. It Combines Excellent RF Performance at Smallest Size and Current Consumption. The AT86RF540C Chip is Fabricated on the Advanced SiGe BiCMOS Process AT46700. The Transceiver Combines LNA, PA Driver, Rx/Tx Mixer, Rx/Tx Filters, VCO, Synthesizer, Rx Gain Control, and Tx Power Control, All Fully Digital Controlled. The Number of Necessary External Devices is Limited to Only a Few Devices.	Yes	June 2008
Evaluation Kits			
Evaluation Kits are Available for Pre-qualified Customers			Contact Atmel for Availability

Z-Link® – 802.15.4/ZigBee™ Solutions

Part Number	Description	RoHS Compliance	Availability
AT86RF230	Fully Integrated, Low-power 2.4 GHz Transceiver Designed for Low-cost IEEE 802.15.4-based as Well as Wireless Networks Application, Including ZigBee; Receive Sensitivity Better than -101dBm, Programmable Transmit Power Up to +3 dBm, Integrated Crystal Oscillator, LNA, Tx/Rx Switch, PLL-loop Filter; Automatic VCO & Filter Calibration, SPI Interface; Offering Easy System Design in Approach; Residing in a 32 Low Profile, Lead-free QFN Package	Yes	Now
Evaluation Kits			
Evaluation Kits are Available for Pre-qualified Customers			Contact Atmel for Availability

Note: 1. Additional Z-Link products can be found in the "Z-Link (ZigBee) AVR" section on page 10.

Security Solutions ICs

Crypto & Secure Memories

CryptoMemory® – Embedded (2-wire Interface)

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

Part Number	Description	Organization (Bytes)	Voltage	RoHS Compliance	Availability
AT88SC0104C	1-Kbit User Memory with Authentication and Encryption, ISO 7816-3 Asynchronous and Synchronous 2-wire Protocols	4 x 32	2.7-5.5	Yes	Now
AT88SC0204C	2-Kbit User Memory with Authentication and Encryption, ISO 7816-3 Asynchronous and Synchronous 2-wire Protocols	4 x 64	2.7-5.5	Yes	Now
AT88SC0404C	4-Kbit User Memory with Authentication and Encryption, ISO 7816-3 Asynchronous and Synchronous 2-wire Protocols	4 x 128	2.7-5.5	Yes	Now
AT88SC0808C	8-Kbit User Memory with Authentication and Encryption, ISO 7816-3 Asynchronous and Synchronous 2-wire Protocols	8 x 128	2.7-5.5	Yes	Now
AT88SC1616C	16-Kbit User Memory with Authentication and Encryption, ISO 7816-3 Asynchronous and Synchronous 2-wire Protocols	16 x 128	2.7-5.5	Yes	Now
AT88SC3216C	32-Kbit User Memory with Authentication and Encryption, ISO 7816-3 Asynchronous and Synchronous 2-wire Protocols	16 x 256	2.7-5.5	Yes	Now
AT88SC6416C	64-Kbit User Memory with Authentication and Encryption, ISO 7816-3 Asynchronous and Synchronous 2-wire Protocols	16 x 512	2.7-5.5	Yes	Now
AT88SC12816C	128-Kbit User Memory with Authentication and Encryption, ISO 7816-3 Asynchronous and Synchronous 2-wire Protocols	16 x 1024	2.7-5.5	Yes	Now
AT88SC25616C	256-Kbit User Memory with Authentication and Encryption, ISO 7816-3 Asynchronous and Synchronous 2-wire Protocols	16 x 2048	2.7-5.5	Yes	Now
Evaluation/Development Kits					
AT88SC-ADK1	1K to 256K CryptoMemory Demonstration, Evaluation and Full Development Kit for Embedded AVR				Now
AT88SC-ADK2	1K to 256K Low Cost CryptoMemory Complete Development Kit				2Q2008
AT88SC-DK1	1K to 256K CryptoMemory Adaptor and Development Kit for Embedded Applications				Now
AT88SC-SDK1	1K to 256K CryptoMemory Development Kit for Smart Cards				2Q2008

