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NOVEMBER 2006

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November 2006

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ATMEL'S PRODUCTS

Atmel Corporation is a global leader in researching, designing, manufacturing and marketing advanced semiconductors, including microcontroller, nonvolatile memory, logic, secure, mixed analog/digital, radio frequency and sensor integrated circuits (ICs). These functions are marketed as standard products (aimed at a wide range of applications for many customers), ASSPs (a single application for a limited number of customers) and ASICs (implementing a specific application for a single customer). Atmel ICs are fabricated in its own manufacturing facilities using its proprietary industry-leading process technologies that are fine-tuned to the requirements of its products and customers. This gives Atmel's customers flexibility of choice in terms of matching device performance to their product requirements, time-to-market, development cost and unit price in volume. Through its network of R&D, design, manufacturing, engineering, sales and distribution facilities in over 60 countries, Atmel is committed to a customer-oriented approach. By ensuring the timely introduction and total lifecycle support of its customers' products, Atmel enables its customers to lead the markets they serve with electronic products that offer more advanced functionality, while being smaller and less expensive than ever before. Consequently, companies that drive global innovation choose Atmel. Atmel maintains its competitive edge in process technology evolution and product innovation by means of an on-going program of research and development, undertaken in collaboration with leading universities and key clients.

Atmel is focused on high-growth electronic equipment markets across the entire spectrum of applications: consumer, communications, computer/network, security, industrial/medical, automotive, aerospace and military. Particular emphasis is on battery-powered and hand-held systems where maximum performance is required at minimal power consumption.

Atmel is among the industry leaders in the development of CMOS (in particular nonvolatile memory CMOS), BiCMOS and Silicon Germanium (SiGe) process technologies, resulting in consistent levels of product innovation. Current CMOS processes are migrating from a 0.18-micron minimum feature size to 0.13 microns. Ideally suited for advances in wireless technology, Atmel's SiGe technology provides Gigahertz RF performance at costs close to those of CMOS. Atmel's high-voltage BCDMOS and BCD-on-SOI processes are optimized for high-voltage applications in harsh environments such as automotive and industrial applications. These processes are also available as foundry services.

Atmel has a corporate wide commitment to Quality that extends to every level of its activities. The objective is continuous improvement and total customer satisfaction. Atmel strives to meet the needs of its worldwide customers and has continued its Quality excellence path by undertaking major certification programs: ISO 9001, ISO/TS 16949, and ISO 14001. All of Atmel's current registration certificates can be downloaded from the Atmel quality web site (***www.atmel.com/quality***, "Quality System Certificates").

Online Product Information

http://www.atmel.com

Atmel RoHS and Green Packaging (Lead-Free)

Atmel began introducing Pb-free packages in the late 1990's with our LAP laminate package family. Since then we have aggressively developed Pb-free or fully Green packages and now provide offerings in virtually every available package footprint in accordance with customer demand as well as legislative directives such as RoHS 2002/95/EC. For more information go to:

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APPLICATION SPECIFIC STANDARD PRODUCTS (ASSPs)

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 Gìates 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
ATF2080E	Rad Hard FPGA 280K ASIC Gates and 115-Kbit SRAM	Yes (Except for MCGA Package)	3Q2007
SERVICE	FPGA to ASIC Conversion	Yes	Now

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	1Q2007
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	1Q2007
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, 70mA Write, 5 mA Read)	Yes	3Q2007

APPLICATION SPECIFIC STANDARD PRODUCTS (ASSPS) (CONTINUED)

Aerospace (Continued)

Space Radiation Tolerant/Hard Standard ASICs

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

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

AUTOMOTIVE AND CONTROL

Automotive Products

Automotive Standard Products

Automotive RF[1]

Part Number	Description	Package	RoHS Compliance	Availability
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
ATAR862x-yyy-TNz3	Complete UHF ASK/FSK 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 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
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	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
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
ATA5760N	UHF ASK/FSK Receiver, Frequency Receiving Range: 868 to 870 MHz, Highest Integration Level in Market	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
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

Note: 1. For dedicated microcontrollers, see "MARC4 4-bit Architecture Microcontrollers" on pages 75-76.

AUTOMOTIVE AND CONTROL (CONTINUED)

Automotive Products (Continued)

Automotive Standard Products (Continued)

Automotive RF Evaluation Kits and Tools[1]

Part Number	Description	Availability
ATAB-RFMB	RF Mainboard with AVR® Microcontroller and Interfaces	Now
ATAB-STK-F	Flamingo® Interface Board for Connecting RF Boards to STK®500	Now
ATAB5750-8	Transmitter Board ATA5750, 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
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
ATAB-SPI-LPT	SPI to Parallel Port (LPT) Interface Board	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

Note: 1. For dedicated microcontrollers, see "MARC4 4-bit Architecture Microcontrollers" on pages 75-76.

AUTOMOTIVE AND CONTROL (CONTINUED)

Automotive Products (Continued)

Automotive Standard Products (Continued)

Driver ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATA6821	Single-channel BCDMOS High-speed Driver IC for Power MOSFET/IGBT Control Applications, Able to Drive Peak Currents of Up to 4A	SO14	Pb-free Only	Now
ATA6830	Intelligent Stepper Motor Driver, Typical Application Headlamp Adjustment	QFN28	Yes	Now
T6801	Single-channel Driver, 25 mA Output with Thermal Monitoring, Thermal Shutdown, Short-circuit Protection	SO8	Pb-free Only	Now
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
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
ATA6827	Same as ATA6826, Dedicated for High Temperature Applications Up to 150° C Ambient	QFN18	Yes	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
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
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 Up to 150° C Ambient	QFN18	Yes	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
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	1Q2007
ATA6824	H-Bridge Gate-Driver with Serial Interface, Window Watchdog and Voltage Regulator	QFN32	Yes	Now

AUTOMOTIVE AND CONTROL (CONTINUED)

Automotive Products (Continued)

Automotive Standard Products (Continued)

Driver ICs Development/Evaluation Kits and Tools

Part Number	Description	Availability
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 ATA6826; 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; Additional Microcontroller Board for Generating PWM and Watchdog Signal	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, Application Note and Corresponding Datasheet	Dec. 2006
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	Dec. 2006

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

AUTOMOTIVE AND CONTROL (CONTINUED)

Automotive Products (Continued)

Automotive Standard Products (Continued)

Networking/Multiplexing ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATA6602	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
ATA6603	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
ATA6660	High-speed CAN Transceiver, Fully Compatible with ISO 11898, High-Voltage Bus Protection: -40 to +40V	SO8	Pb-free Only	Now
ATA6661	LIN Transceiver, Physical Layer According to Specification 2.0	SO8	Pb-free Only	Now
ATA6620	LIN System Basis Chip with LIN Transceiver and Integrated 5V/50 mA Voltage Regulator	SO8	Pb-free Only	Now
ATA6621	LIN System Basis Chip with LIN Transceiver, Integrated 5V/50 mA Voltage Regulator and Window Watchdog	QFN20	Yes	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
U6812B	Single-ended Bus Transceiver with Triple Buffer, Wide Operating-voltage Range, K-interface According to ISO 9141, 250K Baud Rate, 3 x 40 mA Integrated Buffers	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
AT89C51CC03	80C51 Microcontroller with 64-Kbyte Flash MCU, 15-Message Objects CAN Controller, 2304-byte RAM, 2-Kbyte EEPROM, 10-bit ADC, PCA, -40 to +125° C Qualified	PLCC44, VQFP44	Yes	Now
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	Sampling May 2007
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	Sampling Dec. 2006

AUTOMOTIVE AND CONTROL (CONTINUED)

Automotive Products (Continued)

Automotive Standard Products (Continued)

Networking/Multiplexing ICs (Continued)

Part Number	Description	Package	RoHS Compliance	Availability
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	Yes	Now
		QFN20	Yes	Sampling Nov. 2006
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	Sampling May 2007
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, -40 to +125° C Qualified	QFN32, QFP32	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	Sampling Nov. 2006
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	Sampling Nov. 2006
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	Sampling Nov. 2006
Development Boards				
ATA6661-EK	Development Board, LIN Transceiver ATA6661			Now
ATA6620-EK	Development Board, LIN System Basis Chip ATA6620			Now
ATA6621-EK	Development Board, LIN System Basis Chip ATA6621			Now
ATA6602-EK	Development Board, LIN Controller Chip ATA6602			1Q2007
ATA6603-EK	Development Board, LIN Controller Chip ATA6603			1Q2007

AUTOMOTIVE AND CONTROL (CONTINUED)

Automotive Products (Continued)

Automotive Standard Products (Continued)

LF Components

Part Number	Description	Package	RoHS Compliance	Availability
ATA5276M	Integrated 1.5A Peak Current Antenna Driver with 2.0 kV ESD Protection, Dedicated as a 125 kHz Wake-up Channel Transmitter for TPM Applications	QFN20	Pb-free Only	Now
ATA5278	Programmable Antenna Driver for 1A Peak Current (Regulated), LF Baud Rates Up to 8K Baud, SPI	QFN28	Yes	Now
ATA5282	Ultra Low Power 125-kHz 3-Dimensional LF Wake-up Receiver with RSSI	TSSOP8	Pb-free Only	Now
ATA5283	1-D LF Receiver IC for 125 kHz, 1.3 µA Current Consumption in Active Listening Mode	TSSOP8	Pb-free Only	Now
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
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
U2270B	Read/Write Base Station IC, 100 to 150 kHz Carrier Frequency, Amplitude Modulation Typically Up to 5K Baud, Manchester/Biphase RF/32, RF/64, RF/128	SO16	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
Development Boards				
ATAB5276	Evaluation Board, LF Antenna Driver, Preferred for Tire Pressure Monitoring Systems			Now
ATAB5278	Evaluation Board, LF Antenna Driver, Preferred for Passive Entry Systems			Now
ATAB5282	Evaluation Board, LF Receiver, 3 Channels			Now
ATAB5283	Evaluation Board, LF Receiver, 1 Channel			Now
ATAB-LFMB76	LF Mainboard with AVR for ATA5276			Now
ATAB-LFMB78	LF Mainboard with AVR for ATA5278			Now
TMEB8704	Design Kit for 125 kHz, Supports the TK/e/ATA55xx RFID Product Family			Now

AUTOMOTIVE AND CONTROL (CONTINUED)

Automotive Products (Continued)

Automotive Standard Products (Continued)

Standard Microcontrollers

Part Number	Description	Package	RoHS Compliance	Availability
AT89C51CC03	80C51 Microcontroller with 64-Kbyte Flash MCU, 15-Message Objects CAN Controller, 2304-byte RAM, 2-Kbyte EEPROM, 10-bit ADC, PCA, -40 to +125° C Qualified	PLCC44, VQFP44	Yes	Now
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	Sampling May 2007
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	Sampling Dec. 2006
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	Yes	Now
		QFN20	Yes	Sampling Nov. 2006
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	Sampling May 2007
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, -40 to +125° C Qualified	QFN32, QFP32	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	Sampling Nov. 2006
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	Sampling Nov. 2006
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	Sampling Nov. 2006

Note: 1. For dedicated microcontrollers, see "MARC4 4-bit Architecture Microcontrollers" on pages 75-76.

AUTOMOTIVE AND CONTROL (CONTINUED)

Automotive Products (Continued)

Automotive ASSPs

Body Electronics

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	DIP14, 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

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 AND CONTROL (CONTINUED)

Automotive Products (Continued)

Automotive ASSPs (Continued)

Car Access[1]

Part Number	Description	Package	RoHS Compliance	Availability
ATA5278	Programmable Antenna Driver for 1A Peak Current (Regulated), LF Baud Rates Up to 8K Baud, SPI	QFN28	Yes	Now
ATA5282	Ultra Low-power 125-kHz 3-Dimensional LF Wake-up Receiver with RSSI	TSSOP8	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
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
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
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
ATA5760N	UHF ASK/FSK Receiver, Frequency Receiving Range: 868 to 870 MHz, Highest Integration Level in Market	SO20	Pb-free Only	Now

Note: 1. For dedicated microcontrollers, see "MARC4 4-bit Architecture Microcontrollers" on pages 75-76.

AUTOMOTIVE AND CONTROL (CONTINUED)

Automotive Products (Continued)

Automotive ASSPs (Continued)

Car Access (Continued)[1]

Part Number	Description	Package	RoHS Compliance	Availability
ATA5761N	UHF ASK/FSK Receiver, Frequency Receiving Range: 902 to 928 MHz, Highest Integration Level in Market	SO20	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
U2270B	Read/Write Base Station IC, 100 to 150 kHz Carrier Frequency, Amplitude Modulation Typically Up to 5K Baud, Manchester/Biphase RF/32, RF/64, RF/128	SO16	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
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
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
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

Note: 1. For dedicated microcontrollers, see "MARC4 4-bit Architecture Microcontrollers" on pages 75-76.

AUTOMOTIVE AND CONTROL (CONTINUED)

Automotive Products (Continued)

Automotive ASSPs (Continued)

Car Access Evaluation Kits and Tools[1]

Part Number	Description	Availability
ATAB5278	Evaluation Board, LF Antenna Driver, Preferred for Passive Entry Systems	Now
ATAB5282	Evaluation Board, LF Receiver, 3 Channels	Now
ATAB-LFMB78	LF Mainboard with AVR for ATA5278	Now
ATAB-RFMB	RF Mainboard with AVR Microcontroller and Interfaces	Now
ATAB-STK-F	Flamingo Interface Board for Connecting RF Boards to STK500	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
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
ATAB-SPI-LPT	SPI to Parallel Port (LPT) Interface Board	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
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
ATAKSTK511-8	Smart RF Starter Kit 868.3 MHz with T5750/T5760/AVR, Fitting to STK500	Now
ATAKSTK511-9	Smart RF Starter Kit 915 MHz with T5750/T5761/AVR, Fitting to STK500	Now

AUTOMOTIVE AND CONTROL (CONTINUED)

Automotive Products (Continued)

Automotive ASSPs (Continued)

Chassis ICs

Part Number	Description	Package	RoHS Compliance	Availability
Fail-Safe ICs				
U6808B	Fail-safe IC, Watchdog Timer and Relay Driver	SO8	Pb-free Only	Now
U6809B	Fail-safe IC, Watchdog Timer, Relay Driver and Lamp Driver	SO20	Pb-free Only	Now
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

Tire Pressure Monitoring ICs[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
ATA5283	1-D LF Receiver IC for 125 kHz, 1.3 µA Current Consumption in Active Listening Mode	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
ATA5743P3	Small-outline UHF Remote Control Receiver, High FSK Sensitivity, 5 to 20V Automotive-compatible Data Interface, 300 kHz Bandwidth	SSO20	Pb-free Only	Now
ATA5743P6	Small-outline UHF Remote Control Receiver, High FSK Sensitivity, 5 to 20V Automotive-compatible Data Interface, 600 kHz Bandwidth	SSO20	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
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
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	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	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 Bi-trate 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
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	2Q2007
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	2Q2007
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
ATA3742P3	UHF Remote Control Receiver, RSSI Output for ASK and FSK Systems	SO20	Pb-free Only	Now

Note: 1. For dedicated microcontrollers for Tire Pressure Monitoring Applications, see "MARC4 4-bit Architecture Microcontrollers" on pages 75-76.

AUTOMOTIVE AND CONTROL (CONTINUED)

Automotive Products (Continued)

Automotive ASSPs (Continued)

Tire Pressure Monitoring ICs – Evaluation Kits and Tools[1]

Part Number	Description	Availability
ATAB5276	Evaluation Board, LF Antenna Driver, Preferred for Tire Pressure Monitoring Systems	Now
ATAB-LFMB76	LF Mainboard with AVR for ATA5276	Now
ATAB-RFMB	RF Mainboard with AVR Microcontroller and Interfaces	Now
ATAB-STK-F	Flamingo Interface Board for Connecting RF Boards to STK500	Now
ATAB5283	Evaluation Board, LF Receiver, 1 Channel	Now
ATAB5282	Evaluation Board, LF Receiver, 3 Channels	Now
ATAB5750-8	Transmitter Board T5750, 868.3 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
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
ATAK5275-83	LF Receiver/1-D Transmitter Board for 125 kHz Channel	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
ATAB5743P6-S3	Receiver Board ATA5743, 600 kHz Bandwidth, 315 MHz	Now
ATAB5743P6-S4	Receiver Board ATA5743, 600 kHz Bandwidth, 433 MHz	Now
ATAB-SPI-LPT	SPI to Parallel Port (LPT) Interface Board	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
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
ATAKSTK511-8	Smart RF Starter Kit 868.3 MHz with T5750/ATAT5760/AVR, Fitting to STK500	Now
ATAKSTK511-9	Smart RF Starter Kit 915 MHz with T5750/ATAT5761/AVR, Fitting to STK500	Now

Note: 1. For dedicated microcontrollers for Tire Pressure Monitoring Applications, see “MARC4 4-bit Architecture Microcontrollers” on pages 75-76.

