

AVR™ Enhanced RISC Microcontroller

Part Number	Memory Size	Description
AT90S1300	1K x 8	AVR Microcontroller with 1K bytes Flash and 128-bytes EEPROM
AT90S2312	2K x 8	AVR Microcontroller with 2K bytes Flash and 128-bytes EEPROM
AT90S8414	8K x 8	AVR Microcontroller with 8K bytes Flash and 256-bytes EEPROM

C51 Family Microcontrollers

Part Number	Memory Size	Description
AT89C51	4K x 8	80C31 Microcontroller with 4K bytes Flash
AT89LV51	4K x 8	2.7-Volt, 80C31 Microcontroller with 4K bytes Flash
AT89C52	8K x 8	80C32 Microcontroller with 8K bytes Flash
AT89LV52	8K x 8	2.7-Volt, 80C32 Microcontroller with 8K bytes Flash
AT89C1051	1K x 8	80C31 Microcontroller with 1K bytes Flash, 20-Pin Package
AT89C2051	2K x 8	80C31 Microcontroller with 2K bytes Flash, 20-Pin Package
AT89S8252	8K x 8	Downloadable Microcontroller with 8K bytes Flash and 2K bytes E ² PROM
AT89C55	20K x 8	80C32 Microcontroller with 20K bytes Flash

EPROMs

Part Number	Organization	Speeds	Description
Battery-Voltage™ (2.7V to 3.6V)			
AT27BV256	32K x 8	70-150 ns	256K bit, 2.7-Volt to 3.6-Volt
AT27BV512	64K x 8	90-150 ns	512K bit, 2.7-Volt to 3.6-Volt
AT27BV010	128K x 8	90-150 ns	1M bit, 2.7-Volt to 3.6-Volt EPROM
AT27BV1024	64K x 16	120-150 ns	1M bit, 2.7-Volt to 3.6-Volt
AT27BV020	256K x 8	120-150 ns	2M bit, 2.7-Volt to 3.6-Volt EPROM
AT27BV4096	256K x 16	150 ns	4M bit, 2.7-Volt to 3.6-Volt
AT27BV040	512K x 8	150 ns	4M bit, 2.7-Volt to 3.6-Volt EPROM
Low Voltage (3.0 to 3.6V)			
AT27LV256A	32K x 8	70-150 ns	256K bit, 3-Volt EPROM
AT27LV512A	64K x 8	90-150 ns	512K bit, 3-Volt EPROM
AT27LV010A	128K x 8	90-150 ns	1M bit, 3-Volt EPROM
AT27LV020A	256K x 8	120-150 ns	2M bit, 3-Volt EPROM
AT27LV040A	512K x 8	150 ns	4M bit, 3-Volt EPROM
Standard Voltage (5V)			
AT27C256R	32K x 8	45-150 ns	256K, 5-Volt EPROM
AT27C512R	64K x 8	45-150 ns	512K, 5-Volt EPROM
AT27C516	32K x 16	45-150 ns	512K, 5-Volt EPROM
AT27C1024	64K x 16	45-150 ns	1M bit, 5-Volt EPROM
AT27C010,L	128K x 8	45-150 ns	1M bit, 5-Volt EPROM, Standard & Low Power
AT27C2048	128K x 16	70-150 ns	2M bit, 5-Volt EPROM
AT27C020	256K x 8	85-150 ns	2M bit, 5-Volt EPROM
AT27C4096	256K x 16	85-150 ns	4M bit, 5-Volt EPROM
AT27C040	512K x 8	80-150 ns	4M bit, 5-Volt EPROM
AT27C080	1024K x 8	100-150 ns	8M bit, 5-Volt EPROM
AT27C8192	512K x 16	100-150 ns	8M bit, 5-Volt EPROM

E² Logic Family: E²PROM + Gate Array

Device Name	E ² PROM Bits	Number of Usable Gates	Number of I/O	Package Type
AT88SC200	2,048	800	8	PDIP/SOIC
AT88SC210	2,048	1,000	64	PQFP/TQFP/PLCC
AT88SC230	2,048	3,300	100	PQFP/TQFP/PLCC
AT88SC2100	2,048	10,000	48	PQFP/TQFP/PLCC
AT88SC410	4,096	1,300	24	PDIP/SOIC
AT88SC1610	16,384	1,500	8	PDIP/SOIC
AT88SC16350	16,384	35,000	144	PQFP/TQFP