Security Solutions ICs (Continued)

Crypto & Secure Memories (Continued)

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

Part Number	Description	Organization	Voltage	RoHS Compliance	Availability
Secure Memory ICs with Password					
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
Secure Memory ICs with Password and Authentication					
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

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

Security Solutions ICs (Continued)

RF Identification

RF Identification/Immobilization – 125 kHz

Part Number	Description	Package	RoHS Compliance	Availability
Transponder ICs 125 kHz (100 to 150 kHz)				
e5530	RFID Read-only IDIC®, Up to 128-bit ROM, Different Codings/Modulations and Bit-rates, FDX-B, ISO 11784/11785 Compatible	Wafer, DIT	Pb-free Only	Now
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
T5554	RFID Read/Write IDIC for Contactless Operation – Suited for Direct Coil Connection, Compatible to x5551, Capacitance On-chip (Up to 220 pF), Au-Mega Pads for Thermo Compression Bonding Method	Wafer, Die on Sticky Tape	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	Wafer, 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	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
Reader IC				
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
Transponders				
TK5530	Read-only Transponder, 125 kHz, Low-power/Low-voltage CMOS, No Battery Supply, Small Size, 128-bit ROM, RF/32, Manchester, Defined Header	Plastic Package (PP)	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
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
Micromodule				
ATA5567	NOA3 Module, RFID Read/Write IDIC for Contactless Identification, Backward Compatible to 5551 and 5557, 64-bit Unique TAG ID	Micromodule	Pb-free Only	Now
Development/Evaluation Kits and Tools				
TMEB8704	Design Kit for 125 kHz, Supports the x55xx Family Including the 5561 Authentication			Now
ATAK2270	Design Kit for 125 kHz, Supports the x55xx Family Including the ATA5567 Extended Mode			Now
ATA2270-EK1	Evaluation Kit for 125 kHz, Supports the ATA5567 Extended Mode, ATA5558, Animal-ID, Stand-alone Operation (no PC Required)			Now
ATAB5570	Development Board for 125 kHz, Supports the ATA5570			Now

Security Solutions ICs (Continued)

Secure Microcontrollers

Secure Microcontrollers – AT90SC Family[1][2]