AUTOMOTIVE AND CONTROL (CONTINUED)

Industrial

Tools

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

Clock and Watch ICs

Part Number	Description	Package	RoHS Compliance	Availability
e1217X	Standard Low-cost CMOS Watch IC, 32 kHz Crystal, Mask Options Available, High Oscillator Stability	Die	Pb-free Only	Now
e1466D	Clock IC with Digital Trimming, 32 kHz Crystal, Integrated Capacitors, Mask Options 1.1 to 2.2V Supply	Die, DIP8, SO8	Pb-free Only	Now
e1467D	Clock IC with Digital Trimming, 32 kHz Crystal, Same as e1466D, but with Alarm Function	Die	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

IR Receiver ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATA2525P	IR Receiver Circuit, 5V, No External Components Required, High Noise Suppression, High Sensitivity, Wide Range of Frequencies	Wafer	N/A	Now
T2525N	IR Receiver Circuit, 5V, No External Components Required, High Noise Suppression, Highest Sensitivity, Widest Range of Frequencies	Wafer	N/A	Now
T2526N	IR Receiver Circuit, 2.7 to 5.5V, No External Components Required, High Noise Suppression, Highest Sensitivity, Widest Range of Frequencies	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

AUTOMOTIVE AND CONTROL (CONTINUED)

Serial Nonvolatile Memory

Automotive Serial EEPROMs

Part Number	Density (Kbits)	Organization	Vcc (V)	Max Speed (MHz)	Package	Comments	Availability
2-Wire Interface							
AT24C11	1	128 x 8	2.7	1	SOIC	Non-cascadable, 2-wire Protocol	Now
AT24C01B	1	128 x 8	2.5	0.4	SOIC	Full Array Write Protection Cascade Up to 8 Devices	Now (Replacement for AT24C01A)
AT24C02B	2	256 x 8	2.5	0.4	SOIC	Full Array Write Protection Cascade Up to 8 Devices	Now (Replacement for AT24C02)
AT34C02	2	256 x 8	2.7	0.4	SOIC	Lower Half Permanent SW Write Protect	Now
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

All Serial EEPROMs Parts are RoHS Compliant.

COMMUNICATIONS ICS

Wireless LAN

Part Number	Description	RoHS Compliance	Availability
ATR7032	SiGe PA for WLAN 802.11b/g, 2.4 GHz, 32 dB Power Gain, 23 dBm Linear Output Power for 802.11b Mode, <2% EVM at 19 dBm Linear Output Power for 802.11g, On-chip Power Detector and Biasing Control, QFN16, 3 x 3 Package	Yes	Now
AT76C505A-0CT144	11-Mbit WLAN Media Access Controller + Baseband (USB Interface), IEEE 802.11b Standard with Integrated AES, TKIP and 160K Bytes of SRAM; Provides All Processing and Functionality Needed for the Integrated MAC + BB Chip	No	Now
AT76C504AL-JCT176	11-Mbit WLAN Media Access Controller + Baseband (PCMCIA Interface), IEEE 802.11b Standard with Integrated AES, TKIP and 160K Bytes of SRAM; Provides All Processing and Functionality Needed for the Integrated MAC + BB Chip (Leaded Product Offering Still Available AT76C504AL-0CT176)	Pb-free Only	Now
AT76C509-JZ208	A Low-cost Access Point Chip for WLAN (802.11b) Applications Based on Single ARM7™ with Integrated MAC + Baseband, 10/100 Ethernet MAC, 160K Bytes of SRAM, AES and TKIP (AT76C509-0Z208 Leaded Option)	Pb-free Only	Now
AT76C515A-UCT176	WLAN MAC + Basebands (CCK + OFDM), Capable of Supporting 802.11a/b/g, Includes Hardware, AES and TKIP for Security (Interfaces): USB 2.0, Cardbus, M-PCI, SDIO, PCMCIA. Also Offered in a 10 x 10.05 mm (Pitch), Part # AT76C515A-UCT180	Yes	Now
AT76C511-0L208	Single-Chip Access Point with Two ARM7 CPUs (InterNetworking ARM® and WLAN ARM), Two 10/100 Ethernet MACs, UART, and 32-bit EMI to SDRAM, Interface InterNetworking ARM Runs uCLinux™ Operating System	No	Now
AT76C517-JCT100	802.11a/b/g Baseband for Use with the AT76C520 and AT76C902	Pb-free Only	Now
AT76C517-1-JCT100	802.11a/b/g Baseband for Use with the AT76C520 and AT76C902	Pb-free Only	Now
AT76C520-JCT324	Network Processor for Multi-protocol Processing Based on an ARM946E-S™ for InterNetworking and an ARM7 for WLAN, with Multiple Interfaces Including PCI/Mini-PCI, USB Host, Ethernet, PCMCIA and Utopia (L1/2); Hardware Accelerated Security AES, TKIP, and IPSEC (Supporting DES and 3DES) – Leaded Product Offering Still Available AT76C520-0CT324	Pb-free Only	Now
ATR7032	SiGe PA for WLAN 802.11b/g, 2.4 GHz, 32 dB Power Gain, 23 dBm Linear Output Power for 802.11b Mode, <2% EVM at 19 dBm Linear Output Power for 802.11g, On-chip Power Detector and Biasing Control, QFN16, 3 x 3 Package	Yes	Now
Evaluation/Development Kits (Available for Prequalified Customers)			
Evaluation and Development Kits Available for Most Products			Call Atmel® for Availability

Bluetooth

Part Number	Description	Package	RoHS Compliance	Availability
T7024	Bluetooth®/ISM 2.4 GHz TX/RX Front End, P_{OUT} = 23 dBm, NF = 2 dB	PSSO20, QFN20	Yes	Now

COMMUNICATIONS ICS (CONTINUED)

MAX-Link™ – Our WiMAX Solutions

Part Number	Description	RoHS Compliance	Availability
AT86RF535A	3.5 GHz Low-IF Conversion Transceiver for WiMAX Applications; Supports 1.75 MHz, 3.5 MHz and 7 MHz Channel Bandwidths with Modulation Up to 64QAM at Sensitivity < -69 dBm. Requires no External Filters and Combines LNA, 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
AT86RF535B	3.5 GHz Low-IF Conversion Transceiver for WiMAX Applications; Zero-IF is Supported with Control from Baseband; 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	March 2007
AT86RF523B	2.3 GHz Low-IF Conversion Transceiver for WiMAX Applications; Zero-IF is Supported with Control from Baseband; 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	April 2007
AT86RF525B	2.5 GHz Low-IF Conversion Transceiver for WiMAX Applications; Zero-IF is Supported with Control from Baseband; 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	April 2007
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			Contact Atmel for Availability

Note: 1. Additional Z-Link products can be found in the "Z-Link AVR" section on page 71.

COMMUNICATIONS ICS (CONTINUED)

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
T2801	Transceiver for DECT Application, Non-blind-slot Solution, VCO and Voltage Regulator Integrated, Few External Components	QFN48	Yes	Now
T2802	2.4 GHz Transceiver, Non-blind-slot Operation, VCO and Voltage Regulator On-chip	QFN48	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
U7004B	SiGe DECT Front End, Power Amplifier and LNA, 2.7 to 4.6V	SSO20	Pb-free Only	Now

ISM Front End ICs

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

COMMUNICATIONS ICS (CONTINUED)

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 fIN = 70 to 1000 MHz	SSO20	Pb-free Only	Now

Note: 1. Demo boards are available on request.

Private Mobile Radios (PRMs)

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

Internet Appliances & VoIP

Smart Internet Appliance Processors (SIAP®)

Part Number	Description	RoHS Compliance	Availability
AT76C901-JG217	IP Telephony Chip (VoIP) for Mobile Telephones (Wireless Over 802.11b) Includes Two ARM7s, an OakDSPCore® and Voice Codec (AT76C901-0G217 Leaded Option)	Pb-free Only	Now
AT76C902-JCT208	IP Telephony Chip (VoIP) for Mobile Telephones (Wireless Over 802.11a/b/g) Includes an ARM946™, an ARM7, a TeakDSPCore™ and Voice Codec (AT76C902-0CT208 Leaded Option)	Pb-free Only	Now
AT76C910-UCT280	IP Telephony Chip (VoIP) for Business Enterprise Telephones (Over Ethernet) or Gateway VoIP Products (e.g. Supporting DECT Over IP). Includes an ARM926 (W/MMU), TEAK DSP Core, Two 10/100 Ethernet MAC + PHY and a Voice Codec	Pb-free Only	Now/Sampling or Demo Available
Development Tools			
Evaluation and Development Kits Available for Most Products			Call Atmel for Availability

COMMUNICATIONS ICS (CONTINUED)

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-yyy-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-yyy-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-yyy-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
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

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

COMMUNICATIONS ICS (CONTINUED)

Smart RF (Continued)[1]

Part Number	Description	Package	RoHS Compliance	Availability
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
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 350 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
ATA5760N	UHF ASK/FSK Receiver, Frequency Receiving Range: 868 to 870 MHz, Highest Integration Level in Market	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

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

COMMUNICATIONS ICS (CONTINUED)

Smart RF – Development/Evaluation Kits and Tools[1]

Part Number	Description	Availability
ATAB-SPI-LPT	SPI to Parallel Port (LPT) Interface Board	Now
ATAB5423-3-B	UHF ASK/FSK Transceiver Basestation Board for 315 MHz	Now
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
ATAB-RFMB	RF Mainboard with AVR Microcontroller and Interfaces	Now
ATAB-STK-F	Flamingo Interface Board for Connecting RF Boards to STK500	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 Tools Necessary 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 Tools Necessary 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.

COMMUNICATIONS ICS (CONTINUED)

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	Yes	Now
ATR0603	GPS RF Receiver, Single IF Architecture, 1-bit ADC, Very Low Power, Supply Switch for TCXO	QFN24 (4 x 4 mm), Green	Yes	1Q2007
ATR0610	ANTARIS GPS LNA with Integrated Power-up Control and Output Matching (NF Min <1.6 dB)	PLLP (1.6 x 2 mm), Green	Yes	Now
ATR0621	ANTARIS 4 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
ATR0622	ANTARIS 4 GPS 16-channel Baseband Controller, ARM7TDMI, RAM, ROM V5, Up to -150 dBm Sensitivity, Low Power	QFN56 (8 x 8 mm), Green	Yes	Now
ATR0625	ANTARIS 4 GPS 16-channel Baseband Controller, ARM7TDMI, RAM, SuperSense™ ROM V5, up to -158 dBm Sensitivity, Low Power	QFN56 (8 x 8 mm), Green	Yes	Now
ATR0630	ANTARIS 4 Single-Chip, 16-channel GPS Engine, RF-Receiver, Baseband Controller, ARM7TDMI, RAM, ROM V5, Up to -150 dBm Sensitivity	BGA96 (7 x 10 mm)	Yes	Now
ATR0635	ANTARIS 4 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
ATR0650	GPS Baseband Controller, ARM7TDMI, Enhanced Acquisition Sensitivity, Weak-signal Tracking, to Be Used in Combination with ATR0603	LFBGA 160 (12 x 12 mm) LFBGA81 (9 x 9 mm) LFBGA64 (8 x 8 mm)	Yes	2Q2007
ATR0663	GPS SOC, ARM926EJ-S with Dual External Bus Interface, Built-in GPS Engine with Enhanced Acquisition and Weak-signal Tracking, LCD Controller, 2D Graphics Accelerator, AC97 Audio Controller, to Be Used in Combination with ATR0603	TFBGA 324 (15 x 15mm)	Yes	1Q2007
Development/Evaluation Kits and Tools				
ATR0610-EK1	GPS-LNA Demoboard for Performance Evaluation			Now
ATR0603-EK1	GPS-Radio Demoboard for Performance Evaluation			1Q2007
ATR0622-EK1	ANTARIS 4 GPS Evaluation Kit/Road Test Kit Based on Atmel's ANTARIS4 GPS Module, Chipset ATR0601, ATR0610, ATR0622			Now
ATR0622-DK1	ANTARIS 4 GPS Design Kit Based on Atmel's ANTARIS 4 GPS Module, Chipset ATR0601, ATR0610, ATR0622, 2 Golden Samples Modules, Manufacturing Data, Design Guide			Now
ATR0630-EK1	ANTARIS 4 GPS Evaluation Kit/Road Test Kit Based on Atmel's ANTARIS 4 GPS Module, Chipset ATR0610, ATR0630			Now
ATR0630-DK1	ANTARIS 4 GPS Design Kit Based on Atmel's ANTARIS 4 GPS Module, Chipset ATR0610, ATR0630, 2 Golden Samples Modules, Manufacturing Data, Design Guide			Now
ATR0625-EK1	ANTARIS 4 GPS Evaluation Kit/Road Test Kit Based on Atmel's ANTARIS 4 GPS Module, Chipset ATR0601, ATR0610, ATR0625			Now
ATR0625-DK1	ANTARIS 4 GPS Design Kit Based on Atmel's ANTARIS 4 GPS Module, Chipset ATR0601, ATR0610, ATR0625, 2 Golden Samples Modules, Manufacturing Data, Design Guide			Now
ATR0635-EK1	ANTARIS 4 GPS Evaluation Kit/Road Test Kit Based on Atmel's ANTARIS 4 GPS Module, Chipset ATR0610, ATR0635			Now
ATR0635-DK1	ANTARIS 4 GPS Design Kit Based on Atmel's ANTARIS 4 GPS Module, Chipset ATR0610, ATR0635, 2 Golden Samples Modules, Manufacturing Data, Design Guide			Now
ATR0663-EK1	Complete Evaluation Kit for Performance Testing and Code Development for ARM9™ Platform			1Q2007

MULTIMEDIA & IMAGING

Digital Camera Solutions

Imaging Multimedia and Digital Broadcasting

Part Number	Description	RoHS Compliance	Availability
AT76C111-0CT280	Low-Cost Digital Camera Single-chip, USB Slave, 24 MHz ARM Subsystem with Cache Support, Image Capture/Processing, JPEG, 3.3V Power	No	Now/Limited Stock. EOL Status
AT76C120H-MU1-JZ208	Media Playback Device, Supports all Flash Cards, USB Host, JPEG, MPEG4 Simple Profile Codec, MP3 Audio, Display Up to XGA, ARM7 @ 78 MHz, 1.8V Core, 3.3V I/O	Pb-free Only	Now
AT76C113H-JZ208	Digital Camera Single-chip, Greater Processing Power, USB Host/Slave, 78 MHz ARM Subsystem with Full Cache Support, Image Capture/Processing, JPEG, No Need for External Program Flash, 1.8V Core and 3.3V I/O	Pb-free Only	Now
AT76C114C-JCT280	Digital Still Camera/Camrecorder Single-chip, Greater Processing Power, 96 MHz ARM9 Subsystem with MPEG4 Hardware Support at 30 fps VGA Resolution, Second-Generation Image Processing Engine, 1.8V Core and 3.3V I/O	Pb-free Only	Now
AT76C115-JCT280	Advanced Digital Still/Movie Camera Single-Chip; Third Generation Image Processing Pipeline, JPEG; MPEG4 VGA Movie Mode, ATA/IDE, ARM9 @ 162 MHz, 1.5V Core, 3.3V I/O	Pb-free Only	March 2007
AT76C116-JZ208	Advanced Digital Still Camera Single-Chip; Third-Generation Image Processing Pipeline; MJPEG and MPEG1 Movie Mode and VGA, ARM9 @ 162 MHz, 1.5V Core, 3.3V I/O	Pb-free Only	Aug. 2007
Imaging Evaluation Kits			
Each Product has an Evaluation Kit			Call Atmel for Availability

Dream Sound Synthesis

Dream® Sound Synthesis ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATSAM9708	128-voice Integrated Sound Synthesizer	TQFP144	Yes	Now
ATSAM9753	Integrated Digital Musical Instrument	TQFP144	Yes	Now
ATSAM2133B	Low-power Synthesizer with Effects and Built-in RAM	TQFP100/CBGA100	Yes	Now
ATSAM2193	Low-power Single-chip Synthesizer with Effects	TQFP44/TFBGA44	Yes	Now
ATSAM2195	Low-power Single-chip Synthesizer with Effects	QFN44	Yes	Now
ATSAM3703	High Performance Low-cost Effects DSP	LQFP80	Yes	Now
ATSAM3303	GM-Lite Synthesizer/Professional Effects DSP	LQFP100	Yes	Now
ATSAM3108	8-channel Multiprocessing DSP	LQFP64	Yes	Now
ATSAM3308	Multi-purpose Audio DSP	LQFP100	Yes	Now

MULTIMEDIA & IMAGING (CONTINUED)

MP3 Player

MP3 Decoder

Part Number	Description	RoHS Compliance	Availability
AT89C51SND1C	80C51 Microcontroller with 64-Kbyte Flash, 2304-byte RAM and an MP3 Decoder, TWI, USB, SPI, I2S, 10-bit ADC, Flash Memory Interfaces	Yes	Now
AT83SND1C	80C51 Microcontroller with 64-Kbyte ROM, 2304-byte RAM and an MP3 Decoder, TWI, USB, SPI, I2S, 10-bit ADC, Flash Memory Interfaces	Yes	Now
AT89C51SND2C	80C51 Microcontroller with 64-Kbyte Flash, 2304-byte RAM and an MP3 Decoder, TWI, USB, SPI, I2S, Flash Memory Interfaces, 18-bit Audio DAC, Power Amplifier Speaker	Yes	Now
AT83SND2C	80C51 Microcontroller with 64-Kbyte ROM, 2304-byte RAM and an MP3 Decoder, TWI, USB, SPI, I2S, 10-bit ADC, Flash Memory Interfaces, 18-bit Audio DAC, Power Amplifier Speaker	Yes	Now
AT83SND2CMP3	Ready-to-use Single-chip MP3 Decoder, I2S, MMC, SD, 18-bit Audio DAC, Power Amplifier Speaker	Yes	Now
AT85C51SND3B	Digital Audio Decoder, Multiformat (MP3, WMA, JPEG, ADPCM), USB High Speed, Full Speed, OTG	Yes	Now
Development Kits			
AT89DVK-04	AT89C51SND1C MP3 Development Kit		Now
AT85DVK-07	AT89C51SND3B Development Kit		Now
AT89RFD-01	AT89C51SND1C Stand-alone MP3 Player Reference Design		Now
AT89RFD-08	AT89C51SND2C Remote MP3 Player Reference Design		Now
AT85RFD-07	AT89C51SND3B Digital Audio Decoder Reference Design		Now