Flash

Part Number	Organization	Speeds	Description
Battery-Voltage™ (2.7V to 3.6V)			
AT29BV010A	128K x 8	200-350 ns	1M bit, 2.7-Volt Read and 2.7-Volt Write Flash
AT29BV020	256K x 8	250-350 ns	2M bit, 2.7-Volt Read and 2.7-Volt Write Flash
AT29BV040A	512K x 8	250-350 ns	4M bit, 2.7-Volt Read and 2.7-Volt Write Flash
Low Voltage (3V to 3.6V)			
AT29LV256	32K x 8	150-250 ns	256K, 3-Volt Read and 3-Volt Write Flash
AT29LV512	64K x 8	150-250 ns	512K, 3-Volt Read and 3-Volt Write Flash
AT29LV010A	128K x 8	150-250 ns	1M bit, 3-Volt Read and 3-Volt Write Flash
AT29LV1024	64K x 16	150-250 ns	1M bit, 3-Volt Read and 3-Volt Write Flash
AT29LV020	256K x 8	200-250 ns	2M bit, 3-Volt Read and 3-Volt Write Flash
AT29LV040A	512K x 8	200-250 ns	4M bit, 3-Volt Read and 3-Volt Write Flash
Standard Voltage (5V)			
AT29C256	32K x 8	70-250 ns	256K, 5-Volt Read and 5-Volt Write Flash
AT29C257	32K x 8	70-250 ns	256K, 5-Volt Read and 5-Volt Write Flash
AT29C512	64K x 8	70-200 ns	512K, 5-Volt Read and 5-Volt Write Flash
AT29C1024	64K x 16	70-200 ns	1M bit, 5-Volt Read and 5-Volt Write Flash
AT29C010A	128K x 8	70-200 ns	1M bit, 5-Volt Read and 5-Volt Write Flash
AT29C020	256K x 8	90-200 ns	2M bit, 5-Volt Read and 5-Volt Write Flash
AT29C040A	512K x 8	120-250 ns	4M bit, 5-Volt Read and 5-Volt Write Flash
AT49F2048	128K x 16	90-200 ns	2M bit, 5-Volt Read and 5-Volt Write Flash
AT49F4096	256K x 16	90-200 ns	4M bit, 5-Volt Read and 5-Volt Write Flash
AT49F080	1M x 8	120-200 ns	8M bit, 5-Volt Read and 5-Volt Write Flash
AT49F8192	512K x 16	120-200 ns	8M bit, 5-Volt Read and 5-Volt Write Flash

Flash Memory Cards

Part Number	Organization	Vcc	Description
AT5FC001	1M byte	5-Volt	PCMCIA Compatible Flash Memory Card
AT5FC002	2M byte	5-Volt	PCMCIA Compatible Flash Memory Card
AT5FC004	4M byte	5-Volt	PCMCIA Compatible Flash Memory Card
AT5FC008	8M byte	5-Volt	PCMCIA Compatible Flash Memory Card

(Cache Logic™ FPGAs)

Part Number	Registers	Usable Gates	Frequency	Description
AT6002	1,024	2K-4K	250 MHz	96 I/O Pins, 5-Volt, Very Low Power
AT6003	1,600	3K-6K	250 MHz	120 I/O Pins, 5-Volt, Very Low Power
AT6005	3,136	5K-10K	250 MHz	108 I/O Pins, 5-Volt, Very Low Power
AT6010	6,400	10K-20K	250 MHz	204 I/O Pins, 5-Volt, Very Low Power
Low Voltage				
AT6002LV	1,024	2K-4K	250 MHz	96 I/O Pins, 3-Volt, Very Low Power
AT6003LV	1,600	3K-6K	250 MHz	120 I/O Pins, 3-Volt, Very Low Power
AT6005LV	3,136	5K-10K	250 MHz	108 I/O Pins, 3-Volt, Very Low Power
AT6010LV	6,400	10K-20K	250 MHz	204 I/O Pins, 3-Volt, Very Low Power

FPGA Design Development Software

FPGA design tools are available across a broad range of CAE tool vendors and PC and workstation platforms. Design methods supported include: schematic capture, logic synthesis (VHDL and Verilog), PLD entry (ABEL and CUPL), and automatic component generation of hard macros for user-parametrized structured logic (arithmetic elements, counters, registers, encoders, decoders, and other common functions). Refer to current Configurable Logic Data Book.