Part Number	RAM (Kbytes)	ROM (Kbytes)	Flash (Kbytes)	EEPROM (Kbytes)	Voltage (V)	Asym. Crypto Engine	Other Features	Availability
AVR-based								
AT90SC4818RT	2	48	N/A	18	2.7-5.5	No	RNG, One Timer	Now
AT90SC6418RU	2	64	N/A	18	2.7-5.5	No	RNG, One Timer	Now
AT90SC6436RT	2	64	N/A	36	2.7-5.5	No	RNG, One Timer	Now
AT90SC12036RU	3	120	N/A	36	2.7-5.5	No	RNG, One Timer	Now
AT90SC1650U	2	0	16	50	2.7-5.5	No	RNG, One Timer	Now
secureAVR®-based								
AT90SC6404RT	2	64	N/A	4	2.7-5.5	No	Hardware DES/TDES, CRC, Common Criteria EAL4+, EMVCo Approval	Now
AT90SC9604RU	2	96	N/A	4	2.7-5.5	No	Hardware DES/TDES, CRC, Common Criteria EAL4+ Target, EMVCo Approval	Now
AT90SC9608RT	4	96	N/A	8	2.7-5.5	No	Hardware DES/TDES, CRC, Common Criteria EAL4+, EMVCo Approval	Now
AT90SC9618RT	4	96	N/A	18	2.7-5.5	No	Hardware DES/TDES, CRC, Common Criteria EAL4+, EMVCo Approval	Now
AT90SC19236RU	4	192	N/A	36	1.62-5.5	No	Hardware DES/TDES, CRC	Now
AT90SC13668RU	4	136	N/A	68	2.7-5.5	No	RNG, CRC	Now
AT90SC25672RU	6	256	N/A	72	1.62-5.5	No	Hardware DES/TDES, CRC	Now
AT90SC128112RU	4	128	N/A	112	1.62-5.5	No	RNG, CRC	Now
AT90SC288144RU	6	288	N/A	144	1.62-5.5	No	Hardware DES/TDES, CRC	Now
secureAVR-based with PKI								
AT90SC9618RCT	4	96	N/A	18	2.7-5.5	Yes	Hardware DES/TDES, CRC, Common Criteria EAL4+, EMVCo	Now
AT90SC12836RCT	5	128	N/A	36	2.7-5.5	Yes	Hardware DES/TDES, CRC, Common Criteria EAL4+, ZKA, EMVCo Approval	Now
AT90SC13612RCU	4.5	136	N/A	12	2.7-5.5	Yes	Hardware DES/TDES, CRC, SPI, Common Criteria EAL5+, EMVCo and ZKA Target	1Q2008
AT90SC20818RCU	4.5	208	N/A	18	2.7-5.5	Yes	Hardware DES/TDES, CRC, EMVCo Target	1Q2008
AT90SC25672RCT	8	256	N/A	72	1.62-5.5	Yes	Hardware DES/TDES, CRC, Common Criteria EAL4+, EMVCoTarget	Now
AT90SC1818CT	5	N/A	18	18	2.7-5.5	Yes	Hardware DES/TDES, CRC	Now
AT90SC3636CT-USB	8	N/A	36	36	1.62-5.5	Yes	On-chip USB V2.0 Full-speed Interface, Hardware DES/TDES, CRC	Now
AT90SC25672RCT-USB	8	256	N/A	72	1.62-5.5	Yes	On-chip USB V2.0 Full-speed Interface, Hardware DES/TDES, CRC, Common Criteria EAL4+	Now
AT90SC28872RCU	8	288	N/A	72	2.7-5.5	Yes	Hardware DES/TDES, CRC, Common Criteria EAL5+, EMVCo and ZKA Targets	Now
AT90SC144144CT	8	N/A	144	144	1.62-5.5	Yes	Hardware DES/TDES, CRC, SPI, Common Criteria EAL4+ Target	Now
AT90SC320288RCT	8	320	N/A	288	1.62-5.5	Yes	Hardware DES/TDES, CRC, SPI, Common Criteria EAL4+ Target	Now

Notes:
1. All AT90SC family products have OTP (One Time Programmable) EEPROM area, RNG, “out of bounds” detectors and side channel attack countermeasures.
2. Green (RoHS Compliance) Packaging Available for All AT90SC Products.

Security Solutions ICs (Continued)

Secure Microcontrollers (Continued)

Secure Microcontrollers – AT90SC Family (Continued)[1][2]

Part Number	RAM (Kbytes)	ROM (Kbytes)	Flash (Kbytes)	EEPROM (Kbytes)	Voltage (V)	Asym. Crypto Engine	Other Features	Availability
secureAVR-based, Contactless								
AT90SC6404RFT	1.2	64	N/A	4	2.7-5.5	No	ISO 14443 B Contactless Interface, Hardware DES/TDES, CRC, EMVCo Approval	Now
AT90SC6408RFT	1.2	64	N/A	8	2.7-5.5	No	Hardware DES/TDES, CRC, Common Criteria EAL4+, EMVCo Approval, Contact and ISO 14443 B Contactless Interfaces	Now
AT90SC12836RCFT	5.2	128	N/A	36	2.7-5.5	Yes	Hardware DES/TDES, CRC, Common Criteria EAL5+, EMVCo EMVCo Approval, Contact and ISO 14443 B Contactless Interfaces	Now
AT90SC12872RCFT	5.2	128	N/A	72	2.7-5.5	Yes	Hardware DES/TDES, CRC, Common Criteria EAL5+, EMVCo Approval, Contact and ISO 14443 B Contactless Interfaces	Now
AT90SC25672RCFT	8.2	256	N/A	72	2.7-5.5	Yes	Hardware DES/TDES, CRC, Common Criteria EAL5+ Target, Contact and ISO 14443 B Contactless Interfaces	Now
AT90SC256144RCFT	8.2	256	N/A	144	2.7-5.5	Yes	Hardware DES/TDES, CRC, Common Criteria EAL5+ Target, Contact and ISO 14443 B Contactless Interfaces	Now
Evaluation/Development Kits: Emulation Platform Support								
ATV™ 2/ATV4/ATV4P-xxxx	Voyager™ Development Tool Base Platform for AT90SC Family Microprocessors							Now