MULTIMEDIA & IMAGING (CONTINUED)

Audio

Broadcast Radio Receiver ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATR4251	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
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
ATR4255	AM/FM Car Radio Receiver with Digital Tuning and Electronic Filter Adjustment, 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	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
ATR4285	AM/FM PLL (for RDS Application), High Signal-to-noise Ratio, 4 Switching Outputs, Integrated Push-pull Stage, Fast Response Time (for RDS)	SSO20	No	Now
ATR4289	AM/FM PLL (for RDS Application), Reference Oscillator Up to 15 MHz, High Signal-to-noise Ratio, 1 Switching Output, Integrated Loop-push-pull Stage	SO16	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

MULTIMEDIA & IMAGING (CONTINUED)

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
ATR2733	Highly Integrated One-chip DAB/DMB Front-end IC for VHF Band III Reception, 3.3V Operation, RSSI Indicator	QFN48	Yes	Now
ATR2740-RQHH	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	LQFP128	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

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
U4468B	QSS + AM Demodulator, VS = 5V, PLL-controlled QSS Mixer	DIP16	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

STORAGE AND NETWORKING

DVD/CD Storage Chipsets

DVD/CD Laser Driver ICs

Part Number	Description	Package	RoHS Compliance	Availability
ATR0808	Three-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 3 External Resistors	SSO16, QFN16	Yes	Now
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
ATR0840	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	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
ATR0843	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, NER Enable	QFN24	Yes	Now

STORAGE AND NETWORKING (CONTINUED)

DVD/CD Storage Chipsets (Continued)

DVD/CD Laser Driver ICs (Continued)

Part Number	Description	Package	RoHS Compliance	Availability
ATR0844	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, NER Enable, Internal Termination	QFN24	Yes	Now
ATR0845	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, LVDS Oscillator Enable, External Termination	QFN28	Yes	Now
ATR0846	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, LVDS Oscillator Enable, Internal Termination	QFN28	Yes	Now
ATR0848	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, LVDS NER Enable, Internal Termination	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
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

STORAGE AND NETWORKING (CONTINUED)

DVD/CD/HDD Storage Solutions

Optical Storage, Optical Drive DVD Blue Laser

Part Number	Description	Package	RoHS Compliance	Availability
AT78C4050	DVD SoC, High-integration, High-performance Single-chip Solution for DVD-ROM, DVD-R/RW, DVD+R/RW, Blue Laser DVD, CD-ROM and CD-R/RW Formats; Integrates All Required Components for DVD and CD Rewritable Drives as Well as for a DVD Recorder	TBD	Yes	Call Atmel for Availability
AT78C4060	DVD SoC, High-integration, High-performance Single-chip Solution for DVD-ROM, DVD-R/RW, DVD+R/RW, DVD-RAM, Blue Laser DVD, CD-ROM and CD-R/RW Formats; Integrates All Required Components for DVD and CD Rewritable Drives as Well as for a DVD Recorder, in Addition to Providing Serial ATA Connectivity Solution	TBD	Yes	Call Atmel for Availability
AT78C2050	DVD-PRML Channel; A PRML Read Channel for DVD-ROM, DVD-R/RW, DVD+R/RW, DVD-RAM, Blue Laser DVD, CD-ROM and CD-R/RW Formats	TBD	Yes	Call Atmel for Availability
AT78C4000	Spindle Motor, an Optional Companion Power Drivers Chip for Spindle Motor Actualators for DVD SoC	TBD	Yes	Call Atmel for Availability

Hard Disk Drive: Mobile Form Factors 2.5-inch 1.8-inch, 1-inch and Sub-1-inch (0.85-inch)

Part Number	Description	Package	RoHS Compliance	Availability
Preamplifier Product Family				
AT78C6001	A BiCMOS 1-channel GMR Preamplifier Requiring +3.3V or +5V Supply Voltage; Designed for Use with 4-terminal Magneto Resistive Recording Heads, Providing a Low Noise GMR Head Amplifier, GMR Bias Current Control, Thin Film Write Driver, Write Current Control, Thermal Asperity Detection and Correction; Bandwidth 500 MHz, Rise and Fall Time 1 ns at 5V	Flip-chip, TSSOP, or Customer-Specified	Yes	Now
AT78C6002	A BiCMOS 2-channel GMR Preamplifier Requiring +3.3V or +5V Supply Voltage; Designed for Use with 4-terminal Magneto Resistive Recording Heads, Providing a Low Noise GMR Head Amplifier, GMR Bias Current Control, Thin Film Write Driver, Write Current Control, Thermal Asperity Detection and Correction; Bandwidth 500 MHz, Rise and Fall Time 1 ns at 5V	Flip-chip, TSSOP, or Customer-Specified	Yes	Now
Spindle/VCM Motor Controller Drivers				
AT78C7005	A CMOS Monolithic Device that Integrates Spindle and VCM Controllers as Well as Power Stages Into One Chip; Operates from 3.3V or 5V Power Supply and is Designed for a Small-form-factor Hard Disk Drive Application	Small Footprint 64TQFP, Flip-chip, or Customer-Specified	Yes	Now
AT78C7015	A CMOS Monolithic Device that Integrates Spindle and VCM Controllers as Well as Power Stages Into One Chip; Operates from 3.3V Power Supply and is Designed for a Small-form-factor Hard Disk Drive Application	Small Footprint 64TQFP, Flip-chip, or Customer-Specified	Yes	Now

STORAGE AND NETWORKING (CONTINUED)

Networking

Ethernet: Level 2 Switches

Part Number	Description	Package	RoHS Compliance	Availability
AT79C1030	An 8-port Unmanaged Switch, an Inexpensive Alternative Solution to Fiber-optic, Designed for Home and SOHO (Small Office/Home Office)	TBD	Yes	Call Atmel for Availability

Data Storage and Networking Connectivity

Part Number	Description	Package	RoHS Compliance	Availability
AT78C5001	PCI-X Serial-ATA1 Host Bus Adapters; Provides High-performance Serial-ATA Host Interface with Automatic DMA Engine in PCI-X Local Bus	PBGA	Yes	Call Atmel for Availability
AT78C5010	An IDE/Serial-ATA Bridge Chip	TQFP	Yes	Call Atmel for Availability
AT78C5051	PCI-X Serial-ATA II Host Bus Adapters; The AT78C5051 is a 4-port Serial-ATA II Host Controller that Provides a 64-bit PCI-Xbus Interface with an Automatic DMA Engine	TBD	Yes	Call Atmel for Availability

Serial ATA Physical Layer (PHY)

Part Number	Description	Package	RoHS Compliance	Availability
AT78C5090	Dual-Port Stand-alone Serial-ATA Physical Layer, Low-power Dual-channel PHY, Compliant to Generation 1 Serial ATA Standard, Supports a 10-bit or a 20-bit Data Bus	TQFP	Yes	Call Atmel for Availability

SECURITY AND SMART CARD ICS

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 Bitrates, 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 Bitrates	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 Anti-collision 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 5K Baud, 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 Familiy Including the 5561 Authentication			Now
ATAK2270	Design Kit for 125 kHz, Supports the x55xx Familiy 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)			1Q2007

SECURITY AND SMART CARD ICS (CONTINUED)

UHF RF Identification

Transponder ICs 860 – 960 MHz

Part Number	Description	Package	RoHS Compliance	Availability
ATA5590	RFID Read/Write IDIC for Contactless Identification (1024-bit User R/W Memory, 320-bit Read/Write System Memory), Anticollision, Enhanced Operation Distance, Atmel-unique ID, AFI (Application Field Identifier)	Wafer, Bumped Die on Sawn Wafer, TSSOP10	Pb-free Only	Now
Development/Evaluation Kits and Tools				
ATAK559001-8	Long-range UHF Reader Demonstration Kit Supporting Wireless Data Transmission Using the Passive RFID IDIC TAGIDU™ ATA5590, within the ISM Frequency Bands; The Kit Contains a Deister Long-range UHF Reader (UDL500), an Interface Converter, a Power Supply, All Necessary Cables, a Label Set with 30 Different Antennas, and the Software Needed to Design a Working UHF Reader System; Version for European ISM Frequency Band (ETSI EN300 208 Compliant)			Now
ATAK559001-9	Long-range UHF Reader Demonstration Kit Supporting Wireless Data Transmission Using the Passive RFID IDIC TAGIDU ATA5590, within the ISM Frequency Bands; The Kit Contains a Deister Long-range UHF Reader (UDL500), an Interface Converter, a Power Supply, All Necessary Cables, a Label Set with 30 Different Antennas, and the Software Needed to Design a Working UHF Reader System; Version for the North American ISM Frequency Band (FCC Compliant); Similar Bands are Available in Many Other Countries Worldwide, Including in Asia Pacific, South America and Africa			Now
ATAB559001	Stand-alone Kit Including Various UHF Labels and Tags for Evaluation Purposes			Now

SECURITY AND SMART CARD ICS (CONTINUED)

Secure RF Memories Smart Card ICs

Smart Card ICs – CryptoRF® Memory (ISO 14443 Type B 13.56 MHz)

Part Number	Description	Organization	RoHS Compliance	Availability
AT88SC0104CRF	Contactless 1-Kbit User Memory with Authentication and Encryption	4 x 32 Bytes	Yes	Now
AT88SC0204CRF	Contactless 2-Kbit User Memory with Authentication and Encryption	4 x 64 Bytes	Yes	Now
AT88SC0404CRF	Contactless 4-Kbit User Memory with Authentication and Encryption	4 x 128 Bytes	Yes	Now
AT88SC0808CRF	Contactless 8-Kbit User Memory with Authentication and Encryption	8 x 128 Bytes	Yes	Now
AT88SC1616CRF	Contactless 16-Kbit User Memory with Authentication and Encryption	16 x 128 Bytes	Yes	Now
AT88SC3216CRF	Contactless 32-Kbit User Memory with Authentication and Encryption	16 x 256 Bytes	Yes	Now
AT88SC6416CRF	Contactless 64-Kbit User Memory with Authentication and Encryption	16 x 512 Bytes	Yes	Now
Evaluation/Development Kits				
AT88SC6416CRF-EK	1K to 64K CryptoRF Evaluation Kit			Now
AT88SC6416CRF-DK	1K to 64K CryptoRF Development Kit			Now

Smart Card ICs – Secure RF Memory

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

Embedded Security

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 AND SMART CARD ICS (CONTINUED)

Crypto & Secure Memories

Smart Card ICs – CryptoMemory® (Asynchronous Secure Memory)
Embedded ICs – CryptoMemory (Synchronous 2-wire Secure Memory)

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					
AT88SC25616C-EK	1K to 256K CryptoMemory Evaluation Kit				Now
AT88SC25616C-DK	1K to 256K CryptoMemory Development Kit for Windows-based Smart Card Applications				Now

Smart Card ICs – Secure Memory

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

SECURITY AND SMART CARD ICS (CONTINUED)

Secure Microcontrollers

Secure Microcontrollers – AT90SC Family[1][2]

Part Number	RAM	ROM	Flash	EEPROM	Voltage	Asym. Crypto Engine	Other Features	Availability
AVR-based								
AT90SC4818RT	2K	48K	N/A	18K	2.7 - 5.5V	No	RNG, One Timer	Now
AT90SC6418RU	2K	64K	N/A	18K	2.7 - 5.5V	No	RNG, One Timer	2Q2007
AT90SC6436RT	2K	64K	N/A	36K	2.7 - 5.5V	No	RNG, One Timer	Now
AT90SC12036RU	3K	120K	N/A	36K	2.7 - 5.5V	No	RNG, One Timer	Now
AT90SC1650U	2K	0K	16K	50K	2.7 - 5.5V	No	RNG, One Timer	Now
SecureAVR™-based								
AT90SC6404RT	2K	64K	N/A	4K	2.7 - 5.5V	No	Hardware DES/TDES, CRC, Common Criteria EAL5+, CAST and Visa®	Now
AT90SC9604RU	2K	96K	N/A	4K	2.7 - 5.5V	No	Hardware DES/TDES, CRC, CAST and Visa	March 2007
AT90SC19236RU	4K	192K	N/A	36K	1.62 - 5.5V	No	Hardware DES/TDES, CRC	Now
AT90SC13668RU	4K	136K	N/A	68K	1.62 - 5.5V	No	Hardware DES/TDES, CRC	Now
AT90SC25672RU	6K	256K	N/A	72K	1.62 - 5.5V	No	Hardware DES/TDES, CRC	Now
AT90SC128112RU	4K	128K	N/A	112K	2.7 - 5.5V	No	RNG, CRC	Now
AT90SC288144RT	6K	288K	N/A	144K	1.62 - 5.5V	No	Hardware DES/TDES, CRC	Now
AT90SC288144RU	6K	288K	N/A	144K	1.62 - 5.5V	No	Hardware DES/TDES, CRC	1Q2007
SecureAVR-based with PKI								
AT90SC9608RC	3K	96K	N/A	8K	2.7 - 5.5V	Yes	Hardware DES/TDES, CRC, Common Criteria EAL4+, CAST and Visa	Now
AT90SC9618RCT	4K	96K	N/A	18K	2.7 - 5.5V	Yes	Hardware DES/TDES, CRC, Common Criteria EAL4+, CAST and Visa Target	Now
AT90SC12836RCT	5.2K	128K	N/A	36K	2.7 - 5.5V	Yes	Hardware DES/TDES, CRC, Common Criteria EAL4+, CAST and Visa	Now
AT90SC25672RCT	8K	256K	N/A	72K	1.62 - 5.5V	Yes	Hardware DES/TDES, CRC, Common Criteria EAL5+, CAST and Visa Target	Now
AT90SC25672RCT-USB	8K	256K	N/A	72K	1.62 - 5.5V	Yes	USB Full-speed Interface, Hardware DES/TDES, CRC, Common Criteria EAL5+, CAST and Visa Target	Now
AT90SC28872RCU	8K	288K	N/A	72K	2.7 - 5.5V	Yes	Hardware DES/TDES, CRC, SPI, Common Criteria EAL5+, CAST, Visa and ZKA target	May 2007
AT90SC144144CT	8K	0K	144K	144K	1.62 - 5.5V	Yes	Hardware DES/TDES, CRC, SPI, Common Criteria EAL4+ Target	Now
AT90SC320288RCT	8K	320K	N/A	288K	1.62 - 5.5V	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 AND SMART CARD ICS (CONTINUED)

Secure Microcontrollers (Continued)

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

Part Number	RAM	ROM	Flash	EEPROM	Voltage	Asym. Crypto Engine	Other Features	Availability
SecureAVR-based, Contactless								
AT90SC6404RFT	1.2K	64K	N/A	4K	2.7 - 5.5V	No	ISO 14443 A and B Contactless Interface, Hardware DES/TDES, CRC, CAST and Visa	Now
AT90SC6408RFT	1.2K	64K	N/A	8K	2.7 - 5.5V	No	Hardware DES/TDES, CRC, Common Criteria EAL5+, CAST and Visa Target, Contact and ISO 14443 A and B Contactless Interfaces	Now
AT90SC12836RCFT	5K	128K	N/A	36K	2.7 - 5.5V	Yes	Hardware DES/TDES, CRC, Common Criteria EAL5+, CAST and Visa Target, Contact and ISO 14443 A and B Contactless Interfaces	Now
AT90SC12872RCFT	5.2K	128K	N/A	72K	2.7 - 5.5V	Yes	Hardware DES/TDES, CRC, Common Criteria EAL5+, CAST and Visa, Contact and ISO 14443 A and B Contactless Interfaces	Now
AT90SC256144RCFT	8.2K	256K	N/A	144K	2.7 - 5.5V	Yes	Hardware DES/TDES, CRC, Common Criteria EAL5+, CAST and Visa Target, Contact and ISO 14443 A and 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	ROM	Flash	EEPROM	Voltage	Asym. Crypto Engine	Other Features	Availability
AT91SC512384RCT	24K	512K	N/A	384K	1.62 - 5.5V	Yes	Hardware DES/TDES, CRC 16 and 32, SPI, USB 2.0 or USB IC, NAND Flash Interface	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 AND SMART CARD ICS (CONTINUED)

Secure Microcontrollers (Continued)

Secure Microcontrollers – AT91SO Family[1][2]

Part Number	RAM	ROM	Flash	EEPROM	Voltage	Asym. Crypto Engine	Other Features	Availability
AT91SO100	100K	32K	N/A	256K	2.7 - 3.3V	Yes	GPIOs, USARTs, Smart Card Reader Interfaces, USB, SPI, Timers, RTC, Hardware DES/TDES and AES, SHAn, CRC, Common Criteria EAL4+ Target	Now
AT91SO101	100K	32K	N/A	256K	2.7 - 3.3V	Yes	Single Package-Solution in BGA 256 Embedding 2 Chips, the AT91SO100 and the AT83C26 Analog Interface	Now

Evaluation/Development Kits

Emulation Platform Support

ATV4P-xxxx	Voyager Development Tool Base Platform for AT91SO Family Microprocessors	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]

Part Number	RAM	ROM	I/O Interface	EEPROM	Voltage	Package	Other Features	Availability
AT98SC008CT	–	–	SPI	8K	1.62 - 5.5V	44-QFN	Embedded Firmware Providing ISO 7816 FileSystem, SPI 2 Mbps, Strong Authentication, Digital Signature (3DES MAC, RSA PKCS#1, EC-DSA), Encryption (3DES, RSA PKCS#1), Message Digest (SHA1,SHA256), Key Generation (RSA, ECC), Common Criteria EAL4+ Target	Now
AT98SC016CT	–	–	SPI	16K	1.62 - 5.5V	44-QFN	Embedded Firmware Providing ISO 7816 FileSystem, SPI 2 Mbps, Strong Authentication, Digital Signature (3DES MAC, RSA PKCS#1, EC-DSA), Encryption (3DES, RSA PKCS#1), Message Digest (SHA1,SHA256), Key Generation (RSA, ECC), Common Criteria EAL4+ Target	Now
AT98SC032CT-USB	–	–	USB 2.0	32K	1.62 - 5.5V	44-QFN 44LQFP SOIC-8	Embedded Firmware Providing ISO 7816 FileSystem, USB CCID 12 Mbps, Strong Authentication, Digital Signature (3DES MAC, RSA PKCS#1, EC-DSA), Encryption (3DES, RSA PKCS#1), Message Digest (SHA1,SHA256), Key Generation (RSA, ECC), Common Criteria EAL4+ Target	Now
AT98SC064CT-USB	–	–	USB 2.0	64K	1.62 - 5.5V	44-QFN 44LQFP SOIC-8	Embedded Firmware Providing ISO 7816 FileSystem, USB CCID 12 Mbps, Strong Authentication, Digital Signature (3DES MAC, RSA PKCS#1, EC-DSA), Encryption (3DES, RSA PKCS#1), Message Digest (SHA1,SHA256), Key Generation (RSA, ECC), Common Criteria EAL4+ Target	1Q2007

Evaluation/Development Kits

Emulation Platform Support

AT98SC-EVx	Demonstration Board for AT98SC Family	Now

Note:
1. ***Green (RoHS Compliance)*** Packaging Available for All AT98SC Products.