CAE Tool Support:

Cadence, Exemplar, Intergraph, Mentor, Synopsys, ViewLogic.

Platform Support:

PC, SUN Workstations, HP Workstations.

FPGA Serial Configuration E²PROM

Part Number	Memory Size	Description
AT17C65	65,536 x 1	65K FPGA Configuration E ² PROM
AT17C128	131,072 x 1	128K FPGA Configuration E ² PROM
AT17C256	262,144 x 1	256K FPGA Configuration E ² PROM

Gate Arrays/Embedded Arrays

Part Number	Gates	Description
ATL50 Series	4K-1120K	0.5-Micron CMOS Gate Array, 2.0-Volt & 3.3-Volt Mixed Voltage Operation, 16 Versions with Various Pin & Gate Counts, Memory, Megacells
ATLS60 Series	12.5K-150K	0.6-Micron CMOS Gate Array, 3.3-Volt & 5.0-Volt Operation, Staggered Row Bond Pads, 8 Versions with Various Pin & Gate Counts, Memory, Megacells
ATL60 Series	4K-1120K	0.6-Micron CMOS Gate Array, 3.3-Volt & 5.0-Volt Operation, 16 Versions with Various Pin & Gate Counts, Memory, Megacells
ATL80 Series	2K-600K	0.8-Micron CMOS Gate Array, 3.3-Volt & 5.0-Volt Operation, 12 Versions with Various Pin & Gate Counts, Memory, Megacells
ATLV Series	2K-35K	1.0-Micron CMOS Gate Array, 1.0-Volt & 3.3-Volt Operation, 8 Underlayers with Various Pin & Gate Counts, Memory, Megacells

Cell-Based ICs

Part Number	Description
ECDM05	0.5-Micron CMOS Cell-Based IC Family, 3.3-Volt Operation, Digital, Analog, Memory, Megacells
ECLP07	0.7-Micron CMOS Cell-Based IC Family, 3.3-Volt Operation, Digital, Analog, Memory, Megacells
ECPD07	0.7-Micron CMOS Cell-Based IC Family, 5.0-Volt Operation, Digital, Analog, Memory, Megacells
ECPD10	1.0-Micron CMOS Cell-Based IC Family, 5.0-Volt Operation, Digital, Analog, Memory, Megacells

Parallel E²PROMs

Part Number	Organization	Speeds	Description
High Speed			
AT28HC64B	8K x 8	55-120 ns	64K E ² PROM with 64-Byte Page & Software Data Protection
AT28HC256	32K x 8	70-120 ns	256K E ² PROM with 64-Byte Page & Software Data Protection
AT28HC256E	32K x 8	70-120 ns	256K E ² PROM with Extended Endurance, Standard & Low Power
Battery-Voltage™ (2.7V to 3.6V)			
AT28BV16	2K x 8	250-300 ns	16K E ² PROM, 2.7-Volt
AT28BV64	8K x 8	300 ns	64K E ² PROM, 2.7-Volt
Low Voltage (3.0V to 3.6V)			
AT28LV64B	8K x 8	200-300 ns	64K E ² PROM with 64-Byte Page & Software Data Protection, 3.0-Volt
AT28LV256	32K x 8	200-300 ns	256K E ² PROM with 64-Byte Page & Software Data Protection, 3.0-Volt
AT28LV010	128K x 8	200-250 ns	1M bit E ² PROM with 128-Byte Page & Software Data Protection, 3.0-Volt
Standard Voltage (5V)			
AT28C16	2K x 8	150-250 ns	16K E ² PROM
AT28C16E	2K x 8	150-250 ns	16K E ² PROM with Extended Endurance & Fast Write
AT28C17	2K x 8	150-250 ns	16K E ² PROM with Ready/Busy
AT28C17E	2K x 8	150-250 ns	16K E ² PROM with Ready/Busy & Extended Endurance & Fast Write
AT28C64	8K x 8	120-350 ns	64K E ² PROM
AT28C64E	8K x 8	120-350 ns	64K E ² PROM with Extended Endurance & Fast Write
AT28C64X	8K x 8	150-450 ns	64K E ² PROM without Ready-Busy
AT28C64B	8K x 8	150-250 ns	64K E ² PROM with 64-Byte Page & Software Data Protection
AT28C256	32K x 8	150-350 ns	256K E ² PROM with 64-Byte Page & Software Data Protection
AT28C256E	32K x 8	150-350 ns	256K E ² PROM with Extended Endurance
AT28C010	128K x 8	120-250 ns	1M bit E ² PROM with 128-Byte Page & Software Data Protection
AT28C010E	128K x 8	120-250 ns	1M bit E ² PROM with 128-Byte Page & Extended Endurance & Software Data Protection
AT28C040	512K x 8	150-250 ns	4M bit E ² PROM with 256-Byte Page & Software Data Protection