Notes:
1. All AT90SC family products have OTP (One Time Programmable) EEPROM area, RNG, “out of bounds” detectors and side channel attack countermeasures.
2. Green (RoHS Compliance) Packaging Available for All AT90SC Products.

Secure Microcontrollers – AT91SC Family[1][2]

Part Number	RAM (Kbytes)	ROM (Kbytes)	Flash (Kbytes)	EEPROM (Kbytes)	Voltage (V)	Asym. Crypto Engine	Other Features	Availability
AT91SC512384RCT	24	512	N/A	384	1.62-5.5	Yes	Hardware DES/TDES, CRC 16 and 32, SPI, USB 2.0 Full Speed or USB IC, NAND Flash Interface, SWP Interface	Now
AT91SC192192CT-USB	24	N/A	192	192	1.62-5.5	Yes	Hardware DES/TDES, CRC 16 and 32, SPI, USB 2.0 Full Speed or USB IC, NAND Flash Interface, SWP Interface	Now
AT91SC464384RCU	18	464	N/A	384	1.62-5.5	Yes	Hardware DES/TDES, SWP Interface, Common Criteria EAL4+, EMVCo Targets	Now
Evaluation/Development Kits: Emulation Platform Support								
ATV4P-xxxx	Voyager Development Tool Base Platform for AT91SC Family Microprocessors							Now

Notes:
1. All AT91SC family products have OTP (One Time Programmable) EEPROM area, RNG, “out of bounds” detectors, memory encryption and side channel attack countermeasures.
2. Green (RoHS Compliance) Packaging Available for All AT91SC Products.

Security Solutions ICs (Continued)

Secure Microcontrollers (Continued)

Secure Microcontrollers – AT91SO Family[1][2]

Part Number	RAM (Kbytes)	ROM (Kbytes)	Flash (Kbytes)	EEPROM (Kbytes)	Voltage (V)	Package	Other Features	Availability
AT91SO100	100	32	N/A	256	2.7-3.3	BGA 256	GPIOs, USARTs, Smart Card Reader Interfaces, USB, SPI, Timers, RTC, Hardware DES/TDES and AES, SHAn, CRC, Common Criteria EAL4+ Target	Now
AT91SO101	100	32	N/A	256	2.7-3.3	BGA 256	Single Package-solution Embedding 2 Chips: the AT91SO100 and the AT83C26 Analog Interface	Now
AT91SO50	100	32	N/A	256	2.7-3.3	BGA 208	AT91SO100 with Secure External Bus Disconnected (Smaller Package)	Now
AT91SO51	100	32	N/A	256	2.7-3.3	BGA 208	AT91SO50 with AT83C26 Analog Interface	Now
AT91SO25	100	32	N/A	256	2.7-3.3	BGA 144	AT91SO50 in Smaller Package	Now
Evaluation/Development Kits								
AT91SO101-DB1	Development Board							Now
AT91SO101-MEZ	Mezzanine Board (External Memory Board: 4 Mbytes of Flash/512 Kbytes of RAM)							Now
AT91SO101-ICE	JTAG Board (External CPLD to Decrypt Communication Between SO101 and JTAG)							Now
AT91SO101-DBMEZ	AT91SO101-DB1 + AT91SO101-MEZ							Now
AT91SO101-DBICE	AT91SO101-DB1 + AT91SO101-ICE							Now
AT91SO101-KITAM	AT91SO101-DB1 +							Now

Notes:
1. All AT91SO family products have OTP (One Time Programmable) EEPROM area, RNG, “out of bounds” detectors, memory encryption and side channel attack countermeasures.
2. Green (RoHS Compliance) Packaging Available for All AT91SO Products.