SECURITY AND SMART CARD 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 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), SPI, Optional EEPROM 256 Bytes	30-Kbyte ROM	Yes	Now
Evaluation/Development 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 SAM)	Yes	Now
Evaluation/Development Kits			
AT89STK-07	Starter Kit for the AT83C24 Level Shifter		Now
AT89STK-09	Starter Kit for the AT83C26 Multiple Smart Card Interface		Now
AT89EVK-01	Evaluation Kit of the AT83C24 for TDA8004/8024 Replacement		Now

Smart Card Reader ICs – Pre-Certified 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 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 AT83C5122OK/23OK		Now
AT89RFD-05	Serial Smart Card Reader Reference Design with GemCore Software for AT83C5121GC		Now
AT89RFD-06	PCMCIA Smart Card Reader Reference Design with OMNIKEY Firmware for AT83C5125OK		Now

SECURITY AND SMART CARD ICS (CONTINUED)

Biometrics

FingerChip®

Part Number	Description	Voltage	Evaluation Board	MoQ	RoHS Compliance	Availability
AT77C102B-CB01YV	500 dpi, 0.4 x 14 mm 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	3 to 3.6V	Bioki01	5200	Yes	Now
AT77C102B-CB02YV	500 dpi, 0.4 x 14 mm Digital Fingerprint Linear Sensor, 2240 Pixels (8 x 280) Image Array, Digital Output (On-chip ADC) Chip-on-board Packaging with Connector for Flex Cable, -40° C to +85° C Operating Temperature Range	3 to 3.6V	Bioki01	4000	Yes	Now
AT77C104B-CB08YV	500 dpi, 0.4 x 11.6 mm 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	2.3 to 3.6V	AT77C104B-EK3	4500	Yes	Now
AT77C104B-CH08YV	500 dpi, 0.4 x 11.6 mm 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. The Sensor is Delivered in a Pre-assembled Socket and Zebra Connector. The Socket Can Be Pinned Into a 0.8 mm PCB with 4 Pins.	2.3 to 3.6V	AT77C104B-EK3	4500	Yes	Now
AT77C105A-CB08YV	500 dpi, 0.4 x 11.6 mm 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	2.3 to 3.6V	AT77C105A-EK2	4500	Yes	Now

ANALOG ICS

Power Management

Product	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
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
AT73C239	Tiny Power Management for Wireless Modules	Yes	Now
AT73C238	Tiny Power Management for Wireless Modules with Hibernate Mode	Yes	Now
AT73C236	5V Input Supply Tiny Power Management for Wireless Modules	Yes	4Q2006
AT73C237	5V Input Supply Tiny Power Management for Wireless Modules with Hibernate Mode	Yes	4Q2006
AT73C223	Multichanel Power Management IC for Middle End Multimedia Devices	Yes	4Q2006
AT73C217	Multichanel Power Management IC with USB 2,0 Transceiver and Battery Charger	Yes	4Q2006
AT73C206	Audio and Power Management IC with Battery Charger for Smartphones	Yes	4Q2006

OTHER ASSPS

USB Controllers

AT43 Series Host/OTG Processor, Hub Controller and AVR USB Controller

Part Number	Description	Package	RoHS Compliance	Availability
USB Microcontrollers and Hubs				
AT43301	Low-cost, Self- and Bus-powered, Full-speed Hub Controller with Ganged Port Power Switching and Global Overcurrent Protection	24-lead SOIC, 32-lead LQFP, Commercial, Green	Yes	Now
AT43312A	Self- and Bus-powered, Full-speed Hub Controller with Individual Port Power Switching and Overcurrent Protection	32-lead SOIC, 32-lead LQFP, Commercial, Green	Yes	Now
AT43USB325E	Multimedia Keyboard Controller with Embedded 4-port Hub, 16K Bytes of Program RAM and Support for 20 x 8 Keyboard Matrix	64-lead LQFP, Commercial, Green	Yes	Now
AT43USB326	Multimedia Keyboard Controller with Embedded 2-port Hub, 16K Bytes of Program ROM and Support for 18 x 8 Keyboard Matrix	48-lead LQFP, Commercial, Green	Yes	Now
AT43USB353M	Full-speed USB Controller with an 12/24 MIPS AVR, 4-function Endpoints, Embedded 2-port Hub, 12-channel 10-bit ADC, PWM and 24K Bytes of Program ROM	48-lead LQFP, Commercial	No	Now
AT43USB355E	Full-speed USB Microcontroller with a 12 MIPS AVR, 4-function Endpoints, 2-port Hub, 12-channel 10-bit ADC, PWM and 24K Bytes of Program RAM	64-lead LQFP, Commercial, Green	Yes	Now
AT43USB355M	Full-speed USB Microcontroller with a 12 MIPS AVR, 4-function Endpoints, 2-port Hub, 12-channel 10-bit ADC, PWM and 24K Bytes of Program ROM	64-lead LQFP, Commercial, Green	Yes	Now
AT43USB351M	Low-/Full-speed Configurable USB Microcontroller with a 1.5/12/24 MIPS AVR, 5-function Endpoints, 12-channel 10-bit ADC, PWM and 24K Bytes of Program ROM	48-lead LQFP, Commercial, Green	Yes	Now
USB Host				
AT43USB380E	Full-speed USB 2.0 Compliant Host Processor with Embedded USB Host Firmware Stack	100-lead LQFP, Industrial, Green	Yes	Now
Evaluation/Development Kits				
AT43DK301	Evaluation Kit for AT43301			Now
AT43DK312A	Evaluation Kit for AT43312A			Now
AT43DK325	Development Kit for AT43USB325/AT43USB326			Now
AT43DK380-BD2	The Complete Development Kit for the AT43USB380, Including the AT43USB380 Reference Board and the Atmel AT91R40008 ARM7 Daughter Card			Now
AT43DK380-PDC2	Atmel AT91R40008 ARM7 Daughter Card with 16-bit External Bus for AT43USB380 Development Kit			Now

OTHER ASSPS (CONTINUED)

USB Controllers (Continued)

AT76 Series AVR USB Microcontrollers

Part Number	Description	RoHS Compliance	Availability
AT76C712-JT064	USB to UART Bridge Only, Based on an 8-bit AVR Microcontroller Running Up to 48 MHz, Includes Integrated SRAM for both Program and Data	Pb-free Only	Now
AT76C713-JT100	Based on AT76C712, Allowing the Bridging of USB to Other Interfaces, Contains Two UARTs, Device Firmware Upgrade Protocol in ROM that Enables this Device to Work without EPROM or Flash, Full Support of USB Suspend Mode, and GPIO's Supporting Different Alternate Functions, Customer Wanting to Develop their Own Custom Application Can Do So with the AT76C713 Along with the AVR Studio® Development Suite	Pb-free Only	Now
Evaluation/Development Kits			
AT76C713-DK	Evaluation Kit Includes: Board, Cable, Firmware, Drivers, Schematics, Demo Software and Manual		Now

8051 Series USB Microcontrollers

Part Number	Description	RoHS Compliance	Availability
AT89C5130A	16-Kbyte Flash Microcontroller with 1280-byte RAM, 1-Kbyte EEPROM and USB 2.0 (12 Mbps), 7 Endpoints, SPI, TWI, PCA	Yes	Now
AT89C5131A	32-Kbyte Flash Microcontroller with 1280-byte RAM, 1-Kbyte EEPROM and USB 2.0 (12 Mbps), 7 endpoints, SPI, TWI, PCA	Yes	Now
AT89C5132	64-Kbyte Flash Microcontroller with 2304-byte RAM, TWI, USB, 4 endpoints, SPI, I2S, 10-bit ADC, Flash Memory Interfaces	Yes	Now
AT83C5134	8-Kbyte ROM Microcontroller with 1280-byte RAM, 1-Kbyte EEPROM and USB 2.0 (12 Mbps), 6 Endpoints, SPI, TWI, PCA	Yes	2Q2007
AT83C5135	16-Kbyte ROM Microcontroller with 1280-byte RAM, 1-Kbyte EEPROM and USB 2.0 (12 Mbps), 6 Endpoints, SPI, TWI, PCA	Yes	1Q2007
AT83C5136	32-Kbyte ROM Microcontroller with 1280-byte RAM, 1-Kbyte EEPROM and USB 2.0 (12 Mbps), 6 Endpoints, SPI, TWI, PCA	Yes	1Q2007
Evaluation/Development Kits			
AT89DVK-04	AT89C5132 Development Kit		Now
AT89STK-05	Starter Kit for AT89C5130A/AT89C5131A USB Microcontrollers		Now
AT89STK-10	USB Mass Storage Starter Kit for AT89C5130A/AT89C5131A/AT89C5122 USB Microcontrollers		Now

AVR Series USB Microcontrollers

Part Number	Description	RoHS Compliance	Availability
AT90USB647	AVR Microcontroller with 64-Kbyte Flash MCU, 4-Kbyte RAM, 4K-byte EEPROM, USB 2.0 Host/OTG, USB Full Speed, USB Low Speed, SPI, TWI, 10-bit ADC	Yes	Now
AT90USB646	AVR Microcontroller with 64-Kbyte Flash MCU, 4-Kbyte RAM, 4K-byte EEPROM, USB Full Speed, USB Low Speed, SPI, TWI, 10-bit ADC	Yes	Now
AT90USB1287	AVR Microcontroller with 128-Kbyte Flash MCU, 8-Kbyte RAM, 4K-byte EEPROM, USB 2.0 Host/OTG, USB Full Speed, USB Low Speed, SPI, TWI, 10-bit ADC	Yes	Now
AT90USB1286	AVR Microcontroller with 128-Kbyte Flash MCU, 8-Kbyte RAM, 4K-byte EEPROM, USB Full Speed, USB Low Speed, SPI, TWI, 10-bit ADC	Yes	Now
Evaluation/Development Kits			
AT90USBKEY	Demo Kit for AT90USB Devices		Now
ATSTK525	STK525 AVR Starter Kit to Support AT90USB Devices		Now

ASICs

ASICs

Technology	Description	Process Name	Libraries	Availability
0.13 µm	Core Supply: 1.2V Options: Low Leakage, Mixed, 3V, MIM Capacitance – MPCF Embedded EEPROM and Flash	AT59K	ATC13	Now
		AT66.7K	ATC/EE	2Q2007
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

ASIC IP Cores

Part Number	Description	Availability
Memory Blocks	SRAM, Dual-port SRAM, Register File RAM, FIFO, Diffusion Mask ROM, Metal Mask ROM, Flash, EEPROM	Now
MCU/DSP Cores	ARM946E-S, ARM926-EJS, 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 ***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 ***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, Band Gap, Battery Monitor	Now
Wireless Baseband	GSM Voice Codec, Telecom A/D Converter, Clock Squarer, Precision Voltage Reference Generator, Telecom D/A Converter, Bandgap Reference Generator, GSM Baseband Receive Port, GSM Baseband Transmit Port, System Reset Battery Monitor and Power Control, GPS Corellator	Now
IO Pads	General-purpose, PCI, LVDS, SSTL2, USB1.1 LS & FS, USB2.0 HS, PECL	Now

FPGA/CPLD Conversion: ULCs

				Supply (Volts)			
Part Number	Technology	Max Kgates	Max I/Os	Core	I/O Tolerant	Other	Availability
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

MEMORY

DataFlash®

Serial DataFlash

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 – Commercial/Industrial Temperature Grades									
AT45DB011B	1	2.7	Serial (SPI Bus)	20	1 (264 Bytes)			***C***(9C1)-***S***(8S2)-***X***(14X)	Now
AT45DB011D	1	2.7	Serial (SPI Bus)	66	1 (256/264 Bytes)	•	•	***S***(8S2)-***SS***(8S1)-***M***(8M1-A)	2Q2007
AT45DB021B	2	2.7	Serial (SPI Bus)	20	2 (264 Bytes Each)			***C***(9C1)-***S***(8S2)-***T***(28T)-***R***(28R)	Now
AT45DB021D	2	2.7	Serial (SPI Bus)	66	1 (256/264 Bytes)	•	•	***S***(8S2)-***SS***(8S1)-***M***(8M1-A)	1Q2007
AT45DB041D	4	2.7	Serial (SPI Bus)	66	2 (256/264 Bytes Each)	•	•	***S***(8S2)-***SS***(8S1)-***M***(8M1-A)	Now
AT45DB081B	8	2.7	Serial (SPI Bus)	20	2 (264 Bytes Each)			***C***(14C1)-***CN***(8CN3)-***T***(28T)-***R***(28R)	Now
AT45DB081D	8	2.7	Serial (SPI Bus)	66	2 (256/264 Bytes Each)	•	•	***S***(8S2)-***SS***(8S1)-***M***(8M1-A)	1Q2007
AT45DB161D	16	2.7	Serial (SPI Bus)	66	2 (512/528 Bytes Each)	•	•	***S***(8S2)-***M***(8M1-A)-***T***(28T)	Now
AT45DB321D	32	2.7	Serial (SPI Bus)	66	2 (512/528 Bytes Each)	•	•	***S***(8S2)-***MW***(8MW)-***M***(8M1-A)-***T***(28T)	Now
AT45DB642D	64	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 – Commercial/Industrial Temperature Grades									
AT45DB041D-2.5	4	2.5	Serial (SPI Bus)	50	2 (256/264 Bytes Each)	•	•	***S***(8S2)-***SS***(8S1)-***M***(8M1-A)	Now
AT45DB081B-2.5	8	2.5	Serial (SPI Bus)	15	2 (264 Bytes Each)			***C***(14C1)-***CN***(8CN3)-***T***(28T)-***R***(28R)	Now
AT45DB081D-2.5	8	2.5	Serial (SPI Bus)	50	2 (256/264 Bytes Each)	•	•	***S***(8S2)-***SS***(8S1)-***M***(8M1-A)	1Q2007
AT45DB161D-2.5	16	2.5	Serial (SPI Bus)	50	2 (512/528 Bytes Each)	•	•	***S***(8S2)-***M***(8M1-A)-***T***(28T)	Now

DataFlash Cards

Part Number	Density (Mbytes)	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									
AT45DCB002D	2	2.7	Serial (SPI Bus)	66	2 (528 Bytes Each)	•	•	7DF1	Now
AT45DCB004D	4	2.7	Serial (SPI Bus)	66	2 (528 Bytes Each)	•	•	7DF1	Now
AT45DCB008D	8	2.7	Serial (SPI Bus)	66	2 (1056 Bytes Each)	•	•	7DF1	Now

Serial Firmware DataFlash

Part Number	Density (Mbits)	VCC Min (V)	Interface Architecture	Speed (MHz)	SRAM/Buffers	Sector Lockdown	Serial Number	Packages	Availability
Uniform Block Erase Serial Flash, 2.7 to 3.6 – Industrial Temperature Grades									
AT26F004	4	2.7	Serial (SPI Bus)	33				***S***(8S2)-***SS***(8S1)-***M***(8M1-A)	Now
AT26DF081A	8	2.7	Serial (SPI Bus)	70				***S***(8S2)-***SS***(8S1)	Now
AT26DF161	16	2.7	Serial (SPI Bus)	66				***S***(8S2)-***M***(8M1-A)	Now
AT26DF161A	16	2.7	Serial (SPI Bus)	70				***S***(8S2)-***SS***(8S1)-***M***(8M1-A)	1Q2007
AT26DF321	32	2.7	Serial (SPI Bus)	66				***S***(8S2)-***S3***(16S2)	Now

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: ***16S2***, 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
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 DataFlash Products.