Programmable Logic Devices

Part Number	Packages	Speeds	Description
Flash-Based			
ATF16V8B	20-Pin	7.5-25 ns	8 FFs, 8 I/O Pins, Standard Power
ATF16V8BQ,BQL	20-Pin	10-25 ns	8 FFs, 8 I/O Pins, Quarter Power, Low Power
ATF16V8C	20-Pin	5-7.5 ns	8 FFs, 8 I/O Pins, Standard Power
ATF16V8CZ	20-Pin	10-15 ns	8 FFs, 8 I/O Pins, Zero Power
ATF20V8B	24-Pin, 28-Pin	7.5-25 ns	8 FFs, 8 I/O Pins, Standard Power
ATF20V8BQ,BQL	24-Pin, 28-Pin	10-25 ns	8 FFs, 8 I/O Pins, Quarter Power, Low Power
ATF22V10B	24-Pin, 28-Pin	7.5-25 ns	10 FFs, 10 I/O Pins, Standard Power
ATF22V10BQ,BQL	24-Pin, 28-Pin	15-25 ns	10 FFs, 10 I/O Pins, Quarter Power, Low Power
ATF22V10C	24-Pin, 28-Pin	5-7.5 ns	10 FFs, 10 I/O Pins, Standard Power
ATF22V10CZ	24-Pin, 28-Pin	10-15 ns	10 FFs, 10 I/O Pins, Zero Power
ATF1500,L	44-Pin	7.5-25 ns	32 FFs, 32 I/O Pins, Standard Power & Low Power
Low Voltage			
ATF16LV8C	20-Pin	10-15 ns	8 FFs, 8 I/O Pins, Low Voltage
ATF16LV8CZ	20-Pin	15-25 ns	8 FFs, 8 I/O Pins, Low Voltage, Zero Power
AT22LV10,L	24-Pin, 28-Pin	20-30 ns	10 FFs, 10 I/O Pins, Standard & Low Power
ATLV750B,BL	24-Pin, 28-Pin	10-15 ns	20 FFs, 10 I/O Pins, Standard & Low Power
ATF1500LV,L	44-Pin	12-25 ns	32 FFs, 32 I/O Pins, Standard & Low Power
5-Volt, EPROM-Based			
AT22V10,L	24-Pin, 28-Pin	15-25 ns	10 FFs, 10 I/O Pins, Standard & Low Power
AT22V10B	24-Pin, 28-Pin	7.5-10 ns	10 FFs, 10 I/O Pins, Standard Power
ATV750,L	24-Pin, 28-Pin	20-25 ns	20 FFs, 10 I/O Pins, Standard & Low Power
ATV750B,BL	24-Pin, 28-Pin	7.5-25 ns	20 FFs, 10 I/O Pins, Standard & Low Power
ATV2500H,L	40-Pin, 44-Pin	25-35 ns	48 FFs, 24 I/O Pins, Standard & Low Power
ATV2500B,BL	44-Pin	12-20 ns	48 FFs, 24 I/O Pins, Standard & Low Power
ATV2500BQ,BQL	40-Pin, 44-Pin	20-25 ns	48 FFs, 24 I/O Pins, Quarter Power, Low Power

Programmable Logic Device Design Software

Part Number	Description
ATDS1100PC	Atmel - Synario Entry
ATDS1120PC	Atmel - Synario Verilog Simulation
ATDS1130PC	Atmel - Synario VHDL Synthesis
ATDS1110PC	Atmel - ABEL (Windows Version)
ATDS1210PC	Atmel - ABEL (DOS Version)
ATDS1320PC	Atmel - ProPLD ViewLogic System