Secure ASSP – AT98SC Family[1][2]

Part Number	RAM	ROM	Com.	EEPROM (Kbytes)	Voltage (V)	Package	Other Features	Availability
AT98SC008CT	N/A	N/A	SPI	8	1.62-5.5	44-QFN		Now
AT98SC016CU	N/A	N/A	SPI, TWI, ISO 7816	16	1.62-5.5	20-QFN, SOIC-8	Common Features + DSA & HMAC Signature	Now
AT98SC032CT-USB	N/A	N/A	USB 2.0 CCID	32	1.62-5.5	44-QFN, SOIC-8	Common Features + HMAC Signature + HOTP	Now
AT98SC064CT-USB	N/A	N/A	USB 2.0 CCID, ISO 7816	64	1.62-5.5	44-QFN, SOIC-8	Common Features + Dynamic File System + DSA & HMAC Signature + HOTP + Microsoft Card Mini Driver Compliant	2Q2008
AT98SC300CT-USB	N/A	N/A	SPI, USB 2.0 CCID, ISO 7816	300	1.62-5.5	64-LQFP	Common features + DSA & HMAC Signature + AES Encryption + HOTP	4Q2008
Starter Kits								
AT98SC-STK01-008Z	Starter Kit for AT98SC008CT with Samples in QFN44 Package							Now
AT98SC-STK01-016Z	Starter Kit for AT98SC016CU with Samples in QFN20 Package							Now
AT98SC-STK01-016R	Starter Kit for AT98SC016CU with Samples in SOIC8 Package							Now
AT98SC-STK01-032Z	Starter Kit for AT98SC032CT-USB with Samples in QFN44 Package							Now
AT98SC-STK01-032R	Starter Kit for AT98SC032CT-USB with Samples in SOIC8 Package							Now

Notes:
1. AT98SC family common feature set provided by the embedded firmware: File System, Strong Authentication, Digital Signature (3DES MAC, RSA PKCS#1, EC-DSA), Encryption (3DES, RSA PKSC#1), Message Digest (SHA1, SHA256), Key Generation (RSA, ECC).
2. Green (RoHS Compliance) Packaging Available for All AT98SC Products.

Security Solutions ICs (Continued)

Secure RF Memory

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

Part Number	Description	Organization (Bytes)	RoHS Compliance	Availability
AT88SC0104CRF	Contactless 1-Kbit User Memory with Authentication and Encryption	4 x 32	Yes	Now
AT88SC0204CRF	Contactless 2-Kbit User Memory with Authentication and Encryption	4 x 64	Yes	Now
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
Evaluation/Development Kits				
AT88SC6416CRF-DK	1K to 64K CryptoRF Development Kit			Now
AT88SCRF-ADK1	AVR-based CryptoRF DK Using Melexis® Reader IC			Now
AT88SCRF-S7DK1	Complete Atmel Solution, ARM-based CryptoRF DK			3Q2008
AT88CRF-S7DK2	CryptoRF Demonstration Kit with SkyeTek™ Technology			Now

Smart Card ICs – Secure RF Memory

Part Number	Features	EEPROM Memory (Kbits)	RoHS Compliance	Availability
AT88RF020	13.56 MHz, ISO 14443B Compliant RFID Transponder	2	Yes	Now
Evaluation/Development Kit				
AT88RF020-DK	Secure RF Evaluation and Development Kit			Now

Security Solutions ICs (Continued)