MEMORY (CONTINUED)

Flash Memory

Part Number	Description	Organization	Speeds	RoHS Compliance	Availability
1.8V Flash (1.65 to 1.9V Single-voltage Read and Write)					
AT49SV802A(T)	8-Mbit, 1.8-volt Sectored Flash (Top Boot)	512K x 16/1M x 8	90 ns	Yes	Not Recommended for New Designs [Use AT49SV322D(T)]
AT49SV322D(T)	32-Mbit, 1.8-volt Sectored Flash (Top Boot)	2M x 16/4M x 8	80 ns	Yes	Now
Battery-Voltage (2.7 to 3.6V Single-voltage Read and Write)					
AT29BV010A	1-Mbit, 2.7-volt Small Sectored Flash	128K x 8	120 - 150 ns	Yes	Now
AT29BV020	2-Mbit, 2.7-volt Small Sectored Flash	256K x 8	120 - 150 ns	Yes	Now
AT29BV040A	4-Mbit, 2.7-volt Small Sectored Flash	512K x 8	200 - 250 ns	Yes	Now
AT49BV512	512-Kbit, 2.7-volt Boot Flash	64K x 8	90 - 120 ns	No	Now
AT49BV040B	4-Mbit, 2.7-volt Boot Flash (5V and 2.7V Tolerant)	512K x 8	70 ns	Yes	Now
AT49BV802A(T)	8-Mbit, 3-volt Sectored Flash (Top Boot)	512K x 16/1M x 8	70 ns	Yes	Not Recommended for New Designs
AT49BV160D(T)	16-Mbit, 2.7-volt Sectored Flash (Top Boot)	1M x 16	70 ns	Yes	Now
AT49BV160S(T)	16-Mbit, 2.7-volt Secure Flash (Top Boot)	1M x 16	70 ns	Yes	Contact Marketing
AT49BV163D(T)	16-Mbit, 2.7-volt Sectored Flash (Top Boot)	1M x 16/2M x 8	70 ns	Yes	Now
AT49BV320D(T)	32-Mbit, 2.7-volt Sectored (Top Boot)	2M x 16	70 ns	Yes	Now
AT49BV320S(T)	32-Mbit, 2.7-volt Secure Flash (Top Boot)	2M x 16	70 ns	Yes	Contact Marketing
AT49BV322D(T)	32-Mbit, 2.7-volt Sectored (Top Boot)	2M x 16/4M x 8	70 ns	Yes	Now
AT49BV640D(T)	64-Mbit, 2.7-volt Sectored (Top Boot)	4M x 16	70 ns	Yes	Now
AT49BV642D(T)	64-Mbit, 2.7-volt Sectored Flash (Top Boot)	4M x 16	70 ns	Yes	Now
AT49BV640S(T)	64-Mbit, 2.7-volt Secure Flash (Top Boot)	4M x 16	70 ns	Yes	Contact Marketing
AT49BV6416(T)	64-Mbit, 2.7-volt Sectored/Concurrent Flash with Page Mode (Top Boot)	4M x 16	70 ns, 20 ns Page Mode	Yes	EOL'd – Use AT49BV642D(T)
AT49BV6416C(T)	64-Mbit, 2.7-volt Sectored/Concurrent Flash with Page Mode (Top Boot)	4M x 16	70 ns, 20 ns Page Mode	No	EOL'd – Use AT49BV640D(T)

MEMORY (CONTINUED)

Flash Memory (Continued)

Part Number	Description	Organization	Speeds	RoHS Compliance	Availability
Low-voltage (3 to 3.6V Single-voltage Read and Write)					
AT29LV256	256-Kbit, 3-volt Small Sectored Flash	32K x 8	150 - 200 ns	No	EOL'd – Use AT29LV512
AT29LV512	512-Kbit, 3-volt Small Sectored Flash	64K x 8	120 - 150 ns	Yes	Now
AT29LV010A	1-Mbit, 3-volt Small Sectored Flash	128K x 8	120 - 150 ns	No	Not Recommended for New Designs (Use AT29BV010A)
AT29LV020	2-Mbit, 3-volt Small Sectored Flash	256K x 8	100 - 120 ns	Yes	Now
AT29LV040A	4-Mbit, 3-volt Small Sectored Flash	512K x 8	120 - 150 ns	Yes	Now
AT49LV1024A	1-Mbit, 3-volt Boot Flash	64K x 16	55 - 90 ns	No	Now
Standard Voltage (4.5 to 5.5V Single-voltage Read and Write)					
AT29C256	256-Kbit, 5-volt Small Sectored Flash	32K x 8	70 - 120 ns	No	EOL'd – Use AT29C512
AT29C257	256-Kbit, 5-volt Small Sectored Flash	32K x 8	70 - 120 ns	No	EOL'd – Use AT29C512
AT29C512	512-Kbit, 5-volt Small Sectored Flash	64K x 8	70 - 90 ns	Yes	Now
AT29C010A	1-Mbit, 5-volt Small Sectored Flash	128K x 8	70 - 120 ns	Yes	Now
AT29C020	2-Mbit, 5-volt Small Sectored Flash	256K x 8	90 - 120 ns	Yes	Now
AT29C040A	4-Mbit, 5-volt Small Sectored Flash	512K x 8	90 - 150 ns	Yes	Now
AT49F512	512-Kbit, 5-volt Boot Flash	64K x 8	50 - 70 ns	Yes	EOL'd – Use AT49BV040B
AT49F001A(N)(T)	1-Mbit, 5-volt Parametric Flash (No Reset) (Top Boot)	128K x 8	55 ns	Yes	EOL'd – Use AT49BV040B
AT49F1024A	1-Mbit, 5-volt Boot Flash	64K x 16	45 ns	No	Now
AT49F002A(N)(T)	2-Mbit, 5-volt Parametric Flash (No Reset) (Top Boot)	256K x 8	55 ns	Yes	EOL'd – Use AT49BV040B
AT49BV040B	4-Mbit, 5-volt Bottom Boot Flash (Supports both 2.7V and 5V Operation)	512K x 8	55 ns	Yes	Now

MEMORY (CONTINUED)

Serial Nonvolatile Memory

Serial EEPROMs Standard Products

Part Number	Density (Kbits)	Organization	VCC (V)	Max Speed (MHz)	Package	Comments	Availability
2-Wire Interface							
AT24C11	1	128 x 8	1.8, 2.7	1	PDIP, SOIC, TSSOP, SOT23, Die/Wafer	Non-cascadable, 2-wire Protocol	Now
AT24C01B	1	128 x 8	1.8	1	PDIP, SOIC, TSSOP, SOT23, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	Now
AT24C02B	2	256 x 8	1.8	1	PDIP, SOIC, TSSOP, SOT23, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	Now (Replacement for 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 (Replacement for AT24C02A)
AT34C02C	2	256 x 8	1.7	0.4	SOIC, TSSOP, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	Lower Half SW Write Protect with Permanent and Reversible SW Protection	Now (Replacement for AT34C02/AT34C02B)
AT24C04	4	512 x 8	1.8, 2.7	0.4	PDIP, SOIC, TSSOP, SOT23, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	Full Array Write Protection Cascade Up to 4 Devices	Now
AT24C04A	4	512 x 8	1.8, 2.7	0.4	PDIP, SOIC, TSSOP, Die/Wafer	1/2 Array Write Protection Cascade Up to 4 Devices	Now
AT24C04B	4	512 x 8	1.8	1	PDIP, SOIC, TSSOP, SOT23, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	Full Array Write Protection Cascade Up to 4 Devices	1Q2007
AT24C08A	8	1024 x 8	1.8, 2.7	0.4	PDIP, SOIC, TSSOP, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	Full Array Write Protection Cascade Up to 2 Devices	Now
AT24C08B	8	1024 x 8	1.8	1	PDIP, SOIC, TSSOP, SOT23, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	Full Array Write Protection Cascade Up to 2 Devices	1Q2007
AT24C16B	16	2048 x 8	1.8	1	PDIP, SOIC, TSSOP, SOT23, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	Full Array Write Protection	Now (Replacement for AT24C16/AT24C164)
AT24C32A	32	4096 x 8	1.8, 2.7	0.4	PDIP, SOIC, TSSOP, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	Now (Replacement for AT24C164)
AT24C32C	32	4096 x 8	1.8	1	PDIP, SOIC, TSSOP, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	4Q2006
AT24C64B	64	8192 x 8	1.8, 2.7	0.4	PDIP, SOIC, TSSOP	1/4 Array Write Protection, Cascadable	Now
AT24C64C	64	8192 x 8	1.8	1	PDIP, SOIC, TSSOP, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	Now (Replacement for AT24C64A)

All Serial EEPROMs Parts are RoHS Compliant.

MEMORY (CONTINUED)

Serial Nonvolatile Memory

Serial EEPROMs Standard Products (Continued)

Part Number	Density (Kbits)	Organization	VCC (V)	Max Speed (MHz)	Package	Comments	Availability
2-Wire Interface (Continued)							
AT24C128	128	16384 x 8	1.8, 2.7	1	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), Die/Wafer	Full Array Write Protection Cascade Up to 4 Devices	Now
AT24C128B	128	16384 x 8	1.8	1	PDIP, SOIC, TSSOP, dBGA2, DFN (MAP), Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	4Q2006
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, Die/Wafer	Full Array Write Protection Cascade Up to 8 Devices	Now (Replacement for AT24C512)
AT24C1024	1-Mbit	131072 x 8	2.7	1	PDIP, SOIC, DFN (SAP), dBGA2, Die/Wafer	Full Array Write Protection Cascade Up to 2 Devices	Now
AT24C1024B	1-Mbit	131072 x 8	1.8	1	PDIP, SOIC, DFN (SAP), dBGA2, Die/Wafer	Full Array Write Protection Cascade Up to 4 Devices	1Q2007
SPI Interface							
AT25010A	1	128 x 8	1.8, 2.7	20	PDIP, SOIC, TSSOP, dBGA2, DFN (Ultra Mini MAP), 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 (Ultra Mini MAP), 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 (Ultra Mini MAP), 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 (Ultra Mini 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 (Ultra Mini MAP), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	2Q2007
AT25160A	16	2048 x 8	1.8, 2.7	20	PDIP, SOIC, TSSOP, dBGA2, DFN (Ultra Mini MAP), 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 (Ultra Mini MAP), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	2Q2007
AT25320A	32	4096 x 8	1.8, 2.7	20	PDIP, SOIC, TSSOP, dBGA2, DFN (Ultra Mini 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 (Ultra Mini MAP), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	2Q2007

All Serial EEPROMs Parts are RoHS Compliant.

MEMORY (CONTINUED)

Serial Nonvolatile Memory (Continued)

Serial EEPROMs Standard Products (Continued)

Part Number	Density (Kbits)	Organization	VCC (V)	Max Speed (MHz)	Package	Comments	Availability
SPI Interface (Continued)							
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	2Q2007
AT25128A	128	16384 x 8	1.8, 2.7	20	PDIP, SOIC, TSSOP, dBGA2, 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	3Q2007
AT25256A	256	32768 x 8	1.8, 2.7	20	PDIP, SOIC, TSSOP, dBGA2, DFN (SAP), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	Now (Replacement for 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	3Q2007
AT25512	512	65536 x 8	1.8	20	PDIP, SOIC, TSSOP, dBGA2, DFN (SAP), Die/Wafer	SPI Mode 0 and 3, SW/HW Write Protect	1Q2007 (Replacement for AT25HP512)
3-Wire Interface							
AT93C46A	1	64 x 16	1.8, 2.7	2	PDIP, SOIC, TSSOP	x16 Memory Organization	Now (Replacement for AT93C46C)
AT93C46D	1	64 x 16/ 128 x 8	1.8	2	PDIP, SOIC, TSSOP, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	x8 or x16 Memory Organization	1Q2007 (Replacement for AT93C46)
AT93C56A	2	128 x 16/ 256 x 8	1.8, 2.7	2	PDIP, SOIC, TSSOP, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	x8 or x16 Memory Organization with Sequential Read	Now
AT93C56B	2	128 x 16/ 256 x 8	1.8	2	PDIP, SOIC, TSSOP, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	x8 or x16 Memory Organization with Sequential Read	2Q2007
AT93C66A	4	256 x 16/ 512 x 8	1.8, 2.7	2	PDIP, SOIC, TSSOP, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	x8 or x16 Memory Organization with Sequential Read	Now
AT93C66B	4	256 x 16/ 512 x 8	1.8	2	PDIP, SOIC, TSSOP, dBGA2, DFN (Ultra Mini MAP), Die/Wafer	x8 or x16 Memory Organization with Sequential Read	2Q2007
AT93C86A	16	1024 x 16/ 2048 x 8	1.8, 2.7	2	PDIP, SOIC, TSSOP, DFN (Ultra Mini MAP), Die/Wafer	x8 or x16 Memory Organization with Sequential Read	Now

All Serial EEPROMs Parts are RoHS Compliant.

MEMORY (CONTINUED)

Serial Nonvolatile Memory (Continued)

Automotive Serial EEPROMs

Part Number	Density (Kbits)	Organization	Vcc (V)	Max Speed (MHz)	Package	Comments	Availability
2-Wire Interface							
AT24C11	1	128 x 8	2.7	1	SOIC	Non-cascadable, 2-wire Protocol	Now
AT24C01B	1	128 x 8	2.5	0.4	SOIC	Full Array Write Protection Cascade Up to 8 Devices	Now (Replacement for AT24C01A)
AT24C02B	2	256 x 8	2.5	0.4	SOIC	Full Array Write Protection Cascade Up to 8 Devices	Now (Replacement for AT24C02)
AT34C02	2	256 x 8	2.7	0.4	SOIC	Lower Half Permanent SW Write Protect	Now
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

All Serial EEPROMs Parts are RoHS Compliant.

MEMORY (CONTINUED)

Serial Nonvolatile Memory (Continued)

Serial Flash Memory

Part Number	Density (Mbits)	Organization	VCC (V)	Max Speed (MHz)	Package	Comments	Availability
AT25F512A	512-Kbit	65536 x 8	2.7	33	SOIC, TSSOP, DFN (SAP), Die/Wafer	SPI Mode 0 and 3, High Speed, Byte Writable	Now
AT25FS010	1	131072 x 8	2.7	50	SOIC, TSSOP DFN (SAP), Die/Wafer	SPI Mode 0 and 3, High Speed, Small Sectored, 4-Kbyte Sectors	Now (Replacement for AT25P1024/ AT25F1024A)
AT25F2048	2	262144 x 8	2.7	33	SOIC, DFN (SAP), Die/Wafer	SPI Mode 0 and 3	Now
AT25FS040	4	524288 x 8	2.7	50	SOIC, DFN (SAP), Die/Wafer	SPI Mode 0 and 3, High Speed, Small Sectored, 4-Kbyte Sectors	Now (Replacement for AT25F4096)

All Serial Flash Parts are RoHS Compliant.

MEMORY (CONTINUED)

Parallel EEPROMs

Parallel EEPROMs Standard Products

Part Number	Description	Organization	Speeds (ns)	RoHS Compliance	Availability
AT28HC64B	64-Kbit EEPROM with 64-byte Page and Software Data Protection, Industrial	8K x 8	70 - 120	Yes	Now
AT28BV64B	64-Kbit EEPROM with 64-byte Page and Software Data Protection, 2.7-volt, Industrial	8K x 8	200	Yes	Now
AT28C64E	NOT FOR NEW DESIGNS: Use AT28C64B for New Designs (Reference AT28C64B Datasheet for Compatible Characteristics and Performance)	8K x 8	120	Yes	Now
AT28C64B	64-Kbit EEPROM with 64-byte Page and Software Data Protection, Industrial	8K x 8	150	Yes	Now
AT28HC256	256-Kbit EEPROM with 64-byte Page and Software Data Protection, Industrial/Military	32K x 8	70, 90, 120	Yes	Now
AT28HC256E	256-Kbit EEPROM with Extended Endurance, Industrial/Military	32K x 8	70, 90, 120	Yes	Now
AT28HC256F	256-Kbit EEPROM with Fast Write, Industrial/Military	32K x 8	70, 90, 120	Yes	Now
AT28HC256N	256-Kbit EEPROM, Industrial (Ref. Datasheet for Pin 1 = NC)	32K x 8	90,120	Yes	Now
AT28BV256	256-Kbit EEPROM with 64-byte Page and Software Data Protection, 2.7-volt, Industrial	32K x 8	200	Yes	Now
AT28C256F	256-Kbit EEPROM with Fast Write, Industrial/Military	32K x 8	150	Yes	Now
AT28C256	256-Kbit EEPROM with 64-byte Page and Software Data Protection, Industrial/Military	32K x 8	150	Yes	Now
AT28C256E	256-Kbit EEPROM with Extended Endurance, Industrial/Military	32K x 8	150	Yes	Now
AT28LV010	1-Mbit EEPROM with 128-byte Page and Software Data Protection, 3-volt, Industrial	128K x 8	200	Yes	Now
AT28C010	1-Mbit EEPROM with 128-byte Page and Software Data Protection, Industrial/Military	128K x 8	120, 150, 200	Yes	Now
AT28C010E	1-Mbit EEPROM with 128-byte Page, Extended Endurance and Software Data Protection, Industrial/Military	128K x 8	120, 150, 200	Yes	Now
AT28C040	4-Mbit EEPROM with 256-byte Page and Software Data Protection, Commercial/Industrial	512K x 8	200 - 250	No	Now
5962-88525	Reference SMD	32K x 8	Reference SMD	No	Now
5962-88634	Reference SMD	32K x 8	Reference SMD	No	Now
5962-38267	Reference SMD	128K x 8	Reference SMD	No	Now

MEMORY (CONTINUED)

Parallel EEPROMs (Continued)

Parallel EEPROM Die Products

Part Number	VCC (V)	Device TAA (ns)	Package Configuration	Availability
AT28BV64B-DWF	2.7 - 3.6	250	Wafer	Now
AT28BV256-DWF	2.7 - 3.6	250	Wafer	Now
AT28C64B-DWF	4.5 - 5.5	200	Wafer	Now
AT28HC64B-DWF	4.5 - 5.5	120	Wafer	Now
AT28C256-DFWM[1]	4.5 - 5.5	200	Wafer	Now
AT28HC256-DFWM[1]	4.5 - 5.5	120	Wafer	Now
AT28C010-DFWM[1]	4.5 - 5.5	200	Wafer	Now

Notes: 1. To be used for Military Applications only.
2. Die Product Form needs to be completed and submitted for each die product order. Contact Atmel.