Secure Memory ICs

Part Number	Memory Size	Description
AT88SC101	1024 x 1	1K Serial E ² PROM with Security, 1 Memory Zone, 1024 Bits
AT88SC102	1024 x 1	1K Serial E ² PROM with Security, 2 Memory Zones, 512 Bits Each
AT88SC103	1536 x 1	1K Serial E ² PROM with Security, 3 Memory Zones, 512 Bits Each
AT88SC1601	15,872 x 1	16K Serial E ² PROM with Security, 1 Memory Zone, 15,872 Bits
RF ID ASICs	Up to 16K x 1	Analog, Digital & Memory on Single-Chip ASIC

Serial E²PROMs

Part Number	Organization	V _{CC}	Description
AT24C01	128 x 8	1.8, 2.5, 2.7, 5.0 V	1K, 2-Wire Bus Serial E ² PROM, Non-Cascadable
AT24C21	128 x 8	2.5 V	1K, 2-Wire Bus Serial E ² PROM, Dual Mode, Plug & Play Operation
AT24C01A	128 x 8	1.8, 2.5, 2.7, 5.0 V	1K, 2-Wire Bus Serial E ² PROM
AT24C02	256 x 8	1.8, 2.5, 2.7, 5.0 V	2K, 2-Wire Bus Serial E ² PROM
AT24C04	512 x 8	1.8, 2.5, 2.7, 5.0 V	4K, 2-Wire Bus Serial E ² PROM
AT24C08	1024 x 8	1.8, 2.5, 2.7, 5.0 V	8K, 2-Wire Bus Serial E ² PROM
AT24C16	2048 x 8	1.8, 2.5, 2.7, 5.0 V	16K, 2-Wire Bus Serial E ² PROM
AT24C164	2048 x 8	1.8, 2.5, 2.7, 5.0 V	16K, 2-Wire Bus Serial E ² PROM with Cascadable Feature
AT24C32	4096 x 8	1.8, 2.5, 2.7, 5.0 V	32K, 2-Wire Bus Serial E ² PROM with Cascadable Feature
AT24C64	8192 x 8	1.8, 2.5, 2.7, 5.0 V	64K, 2-Wire Bus Serial E ² PROM with Cascadable Feature
AT25010	128 x 8	1.8, 2.7, 5.0 V	1K, SPI Bus Serial E ² PROM, Supports SPI Mode 0 and 3
AT25020	256 x 8	1.8, 2.7, 5.0 V	2K, SPI Bus Serial E ² PROM, Supports SPI Mode 0 and 3
AT25040	512 x 8	1.8, 2.7, 5.0 V	4K, SPI Bus Serial E ² PROM, Supports SPI Mode 0 and 3
AT25320	4096 x 8	1.8, 2.7, 5.0 V	32K, SPI Bus Serial E ² PROM, Supports SPI Mode 0 and 3
AT25640	8192 x 8	1.8, 2.7, 5.0 V	64K, SPI Bus Serial E ² PROM, Supports SPI Mode 0 and 3
AT93C46	64 x 16 / 128 x 8	1.8, 2.5, 2.7, 5.0 V	1K, 3-Wire Bus Serial E ² PROM
AT93C46A	64 x 16	1.8, 2.5, 2.7, 5.0 V	1K, 3-Wire Bus Serial E ² PROM
AT93C56	128 x 16 / 256 x 8	2.5, 2.7, 5.0 V	2K, 3-Wire Bus Serial E ² PROM
AT93C57	128 x 16 / 256 x 8	2.5, 2.7, 5.0 V	2K, 3-Wire Bus Serial E ² PROM with Special Address
AT93C66	256 x 16 / 512 x 8	2.5, 2.7, 5.0 V	4K, 3-Wire Bus Serial E ² PROM
AT59C11	64 x 16 / 128 x 8	2.5, 2.7, 5.0 V	1K, 4-Wire Bus Serial E ² PROM
AT59C22	128 x 16 / 256 x 8	2.5, 2.7, 5.0 V	2K, 4-Wire Bus Serial E ² PROM
AT59C13	256 x 16 / 512 x 8	2.5, 2.7, 5.0 V	4K, 4-Wire Bus Serial E ² PROM