Smart Card Reader ICs

Smart Card Reader ICs – 8051 Microcontrollers

Part Number	Description	Program Memory	RoHS Compliance	Availability
AT89C5121	Microcontroller with Multi-protocol Smart Card Interface, 512-byte RAM, ISO 7816, DC/DC, UART	16-Kbyte Flash	Yes	Now
AT83C5121	Microcontroller with Multi-protocol Smart Card Interface, 512-byte RAM, ISO 7816, DC/DC, UART	16-Kbyte ROM	Yes	Now
AT85C5121	Microcontroller with Multi-protocol Smart Card Interface, 512-byte RAM, ISO 7816, DC/DC, UART	16-Kbyte Code RAM, 16-Kbyte Bootloader	Yes	Now
AT83C5122	Microcontroller with Multi-protocol Smart Card Interface, 768-byte RAM, ISO 7816, DC/DC, USB 2.0 (12 Mbps), SPI	32-Kbyte ROM	Yes	Now
AT85C5122	Microcontroller with Multi-protocol Smart Card Interface, 768-byte RAM, ISO 7816, DC/DC, USB 2.0 (12 Mbps), SPI	32-Kbyte Code RAM	Yes	Now
AT89C5122	Microcontroller with Multi-protocol Smart Card Interface, 768-byte RAM, ISO 7816, DC/DC, USB 2.0 (12 Mbps), SPI	32-Kbyte Flash	Yes	Now
AT83C5123	Microcontroller with Multi-protocol Smart Card Interface, 768-byte RAM, ISO 7816, DC/DC, USB 2.0 (12 Mbps), Optional EEPROM 512 Bytes	30-Kbyte ROM	Yes	Now
AT83C5127	Microcontroller with Multi-protocol Smart Card Interface, 768-byte RAM, ISO 7816, DC/DC, USB 2.0 (12 Mbps), Optional EEPROM 512 Bytes	16-Kbyte ROM	Yes	Now
Starter Kits				
T89C5121-SK1	Starter Kit for T89C5121 Smart Card Reader Microcontroller			Now
AT89STK-03	Starter Kit for AT8xC5122/23/27 USB Smart Card Reader Microcontrollers			Now

Smart Card Reader ICs – Interface

Part Number	Description	RoHS Compliance	Availability
AT83C24	Level Shifter, DC/DC, TWI	Yes	Now
AT83C24NDS	Level Shifter Approved by NDS, DC/DC, TWI	Yes	Now
AT83C26	Multiple Smart Card Interface (2 Full Smart Cards and 3 SAMs)	Yes	Now
Starter Kits			
AT89STK-07	Starter Kit for the AT83C24 Level Shifter		Now
AT89STK-09	Starter Kit for the AT83C26 Multiple Smart Card Interface		Now

Smart Card Reader ICs – Ready-to-Use Solutions

Part Number	Description	RoHS Compliance	Availability
AT83C25OK	Pre-certified Smart Card Reader Solution for PMCIA Link with OMNIKEY® EMV2000 Firmware	Yes	Now
AT83C21GC	Pre-certified Smart Card Reader Solution for Serial Link with Gemalto™ GemCore® EMV2000 Firmware	Yes	Now
AT83C22OK	Pre-certified Smart Card Reader Keyboard Solution for USB Link with OMNIKEY EMV2000 Firmware	Yes	Now
AT83C23OK	Low-pin Count Pre-certified Smart Card Reader Solution for USB Link with OMNIKEY EMV2000 Firmware	Yes	Now
Evaluation/Development Kits			
AT89RFD-02	USB Smart Card Reader Reference Design with OMNIKEY Firmware for AT83C22OK/23OK		Now
AT89RFD-05	Serial Smart Card Reader Reference Design with Gemalto GemCore Software for AT83C21GC		Now
AT89RFD-06	PCMCIA Smart Card Reader Reference Design with OMNIKEY Firmware for AT83C25OK		Now

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