EPROMs

Part Number	Description	Organization	Speeds (ns)	RoHS Compliance	Availability
Battery-Voltage (2.7 to 3.6V)					
AT27BV256	256-Kbit, 2.7-volt to 3.6-volt EPROM	32K x 8	70	Yes	Now
AT27BV512	512-Kbit, 2.7-volt to 3.6-volt EPROM	64K x 8	70	Yes	Now
AT27BV010	1-Mbit, 2.7-volt to 3.6-volt EPROM	128K x 8	90	Yes	Now
AT27BV1024	1-Mbit, 2.7-volt to 3.6-volt EPROM	64K x 16	90, 120	Yes	Now
AT27BV020	2-Mbit, 2.7-volt to 3.6-volt EPROM	256K x 8	90	Yes	Now
AT27BV040	4-Mbit, 2.7-volt to 3.6-volt EPROM	512K x 8	120	No	Now
AT27BV4096	4-Mbit, 2.7-volt to 3.6-volt EPROM	256K x 16	120	Yes	Now
Low-voltage (3 to 3.6V)					
AT27LV256A	256-Kbit, 3-volt EPROM	32K x 8	70	Yes	Now
AT27LV512A	512-Kbit, 3-volt EPROM	64K x 8	70	Yes	Now
AT27LV520	512-Kbit, Latched 3-volt EPROM	64K x 8	70, 90	Yes	Now
AT27LV010A	1-Mbit, 3-volt EPROM	128K x 8	70	Yes	Now
AT27LV020A	2-Mbit, 3-volt EPROM	256K x 8	90	Yes	Now
AT27LV040A	4-Mbit, 3-volt EPROM	512K x 8	90	Yes	Now
Standard Voltage (5V)					
AT27C256R	256-Kbit, 5-volt EPROM	32K x 8	45, 70	Yes	Now
AT27C512R	512-Kbit, 5-volt EPROM	64K x 8	45, 70	Yes	Now
AT27C516	512-Kbit, 5-volt EPROM	32K x 16	45 - 100	No	Now
AT27C010	1-Mbit, 5-volt EPROM Standard and Low-power	128K x 8	45, 70	Yes	Now
AT27C1024	1-Mbit, 5-volt EPROM	64K x 16	45, 70	Yes	Now
AT27C020	2-Mbit, 5-volt EPROM	256K x 8	55, 90	Yes	Now
AT27C2048	2-Mbit, 5-volt EPROM	128K x 16	55, 90	Yes	Now
AT27C040	4-Mbit, 5-volt EPROM	512K x 8	70, 90	Yes	Now
AT27C4096	4-Mbit, 5-volt EPROM	256K x 16	55, 90	Yes	Now
AT27C080	8-Mbit, 5-volt EPROM	1M x 8	90, 120	Yes	Now

MICROCONTROLLERS

80C51 8-bit Microcontrollers

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, 256-byte RAM, On-Chip Debug, SPI, 14-pin, PWM	2K x 8	Yes	Samples Now, Production 1Q2007
AT89LP214	Single-Cycle 8051 Core, In-System Programmable Microcontroller with 2-Kbyte Flash, 256-byte RAM, On-Chip Debug, SPI, 14-pin, UART	2K x 8	Yes	Samples Now, Production 1Q2007
AT89LP216	Single-Cycle 8051 Core, In-System Programmable Microcontroller with 2-Kbyte Flash, 256-byte RAM, On-Chip Debug, SPI, 16-pin, UART, PWM	2K x 8	Yes	Samples Now, Production 1Q2007

In-System Programmable (ISP) Flash

Part Number	Description	Memory Size	RoHS Compliance	Availability
AT89S2051	In-System Programmable Microcontroller with 2-Kbyte Flash with Analog Comparator	2K x 8	Yes	Now
AT89S4051	In-System Programmable Microcontroller with 4-Kbyte Flash with Analog Comparator	4K x 8	Yes	Now
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, 2-Kbyte EEPROM	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
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	1Q2007

MICROCONTROLLERS (CONTINUED)

80C51 8-bit Microcontrollers (Continued)

Flash

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 Including Watchdog Timer	20K x 8	Yes	Now
AT89C51RC	Microcontroller with 32-Kbyte Flash, 512-byte RAM	32K x 8	Yes	Now

One Time Programmable (OTP)

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
AT83C51IC2	Microcontroller with 32-Kbyte ROM, 1280-byte RAM, PCA, SPI, TWI 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

MICROCONTROLLERS (CONTINUED)

80C51 8-bit Microcontrollers (Continued)

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
AT80C51RD2	Microcontroller with 1280 Bytes of RAM, SPI, PCA	Yes	Now
AT80251G2D	C251 Microcontroller with 1024 Bytes of RAM, SPI, TWI, EWC	Yes	Now
AT80C51ID2	Microcontroller with 1280 Bytes of RAM, SPI, TWI, PCA	Yes	Now

Application Specific

Part Number	Description	Program Memory	RoHS Compliance	Availability
MP3 Decoder				
AT89C51SND1C	Microcontroller with 2304-byte RAM, an MP3 Decoder, TWI, USB, SPI, I2S, 10-bit ADC, Flash Memory Interfaces	64-Kbyte Flash, 4-Kbyte Bootloader	Yes	Now
AT83SND1C	Microcontroller with 2304-byte RAM, an MP3 Decoder, TWI, USB, SPI, I2S, 10-bit ADC, Flash Memory Interfaces	64-Kbyte ROM	Yes	Now
AT89C51SND2C	Microcontroller with 2304-byte RAM, an MP3 Decoder, TWI, USB, SPI, I2S, Flash Memory Interfaces, 18-bit Audio DAC, Power Amplifier Speaker	64-Kbyte Flash, 4-Kbyte Bootloader	Yes	Now
AT83SND2C	Microcontroller with 2304-byte RAM, an MP3 Decoder, TWI, USB, SPI, I2S, 10-bit ADC, Flash Memory Interfaces, 18-bit Audio DAC, Power Amplifier Speaker	64-Kbyte ROM	Yes	Now
AT83SND2CMP3	Ready-to-use Single-chip MP3 Decoder, I2S, MMC, SD, 18-bit Audio DAC, Power Amplifier Speaker		Yes	Now
AT85C51SND3B	Digital Audio Decoder, Multiformat (MP3, WMA, JPEG, ADPCM), USB High Speed, Full Speed, OTG		Yes	Now
Smart Card Readers				
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

MICROCONTROLLERS (CONTINUED)

80C51 8-bit Microcontrollers (Continued)

Application Specific (Continued)

Part Number	Description	Program Memory	RoHS Compliance	Availability
Smart Card Readers (Continued)				
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	16-Kbyte ROM	Yes	Now
AT83C5127	Microcontroller with Multi-protocol Smart Card Interface, 768-byte RAM, ISO 7816, DC/DC, USB 2.0 (12 Mbps), SPI, Optional EEPROM 256 Bytes	30-Kbyte ROM	Yes	Now
AT83C25OK	Pre-certified Smart Card Reader Solution for PMCIA Link with OMNIKEY EMV2000 Firmware	N/A	Yes	Now
AT83C21GC	Pre-certified Smart Card Reader Solution for Serial Link with GemCore EMV2000 Firmware	N/A	Yes	Now
AT83C22OK	Pre-certified Smart Card Reader Keyboard Solution for USB Link with OMNIKEY EMV2000 Firmware	N/A	Yes	Now
AT83C23OK	Low-Pin Count Pre-certified Smart Card Reader Solution for USB Link with OMNIKEY EMV2000 Firmware	N/A	Yes	Now
CAN Networking				
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 Flash	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 Flash	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 Flash	Yes	Now
USB Controllers				
AT89C5131A	Microcontroller with 1280-byte RAM, 1-Kbyte EEPROM, USB 2.0 (12 Mbps), SPI, TWI, PCA	32-Kbyte Flash	Yes	Now
AT89C5130A	Microcontroller with 1280-byte RAM, 1-Kbyte EEPROM, USB 2.0 (12 Mbps), SPI, TWI, PCA	16-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, 1-Kbyte EEPROM and USB 2.0 (12 Mbps), 6 Endpoints, SPI, TWI, PCA	8-Kbyte ROM	Yes	2Q2007
AT83C5135	Microcontroller with 1280-byte RAM, 1-Kbyte EEPROM and USB 2.0 (12 Mbps), 6 Endpoints, SPI, TWI, PCA	16-Kbyte ROM	Yes	1Q2007
AT83C5136	Microcontroller with 1280-byte RAM, 1-Kbyte EEPROM and USB 2.0 (12 Mbps), 6 Endpoints, SPI, TWI, PCA	32-Kbyte ROM	Yes	1Q2007
Lighting				
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

MICROCONTROLLERS (CONTINUED)

80C51 8-bit Microcontrollers (Continued)

Development Kits and Tools for the 8051 Family

Part Number	Description	Availability
FLIP	FLexible In-System Programmer – PC-based Software for In-System Programming of C51-based Flash Microcontrollers – Available in Microsoft® Windows® (Support RS-232, CAN, USB Interfaces), Linux® (RS-232 Interface)	Now
AT85DVK-07	AT89C51SND3B Development Kit	Now
AT85RFD-07	AT89C51SND3B Digital Audio Decoder Reference Design	Now
AT89STK-11	Starter Kit for In-System Programming 8051 Flash Microcontrollers	Now
T89C5121-SK1	Starter Kit for T89C5121 Smart Card Reader Microcontroller	Now
AT89STK-06	Starter Kit for CAN Microcontrollers T89C51CC01, T89C51CC02 and AT89C51CC03	Now
CANADAPT28	PLCC28 Adapter for T89C51CC02 to T89C51CC02 PLCC44 Socket	Now
AT89DVK-04	AT89C51SND1 MP3 and AT89C5132 Development Kit	Now
AT89RFD-01	AT89C51SND1C Stand-alone MP3 Player Reference Design	Now
AT89RFD-08	AT89C51SND2C Remote MP3 Player Reference Design	Now
AT89RFD-02	USB Smart Card Reader Reference Design with OMNIKEY Firmware for AT83C5122OK/23OK	Now
AT89RFD-05	Serial Smart Card Reader Reference Design with GemCore Software for AT83C5121GC	Now
AT89RFD-06	PCMCIA Smart Card Reader Reference Design with OMNIKEY Firmware for AT83C5125OK	Now
AT89RFD-10	Non Dimmable Fluorescent Demo Kit for AT8xEB5114	Now
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
AT89ISP	In-System Programmer for AT89S Series	Now
AT89OCD-01	On Chip Debug Tool for 8051 Flash Microconrtollers: AT89C51RE2 and AT85C51SND3x and Derivatives	Now

MICROCONTROLLERS (CONTINUED)

AT91 Smart Microcontroller

AT91 Series

Part Number	Description	RoHS Compliance	Availability
ARM7-based			
AT91SAM7X512	512-Kbyte Flash, 128-Kbyte SRAM, EMAC 10/100, CAN, USB 2.0 Full-speed Device, 2 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 100-lead QFP Green Package, Industrial Temperature	Yes	Feb. 2007
AT91SAM7X256	256-Kbyte Flash, 64-Kbyte SRAM, EMAC 10/100, CAN, USB 2.0 Full-speed Device, 2 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 100-lead QFP Green Package, Industrial Temperature	Yes	Now
AT91SAM7X128	128-Kbyte Flash, 32-Kbyte SRAM, EMAC 10/100, CAN, USB 2.0 Full-speed Device, 2 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 100-lead QFP Green Package, Industrial Temperature	Yes	Now
AT91SAM7XC512	512-Kbyte Flash, 128-Kbyte SRAM, EMAC 10/100, CAN, USB 2.0 Full-speed Device, 2 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 100-lead QFP Green Package, Industrial Temperature	Yes	Feb. 2007
AT91SAM7XC256	256-Kbyte Flash, 64-Kbyte SRAM, EMAC 10/100, AES/3DES, CAN, USB 2.0 Full-speed Device, 2 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 100-lead QFP Green Package, Industrial Temperature (Contains Crypto Hardware, Export Restrictions May Apply)	Yes	Now
AT91SAM7XC128	128-Kbyte Flash, 32-Kbyte SRAM, EMAC 10/100, AES/3DES, CAN, USB 2.0 Full-speed Device, 2 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 100-lead QFP Green Package, Industrial Temperature (Contains Crypto Hardware, Export Restrictions May Apply)	Yes	Now
AT91SAM7S512	512-Kbyte Flash, 64-Kbyte SRAM, USB 2.0 Full-speed Device, 1 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 64-lead QFP or 64-lead QFN Green Package, Industrial Temperature	Yes	Feb. 2007
AT91SAM7S256	256-Kbyte Flash, 64-Kbyte SRAM, USB 2.0 Full-speed Device, 1 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 64-lead QFP or 64-lead QFN Green Package, Industrial Temperature	Yes	Now
AT91SAM7S128	128-Kbyte Flash, 32-Kbyte SRAM, USB 2.0 Full-speed Device, 1 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 64-lead QFP or 64-lead QFN Green Package, Industrial Temperature	Yes	Now
AT91SAM7S64	64-Kbyte Flash, 16-Kbyte SRAM, USB 2.0 Full-speed Device, 1 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 64-lead QFP or 64-lead QFN Green Package, Industrial Temperature	Yes	Now

MICROCONTROLLERS (CONTINUED)

AT91 Smart Microcontroller (Continued)

AT91 Series (Continued)

Part Number	Description	RoHS Compliance	Availability
ARM7-based (Continued)			
AT91SAM7S321	32-Kbyte Flash, 8-Kbyte SRAM, USB 2.0 Full-speed Device, 1 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 64-lead QFP or 64-lead QFN Green Package, Industrial Temperature	Yes	Now
AT91SAM7S32	32-Kbyte Flash, 8-Kbyte SRAM, 1 SPIs, 1 USARTs, 1 UART, 1 TWI, 1 SSC, 9-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 48-lead QFP or 48-lead QFN Green Package, Industrial Temperature	Yes	Now
AT91SAM7S161	16-Kbyte Flash, 4-Kbyte SRAM, USB 2.0 Full-speed Device, 1 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 64-lead QFP or 64-lead QFN Green Package, Industrial Temperature	Yes	June 2007
AT91SAM7S16	16-Kbyte Flash, 4-Kbyte SRAM, 1 SPIs, 1 USARTs, 1 UART, 1 TWI, 1 SSC, 9-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 48-lead QFP or 48-lead QFN Green Package, Industrial Temperature	Yes	June 2007
AT91SAM7SE512	512-Kbyte Flash, 32-Kbyte SRAM, MPU, USB 2.0 Full-speed Device, External Bus Interface, SDRAM interface, 1 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 128-lead QFP (Green) or 144-ball BGA (RoHS) Package, Industrial Temperature	Yes	Now
AT91SAM7SE256	256-Kbyte Flash, 32-Kbyte SRAM, MPU, USB 2.0 Full-speed Device, External Bus Interface, SDRAM interface, 1 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 128-lead QFP (Green) or 144-ball BGA (RoHS) Package, Industrial Temperature	Yes	March 2007
AT91SAM7SE32	32-Kbyte Flash, 8-Kbyte SRAM, MPU, USB 2.0 Full-speed Device, External Bus Interface, SDRAM interface, 1 SPIs, 2 USARTs, 1 UART, 1 TWI, 1 SSC, 11-channel Peripheral DMA, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 4 PWM, 8-channel 10-bit ADC, High Drive Pads, POR, BOD, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 128-lead QFP (Green) or 144-ball BGA (RoHS) Package, Industrial Temperature	Yes	Feb.2007
AT91SAM7A3	256-Kbyte Flash, 32-Kbyte SRAM, MPU, 2 CANs, MMC Interface, USB 2.0 Full-speed Device, 2 SPIs, 3 USARTs, 1 UART, 1 TWI, 2 SSCs, 19-channel Peripheral DMA, 9 Timers, 1 Period Interval Timer, 1 Real-time Timer, Battery Backup module, 1 Watchdog Timer, 8 PWM, 16-channel 10-bit ADC, High Drive Pads, POR, Crystal Oscillator, On-Chip RC Oscillator, PLL, Advanced Clock and Power Management, Single 3 to 3.6V Supply, 100-lead QFP Green Package, Industrial Temperature	Yes	Now
AT91M55800A	8-Kbyte SRAM, External Bus Interface, 1 SPI, 3 USARTs, RTC with Battery Backup, Dual Crystal Oscillator, PLL, 6 Timers, 1 Watchdog Timer, 8-channel Peripheral DMA, 8-channel 10-bit ADC, 2-channel 10-bit DAC, Shutdown Mode, Advanced Clock and Power Management, 176-lead QFP or 176-ball BGA Green Package, Industrial Temperature	Yes	Now
AT91M42800A	8-Kbyte SRAM, External Bus Interface, 2 SPIs, 2 USARTs, Crystal Oscillator, Dual PLL, 6 Timers, 1 Watchdog Timer, 1 Real-time Timer, 8-channel Peripheral DMA, Advanced Clock and Power Management, 144-lead QFP or 144-ball BGA Green Package, Industrial Temperature	Yes	Now
AT91FR40162S	2-Mbyte Flash, 256-Kbyte SRAM, External Bus Interface, 2 USARTs, 3 Timers, 1 Watchdog Timer, 4-channel Peripheral DMA, Advanced Clock and Power Management, 121-ball BGA Green Package, Industrial Temperature	Yes	Now
AT91R40008	256-Kbyte SRAM, External Bus Interface, 2 USARTs, 3 Timers, 1 Watchdog Timer, 4-channel Peripheral DMA, Advanced Clock and Power Management, 100-lead QFP Green, Industrial Temperature	Yes	Now
AT91M40800	8-Kbyte SRAM, External Bus Interface, 2 USARTs, 3 Timers, 1 Watchdog Timer, 4-channel Peripheral DMA, Advanced Clock and Power Management, B25, Industrial Temperature	Yes	Now

MICROCONTROLLERS (CONTINUED)

AT91 Smart Microcontroller (Continued)

AT91 Series (Continued)

Part Number	Description	RoHS Compliance	Availability
ARM9-based			
AT91RM9200	ARM920T™ Core, Two 16-Kbyte I & D Caches, MMU, 16-Kbyte SRAM, 128-Kbyte ROM, B33USB 2.0 Full-speed Host and Device, External Bus Interface, SDRAM interface, CompactFlash®, SmartMedia® and MMC Interface, 4 USARTs, 1 UART, 1 TWI, 1 SPI, 3 SSC, 8 Timers, RTC, Watchdog Timer, 20-channel Peripheral DMA, Dual Crystal Oscillator, Dual PLL, Advance Clock and Power Management, Embedded Trace, 208-lead QFP (Green) or 256-ball BGA (RoHS) Package, Industrial Temperature	Yes	Now
AT91SAM9261	ARM926™ EJ-S Core, Two 16-Kbyte I & D Caches, MMU, 160-Kbyte SRAM, 32-Kbyte ROM, LCD Controller, USB 2.0 Full-speed Host and Device, External Bus Interface, SDRAM interface, CompactFlash, SmartMedia and MMC Interface, 3 USARTs, 1 UART, 1 TWI, 2 SPIs, 3 SSCs, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 20-channel Peripheral DMA, Dual Crystal Oscillator, Dual PLL, Shutdown Mode, Advance Clock and Power Management, Embedded Trace, 217-ball BGA RoHS Package	Yes	Now
AT91SAM9261S	ARM926™ EJ-S Core, Two 16-Kbyte I & D Caches, MMU, 16-Kbyte SRAM, 32-Kbyte ROM, LCD Controller, USB 2.0 Full-speed Host and Device, External Bus Interface, SDRAM interface, CompactFlash, SmartMedia and MMC Interface, 3 USARTs, 1 UART, 1 TWI, 2 SPIs, 3 SSCs, 3 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 20-channel Peripheral DMA, Dual Crystal Oscillator, Dual PLL, Shutdown Mode, Advance Clock and Power Management, 217-ball BGA RoHS Package	Yes	Sept. 2007
AT91SAM9260	ARM926EJ-S™ Core, Two 8-Kbyte I & D Caches, MMU, 2x4-Kbyte SRAM, 32-Kbyte ROM, 10/100 EMAC with DMA, 1 Camera Interface, USB 2.0 Full-speed Host and Device, External Bus Interface, SDRAM Interface, CompactFlash, SmartMedia and MMC Interface, 6 USARTs, 1 UART, 1 TWI, 2 SPIs, 1 SSCs, 6 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 24-channel Peripheral DMA, 4-channel 10-bit ADC, Dual Crystal Oscillator, Dual PLL, On-chip RC Oscillator, Shutdown Mode, Advance Clock and Power Management, 208-lead QFP (Green) or 217-ball BGA (RoHS) Package	Yes	Now
AT91SAM9XE512	512-Kbyte Flash, ARM926EJ-S™ Core, Two 8-Kbyte I & D Caches, MMU, 32-Kbyte SRAM, 32-Kbyte ROM, 10/100 EMAC with DMA, 1 Camera Interface, USB 2.0 Full-speed Host and Device, External Bus Interface, SDRAM Interface, CompactFlash, SmartMedia and MMC Interface, 6 USARTs, 1 UART, 1 TWI, 2 SPIs, 1 SSCs, 6 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 24-channel Peripheral DMA, 4-channel 10-bit ADC, Dual Crystal Oscillator, Dual PLL, On-chip RC Oscillator, Shutdown Mode, Advance Clock and Power Management, 208-lead QFP (Green) or 217-ball BGA (RoHS) Package	Yes	Feb. 2007
AT91SAM9XE256	256-Kbyte Flash, ARM926EJ-S™ Core, Two 8-Kbyte I & D Caches, MMU, 32-Kbyte SRAM, 32-Kbyte ROM, 10/100 EMAC with DMA, 1 Camera Interface, USB 2.0 Full-speed Host and Device, External Bus Interface, SDRAM Interface, CompactFlash, SmartMedia and MMC Interface, 6 USARTs, 1 UART, 1 TWI, 2 SPIs, 1 SSCs, 6 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 24-channel Peripheral DMA, 4-channel 10-bit ADC, Dual Crystal Oscillator, Dual PLL, On-chip RC Oscillator, Shutdown Mode, Advance Clock and Power Management, 208-lead QFP (Green) or 217-ball BGA (RoHS) Package	Yes	Feb. 2007
AT91SAM9XE128	128-Kbyte Flash, ARM926EJ-S™ Core, Two 8-Kbyte I & D Caches, MMU, 32-Kbyte SRAM, 32-Kbyte ROM, 10/100 EMAC with DMA, 1 Camera Interface, USB 2.0 Full-speed Host and Device, External Bus Interface, SDRAM Interface, CompactFlash, SmartMedia and MMC Interface, 6 USARTs, 1 UART, 1 TWI, 2 SPIs, 1 SSCs, 6 Timers, 1 Period Interval Timer, 1 Real-time Timer, 1 Watchdog Timer, 24-channel Peripheral DMA, 4-channel 10-bit ADC, Dual Crystal Oscillator, Dual PLL, On-chip RC Oscillator, Shutdown Mode, Advance Clock and Power Management, 208-lead QFP (Green) or 217-ball BGA (RoHS) Package	Yes	Feb. 2007
AT91SAM9263	ARM926™ EJ-S Core, Two 16-Kbyte I & D Caches, MMU, 96-Kbyte SRAM, 128-Kbyte ROM, LCD Controller, 2D-Graphic Accelerator, CAN, 2-channel DMA, AC97 controller, USB 2.0 Full-speed Host and Device, 2 External Bus Interface, SDRAM interface, CompactFlash, 2 SmartMedia and MMC Interface, 3 USARTs, 1 UART, 1 TWI, 2 SPIs, 2 SSCs, 3 Timers, 1 Period Interval Timer, 2 Real-time Timer, 1 Watchdog Timer, 18-channel Peripheral DMA, Dual Crystal Oscillator, Dual PLL, Shutdown Mode, Advance Clock and Power Management, Embedded Trace, 324-ball BGA RoHS Package	Yes	Dec. 2006

MICROCONTROLLERS (CONTINUED)

AT91 Smart Microcontroller (Continued)

AT91 Series Evaluation/Development Kits

Part Number	Description	RoHS Compliance	Availability
AT91SAM7S-EK	Evaluation Kit for AT91SAM7S Products (SAM7S16 to SAM7S2512 including SAM7S321); Includes IAR® Toolchain (32 KB Limited Compiler)		Now
AT91SAM7SE-EK	Evaluation Kit for AT91SAM7SE Products (SAM7SE32 to SAM7SE512); Includes IAR Toolchain (32 KB Limited Compiler)		Now
AT91SAM7X-EK	Evaluation Kit for AT91SAM7X Products (SAM7X128 to SAM7X512); Includes IAR Toolchain (32 KB Limited Compiler)		Now
AT91SAM7XC-EK	Evaluation Kit for AT91SAM7XC Products (SAM7XC128 to SAM7XC512); Includes IAR Toolchain (32 KB Limited Compiler)		Now
AT91RM9200-EK	Evaluation Kit for AT91RM9200		Now
AT91SAM9263-EK	Evaluation Kit for AT91SAM9263		Dec. 2006
AT91SAM9261-EK	Evaluation Kit for AT91SAM9261		Now
AT91SAM9260-EK	Evaluation Kit for AT91SAM9260		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
AT91SAM-ICE	SAM-ICE™ is a USB JTAG emulator designed for all Atmel AT91 Microcontrollers		Now

MICROCONTROLLERS (CONTINUED)

AVR Flash Microcontrollers

AVR32 Application Processors

Part Number	SRAM (Kbytes)	Vector Multiplier Co-processor	Ether. MAC 10/100	USB	LCD Contro.	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	RoHS Com-pliance	Speed (MHz)	Availability
AT32AP7000	32	Yes	2	1xHS	2048 x 2048	4	4	160	Stereo	Yes	Yes	3	1	2	1	CMOS	Yes	3	1	1	Yes	Yes	Yes	1.65-1.95 Core 3.0-3.6 IO	BGA 256	Yes	133	Jan. 2007
AT32AP7001	32	Yes	0	1xHS	2048 x 2048	4	4	90	Stereo	Yes	Yes	3	1	2	1	CMOS	Yes	3	1	1	Yes	Yes	Yes	1.65-1.95 Core 3.0-3.6 IO	QFP 208	Yes	133	1Q2007
AT32AP7002	32	Yes	0	1x S	2048 x 2048	4	4	85	Stereo	Yes	Yes	3	1	2	1	CMOS	Yes	3	1	1	Yes	Yes	Yes	1.65-1.95 Core 3.0-3.6 IO	BGA 196	Yes	133	1Q2007

ATtiny 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-ging	In-System(I)/ Self-Prog.(S)	Package	RoHS Com-pliance	VCC (V)	Speed (MHz)	Availability
ATtiny11	1	–	32 Registers	6	–	–	1	–	–	–	–	–	PDIP, SOIC, DIE	Yes	4 - 5.5	0 - 6	Now
ATtiny11L	1	–	32 Registers	6	–	–	1	–	–	–	–	–	PDIP, SOIC, DIE	Yes	2.7 - 5.5	0 - 2	Now
ATtiny12	1	64	32 Registers	6	–	–	1	–	–	Yes	–	I	PDIP, SOIC, DIE	Yes	4 - 5.5	0 - 8	Now
ATtiny12L	1	64	32 Registers	6	–	–	1	–	–	Yes	–	I	PDIP, SOIC, DIE	Yes	2.7 - 5.5	0 - 4	Now
ATtiny12V	1	64	32 Registers	6	–	–	1	–	–	Yes	–	I	PDIP, SOIC, DIE	Yes	1.8 - 5.5	0 - 1	Now
ATtiny13	1	64	64	6	–	–	1	–	4	Yes	debug-WIRE	S	PDIP, SOIC, Narrow SOIC, DIE	Yes	2.7 - 5.5	0 - 20	Now
ATtiny13V	1	64	64	6	–	–	1	–	4	Yes	debug-WIRE	S	PDIP, SOIC, Narrow SOIC, DIE	Yes	1.8 - 5.5	0 - 10	Now
ATtiny15L	1	64	32 Registers	6	–	–	2	–	4	Yes	–	I	PDIP, SOIC, DIE	No	2.7 - 5.5	1.6	Now
ATtiny24	2	128	128	12	1	–	1	1	8	Yes	debug-WIRE	S	PDIP, Narrow SOIC, QFN, DIE	Yes	2.7 - 5.5	0 - 20	Now
ATtiny24V	2	128	128	12	1	–	1	1	8	Yes	debug-WIRE	S	PDIP, Narrow SOIC, QFN, DIE	Yes	1.8 - 5.5	0 - 10	Now
ATtiny25	2	128	128	6	1	–	2	–	4	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	2.7 - 5.5	0 - 20	Now
ATtiny25V	2	128	128	6	1	–	2	–	4	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	1.8 - 5.5	0 - 10	Now
ATtiny26	2	128	128	16	1	–	2	–	11	Yes	–	I	PDIP, SOIC, QFN, DIE	Yes	4.5 - 5.5	0 - 16	Now

Note: *USI = Universal Serial Interface.

MICROCONTROLLERS (CONTINUED)

AVR Flash Microcontrollers (Continued)

ATtiny 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-ging	In-System(I)/ Self-Prog.(S)	Package	RoHS Com-pliance	VCC (V)	Speed (MHz)	Availability
ATtiny26L	2	128	128	16	1	–	2	–	11	Yes	–	I	PDIP, SOIC, QFN, DIE	Yes	2.7 - 5.5	0 - 8	Now
ATtiny261	2	128	128	16	1	–	1	1	11	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	2.7 - 5.5	0 - 20	Dec. 06
ATtiny261V	2	128	128	16	1	–	1	1	11	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	1.8 - 5.5	0 - 10	Dec. 06
ATtiny2313	2	128	128	18	1	1	1	1	–	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	2.7 - 5.5	0 - 20	Now
ATtiny2313V	2	128	128	18	1	1	1	1	–	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	1.8 - 5.5	0 - 10	Now
ATtiny28L	2	–	32 Registers	11	–	–	1	–	–	–	–	–	PDIP, QFN, TQFP, DIE	Yes	2.7 - 5.5	0 - 4	Now
ATtiny28V	2	–	32 Registers	11	–	–	1	–	–	–	–	–	PDIP, QFN, TQFP, DIE	Yes	1.8 - 5.5	0 - 1	Now
ATtiny44	4	256	256	12	1	–	1	1	8	Yes	debug-WIRE	S	PDIP, Narrow SOIC, QFN, DIE	Yes	2.7 - 5.5	0 - 20	Now
ATtiny44V	4	256	256	12	1	–	1	1	8	Yes	debug-WIRE	S	PDIP, Narrow SOIC, QFN, DIE	Yes	1.8 - 5.5	0 - 10	Now
ATtiny45	4	256	256	6	1	–	2	–	4	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	2.7 - 5.5	0 - 20	Now
ATtiny45V	4	256	256	6	1	–	2	–	4	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	1.8 - 5.5	0 - 10	Now
ATtiny461	4	256	256	16	1	–	1	1	11	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	2.7 - 5.5	0 - 20	Now
ATtiny461V	4	256	256	16	1	–	1	1	11	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	1.8 - 5.5	0 - 10	Now
ATtiny84	8	512	512	12	1	–	1	1	8	Yes	debug-WIRE	S	PDIP, QFN, DIE	Yes	2.7 - 5.5	0 - 20	4Q2006
ATtiny84V	8	512	512	12	1	–	1	1	8	Yes	debug-WIRE	S	PDIP, QFN, DIE	Yes	1.8 - 5.5	0 - 10	4Q2006
ATtiny85	8	512	512	6	1	–	2	–	4	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	2.7 - 5.5	0 - 20	Now
ATtiny85V	8	512	512	6	1	–	2	–	4	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	1.8 - 5.5	0 - 10	Now
ATtiny861	8	512	512	16	1	–	1	1	11	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	2.7 - 5.5	0 - 20	Now
ATtiny861V	8	512	512	16	1	–	1	1	11	Yes	debug-WIRE	S	PDIP, SOIC, QFN, DIE	Yes	1.8 - 5.5	0 - 10	Now

Note: *USI = Universal Serial Interface.

MICROCONTROLLERS (CONTINUED)

AVR Flash Microcontrollers (Continued)

ATmega 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-ging	Self-Prog.	Package	RoHS Com-pliance	VCC (V)	Speed (MHz)	Other	Availability
ATmega48	4	256	512	23	–	1	1+ USART	1	2	1	8	Yes	debug-WIRE	Yes	PDIP, TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 20	–	Now
ATmega48V	4	256	512	23	–	1	1+ USART	1	2	1	8	Yes	debug-WIRE	Yes	PDIP, TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 10	–	Now
ATmega8	8	512	1K	23	–	1	1	1	2	1	8	Yes	–	Yes	PDIP, TQFP, QFN, DIE	Yes	4.5 - 5.5	0 - 16	–	Now
ATmega8L	8	512	1K	23	–	1	1	1	2	1	8	Yes	–	Yes	PDIP, TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 8	–	Now
ATmega88	8	512	1K	23	–	1	1+ USART	1	2	1	8	Yes	debug-WIRE	Yes	PDIP, TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 20	–	Now
ATmega88V	8	512	1K	23	–	1	1+ USART	1	2	1	8	Yes	debug-WIRE	Yes	PDIP, TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 10	–	Now
ATmega8515	8	512	512	35	–	1	1	–	1	1	–	Yes	–	Yes	PDIP, PLCC, TQFP, QFN, DIE	Yes	4.5 - 5.5	0 - 16	XRAM	Now
ATmega8515L	8	512	512	35	–	1	1	–	1	1	–	Yes	–	Yes	PDIP, PLCC, TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 8	XRAM	Now
ATmega8535	8	512	512	32	–	1	1	1	2	1	8	Yes	–	Yes	PDIP, PLCC, TQFP, QFN, DIE	Yes	4.5 - 5.5	0 - 16	–	Now
ATmega8535L	8	512	512	32	–	1	1	1	2	1	8	Yes	–	Yes	PDIP, PLCC, TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 8	–	Now
ATmega168	16	512	1K	23	–	1	1+ USART	1	2	1	8	Yes	debug-WIRE	Yes	PDIP, TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 20	–	Now
ATmega168V	16	512	1K	23	–	1	1+ USART	1	2	1	8	Yes	debug-WIRE	Yes	PDIP, TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 10	–	Now
ATmega162	16	512	1K	35	–	2	1	–	2	2	–	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 16	XRAM	Now
ATmega162V	16	512	1K	35	–	2	1	–	2	2	–	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 8	XRAM	Now
ATmega16	16	512	1K	32	–	1	1	1	2	1	8	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	4.5 - 5.5	0 - 16	–	Now
ATmega16L	16	512	1K	32	–	1	1	1	2	1	8	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 8	–	Now
ATmega164P	16	512	1K	32	–	2	1+ USART	1	2	1	8	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 20	–	4Q2006
ATmega164PV	16	512	1K	32	–	2	1+ USART	1	2	1	8	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 10	–	4Q2006
ATmega165P	16	512	1K	54	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 16	–	Now
ATmega165PV	16	512	1K	54	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 8	–	Now
ATmega32	32	1K	2K	32	–	1	1	1	2	1	8	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	4.5 - 5.5	0 - 16	–	Now
ATmega32L	32	1K	2K	32	–	1	1	1	2	1	8	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 8	–	Now
ATmega324P	32	1K	2K	32	–	2	1+ USART	1	2	1	8	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 20	–	4Q2006
ATmega324PV	32	1K	2K	32	–	2	1+ USART	1	2	1	8	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 10	–	4Q2006

MICROCONTROLLERS (CONTINUED)

AVR Flash Microcontrollers (Continued)

ATmega Series (Continued)

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-ging	Self-Prog.	Package	RoHS Com-pliance	VCC (V)	Speed (MHz)	Other	Availability
ATmega325	32	1K	2K	54	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 16	–	Now
ATmega325V	32	1K	2K	54	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 8	–	Now
ATmega3250	32	1K	2K	69	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, DIE	Yes	2.7 - 5.5	0 - 16	–	Now
ATmega3250V	32	1K	2K	69	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, DIE	Yes	1.8 - 5.5	0 - 8	–	Now
ATmega64	64	2K	4K	54	–	2	1	1	2	2	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	4.5 - 5.5	0 - 16	XRAM	Now
ATmega64L	64	2K	4K	54	–	2	1	1	2	2	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 8	XRAM	Now
ATmega640	64	4K	8K	86	–	4	1+ USART	1	2	4	16	Yes	JTAG	Yes	TQFP, BGA, DIE	Yes	2.7 - 5.5	0 - 16	XRAM	4Q2006
ATmega640V	64	4K	8K	86	–	4	1+ USART	1	2	4	16	Yes	JTAG	Yes	TQFP, BGA, DIE	Yes	1.8 - 5.5	0 - 8	XRAM	4Q2006
ATmega644	64	2K	4K	32	–	1	1+ USART	1	2	1	8	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 20	–	Now
ATmega644V	64	2K	4K	32	–	1	1+ USART	1	2	1	8	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 10	–	Now
ATmega644P	64	2K	4K	32	–	2	1+ USART	1	2	1	8	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 20	–	Now
ATmega644PV	64	2K	4K	32	–	2	1+ USART	1	2	1	8	Yes	JTAG	Yes	PDIP, TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 10	–	Now
ATmega645	64	2K	4K	54	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 16	–	Now
ATmega645V	64	2K	4K	54	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 8	–	Now
ATmega6450	64	2K	4K	69	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, DIE	Yes	2.7 - 5.5	0 - 16	–	Now
ATmega6450V	64	2K	4K	69	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, DIE	Yes	1.8 - 5.5	0 - 8	–	Now
ATmega128	128	4K	4K	53	–	2	1	1	2	2	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	4.5 - 5.5	0 - 16	XRAM	Now
ATmega128L	128	4K	4K	53	–	2	1	1	2	2	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 8	XRAM	Now
ATmega1280	128	4K	8K	86	–	4	1+ USART	1	2	4	16	Yes	JTAG	Yes	TQFP, BGA, DIE	Yes	2.7 - 5.5	0 - 16	XRAM	Now
ATmega1280V	128	4K	8K	86	–	4	1+ USART	1	2	4	16	Yes	JTAG	Yes	TQFP, BGA, DIE	Yes	1.8 - 5.5	0 - 8	XRAM	Now
ATmega1281	128	4K	8K	54	–	2	1+ USART	1	2	4	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 16	XRAM	Now
ATmega1281V	128	4K	8K	54	–	2	1+ USART	1	2	4	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 8	XRAM	Now
ATmega2561	256	4K	8K	54	–	2	1+ USART	1	2	4	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 16	XRAM	Now
ATmega2561V	256	4K	8K	54	–	2	1+ USART	1	2	4	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 8	XRAM	Now
ATmega2560	256	4K	8K	86	–	4	1+ USART	1	2	4	16	Yes	JTAG	Yes	TQFP, BGA, DIE	Yes	2.7 - 5.5	0 - 16	XRAM	Now
ATmega2560V	256	4K	8K	86	–	4	1+ USART	1	2	4	16	Yes	JTAG	Yes	TQFP, BGA, DIE	Yes	1.8 - 5.5	0 - 8	XRAM	Now

MICROCONTROLLERS (CONTINUED)

AVR Flash Microcontrollers (Continued)

AVR for LCD Control

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-ging	Self-Prog.	Package	RoHS Com-pliance	VCC (V)	Speed (MHz)	Other	Availability
ATmega169P	16	512	1K	54	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 16	4x25 LCD	Now
ATmega169PV	16	512	1K	54	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 8	4x25 LCD	Now
ATmega329	32	1K	2K	54	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 16	4x25 LCD	Now
ATmega329V	32	1K	2K	54	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 8	4x25 LCD	Now
ATmega3290	32	1K	2K	69	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, DIE	Yes	2.7 - 5.5	0 - 16	4x40 LCD	Now
ATmega3290V	32	1K	2K	69	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, DIE	Yes	1.8 - 5.5	0 - 8	4x40 LCD	Now
ATmeg649	64	2K	4K	54	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	2.7 - 5.5	0 - 16	4x25 LCD	Now
ATmega649V	64	2K	4K	54	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, QFN, DIE	Yes	1.8 - 5.5	0 - 8	4x25 LCD	Now
ATmega6490	64	2K	4K	69	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, DIE	Yes	2.7 - 5.5	0 - 16	4x40 LCD	Now
ATmega6490V	64	2K	4K	69	1	1	1+USI	USI	2	1	8	Yes	JTAG	Yes	TQFP, DIE	Yes	1.8 - 5.5	0 - 8	4x40 LCD	Now

Z-Link AVR

Part Number	Status	AVR	Radio	Flash (KBytes)	EEPROM (KBytes)	RAM (KBytes)	ISM Band (GHz)	Sensitivity (dBm)	Output Power (dBm)	Supply VCC (V)	I/Os	RoHS Compliance	Availability
ATmega64RZA	I	ATmega644	RF230	64	1	4	2.4	-101	3	1.8 - 3.6	32	Yes	Now
ATmega128RZA	I	ATmega1281	RF230	128	4	8	2.4	-101	3	1.8 - 3.6	54	Yes	Now
ATmega128RZB	I	ATmega1280	RF230	128	4	8	2.4	-101	3	1.8 - 3.6	86	Yes	Now
ATmega256RZA	I	ATmega2561	RF230	256	4	8	2.4	-101	3	1.8 - 3.6	54	Yes	Now
ATmega256RZB	I	ATmega2560	RF230	256	4	8	2.4	-101	3	1.8 - 3.6	86	Yes	Now

MICROCONTROLLERS (CONTINUED)

AVR Flash Microcontrollers (Continued)

AVR for CAN Networking

Part Number	Description	Package	RoHS Compliance	Availability
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	TQFP64, QNF64, CABGA64	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	TQFP64, QNF64, CABGA64	Yes	Now
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	TQFP64, QNF64, CABGA64	Yes	Now

AVR for USB

Part Number	Description	Package	RoHS Compliance	Availability
AT90USB647	AVR Microcontroller with 64-Kbyte Flash MCU, 4-Kbyte RAM, 4K-byte EEPROM, USB 2.0 Host/OTG, USB Full Speed, USB Low Speed, 7 USB Endpoints, SPI, TWI, 10-bit ADC	TQFP64, QNF64	Yes	Now
AT90USB646	AVR Microcontroller with 64-Kbyte Flash MCU, 4-Kbyte RAM, 4K-byte EEPROM, USB Full Speed, USB Low Speed, 7 USB Endpoints, SPI, TWI, 10-bit ADC	TQFP64, QNF64	Yes	Now
AT90USB1287	AVR Microcontroller with 128-Kbyte Flash MCU, 8-Kbyte RAM, 4K-byte EEPROM, USB 2.0 Host/OTG, USB Full Speed, USB Low Speed, 7 USB Endpoints, SPI, TWI, 10-bit ADC	TQFP64, QNF64	Yes	Now
AT90USB1286	AVR Microcontroller with 128-Kbyte Flash MCU, 8-Kbyte RAM, 4K-byte EEPROM, USB Full Speed, USB Low Speed, 7 USB Endpoints, SPI, TWI, 10-bit ADC	TQFP64, QNF64	Yes	Now

Lighting/Pulse Width Modulation AVR

Part Number	Description	Package	RoHS Compliance	Availability
AT90PWM3	AVR Microcontroller with 8-Kbyte Flash MCU, 512-byte RAM, 512-byte EEPROM, 10-bit 11-channel ADC, 10-bit DAC, 8-, 12- and 16-bit Timers, Analog Comparator, RC Oscillators, Amplifier, 64 MHz PLL, Supports DALI Protocol	SO32, QFN32	Yes	Now
AT90PWM2	AVR Microcontroller with 8-Kbyte Flash MCU, 512-byte RAM, 512-byte EEPROM, 10-bit 8-channel ADC, 8-, 12- and 16-bit Timers, Analog Comparator, RC Oscillators, Amplifier, 64 MHz PLL, Supports DALI Protocol	SO24	Yes	Now
AT90PWM1	AVR Microcontroller with 8-Kbyte Flash MCU, 512-byte RAM, 512-byte EEPROM, 10-bit 8-channel ADC, 8- and 12- bit Timers, Analog Comparator, RC Oscillators, Amplifier, 64 MHz PLL	SO24	Yes	Now

MICROCONTROLLERS (CONTINUED)

AVR Flash Microcontrollers (Continued)

AVR for Automotive

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	Sampling May 2007
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	Sampling Dec. 2006
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	Yes	Now
		QFN20	Yes	Sampling Nov. 2006
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	Sampling May 2007
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, -40 to +125°C Qualified	QFN32, QFP32	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	Sampling Nov. 2006
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	Sampling Nov. 2006
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	Sampling Nov. 2006

AVR for Smart Battery

Part Number	Description	Package	RoHS Compliance	Availability
ATmega406	AVR Microcontroller with 40-Kbyte Flash MCU, 2-Kbyte RAM, 512-byte EEPROM, 12-bit ADC	LQFP48	Yes	Now

MICROCONTROLLERS (CONTINUED)

AVR Flash Microcontrollers (Continued)

Evaluation Kits and Tools (AVR, tinyAVR®, megaAVR, LCD AVR, CAN AVR™, Lighting AVR, Motor Control AVR, Automotive AVR)

Part Number	Description	Availability
ATSTK500	STK®500 AVR Starter Kit with AVR Studio® Interface	Now
ATSTK501	STK501 Expansion of STK500 to Support 64-pin megaAVR® Devices	Now
ATSTK502	STK502 Expansion of STK500 for 64-pin LCD AVR Devices	Now
ATSTK503	STK503 Expansion of STK500 for 100-pin megaAVR Devices	Now
ATSTK504	STK504 Expansion of STK500 for 100-pin LCD AVR Devices	Now
ATSTK505	STK505 Expansion of STK500 for 14-pin SOIC and 20-pin PDIP AVR Devices	Now
ATSTK520	STK520 Expansion for STK500 to Support 90 PWM Devices	Now
ATSTK525	STK525 AVR Starter Kit to Support AT90USB Devices	Now
AT90EIT1	AVR Embedded Internet Toolkit	Now
ATAVRISP2	AVRISP Programmer for All AVR ISP Devices	Now
ATAVRBFLY	AVR Butterfly, ATmega169 Demo Board with LCD and Speaker	Now
ATSTK1000	Starter Kit for AT32AP7xxx devices	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
ATJTAGICE2	AVR Low-cost In-Circuit Emulator Supporting All AVR with Debugwire or JTAG Interface	Now
ATJTAGPROBE	JTAG ICE Probe Including Flex Cables	Now
ATADAPCAN01	Replacement: STK500/501 90CAN128 CAN Adapter	Now
ATAVRFBKIT	DALI Controlled Dimmable Fluorescent Demo Kit for AT90PWM2	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
AT90USBKEY	Demo Kit for AT90USB Devices	Now
ATAVRRTOS	AVR Real-Time Operating System Development Kit	Now
ATDVK90CAN1	DVK90CAN1 Development Kit for AT90CAN Devices	Now
ATAVRSB100	Smart Battery Development Kit for Atmega406	Now
ATAVRZ200	Z-Link Demonstration Kit	Now
ATAVRZ502	Z-Link RF Accessory Kit	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 T574	Now

MICROCONTROLLERS (CONTINUED)

MARC4 4-bit Architecture Microcontrollers

4-bit Microcontrollers/MARC4 Family

Part Number	Description	Package	RoHS Compliance	Availability
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 +125oC	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	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
ATAR890	See ATAR090, Additional 512-bit EEPROM (64 Bytes) On-chip, Operating Temperature Range T_{AMB} = -40° C to +85° 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
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 Pulsewidth 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)	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
ATAR892	See ATAR092, Additional 512-bit EEPROM (64 Bytes) On-chip	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
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
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
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 µA (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
ATAM862x-yyy-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-yyy-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-yyy-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
Evaluation Kits and Tools				
TMEB893	MARC4 Starter Kit Includes Core Simulator, Programmer and ATAM893 Samples			Now
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

PROGRAMMABLE LOGIC

Field Programmable Gate Arrays (FPGAs)

AT40K Series

Part Number	Description	Registers	Usable Gates	Frequency (MHz)	RAM	RoHS Compliance	Availability
Standard Voltage (5V)							
AT40K05	128 I/O Pins, 5-volt, Very Low Power	256	5K - 10K	250	2,048 Bits	No	Now
AT40K10	192 I/O Pins, 5-volt, Very Low Power	576	10K - 20K	250	4,096 Bits	No	Now
AT40K20	256 I/O Pins, 5-volt, Very Low Power	1,024	20K - 30K	250	8,192 Bits	No	Now
AT40K40	384 I/O Pins, 5-volt, Very Low Power	2,304	40K - 50K	250	18,432 Bits	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 Bits	Contact Atmel	Now
AT40K10AL	192 I/O Pins, 3.3-volt, Very Low Power	896	10K - 20K	250	4,096 Bits	Yes	Now
AT40K20AL	256 I/O Pins, 3.3-volt, Very Low Power	1,440	20K - 30K	250	8,192 Bits	Yes	Now
AT40K40AL	384 I/O Pins, 3.3-volt, Very Low Power	2,690	40K - 50K	250	18,432 Bits	Contact Atmel	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

AT6000 Series

Part Number	Description	Registers	Usable Gates	Frequency (MHz)	RoHS Compliance	Availability
Standard Voltage (5V)						
AT6002	96 I/O Pins, 5-volt, Very Low Power	1,024	6K	350	No	Now
AT6003	120 I/O Pins, 5-volt, Very Low Power	1,600	9K	350	No	Now
AT6005	140 I/O Pins, 5-volt, Very Low Power	3,136	15K	350	No	Now
AT6010	204 I/O Pins, 5-volt, Very Low Power	6,400	30K	350	No	Now

PROGRAMMABLE LOGIC (CONTINUED)

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
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
Software/Hardware Tools				
ATDH2200E	Configurator Programming Kit, CPS ISP Software, 8-lead LAP and 20 PLCC Adapter			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

Note: 1. Replacement RoHS is the AT17LV256.

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

PROGRAMMABLE LOGIC (CONTINUED)

Programmable Logic Devices (Continued)

SPLDs/CPLDs Software/Hardware and Development Kits

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-SAA144	Atmel – 144-lead PLCC Adapter for ATF15xx-DK3 Kit	2Q2007
Development Kits		
ATF15xx-DK3	CPLD Development Programming Kit (Includes Software, 2 Sample PLDs, 44-lead TQFP Socket Adapter and ISP Cable)	Now

PROGRAMMABLE SLI

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

AT94K Series

Part Number	FPGA Gates	FreeRAM	FPGA I/O[1]	Program/Data SRAM	RoHS Compliance	Availability
AT94K05AL Micro FPSLIC	5K	2,048 Bits	Up to 96	4K - 16K Bytes/4K - 16K Bytes	Contact Atmel	Now
AT94K10AL	10K	4,096 Bits	Up to 192	20K - 32K Bytes/4K - 16K Bytes	Yes	Now
AT94K40AL	40K	18,432 Bits	Up to 384	20K - 32K Bytes/4K - 16K Bytes	Contact Atmel	Now
Software/Hardware Tools						
Software						
ATDS94KSW1	AT94K Series Design System Annual Subscription					Now
ATDS94KSW2	AT94K Series Design System Perpetual License					Now
ATDM94KSW2	AT94K Series Design System Annual Maintenance					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	FPGA I/O	Program/Data SRAM	RoHS Compliance	Availability
AT94S05AL Micro FPSLIC	5K	2,048 Bits	Up to 95	4K - 16K Bytes/4K - 16K Bytes	Contact Atmel	Now
AT94S10AL	10K	4,096 Bits	Up to 120	20K - 32K Bytes/4K - 16K Bytes	Yes	Now
AT94S40AL	40K	18,432 Bits	Up to 384	20K - 32K Bytes/4K - 16K Bytes	Contact Atmel	Now

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