

# ATMEL Microcontrollers



This product is RoHS compliant.



MCU / MPU / DSP

Atmel

## AVR 8-BIT RISC MICROCONTROLLERS

Atmel's low power, high performance AVR microcontrollers handle demanding 8 and 16-bit applications. With a single-cycle instruction RISC CPU, innovative picoPower® technology, and a rich feature set, the AVR architecture ensures fast code execution combined with the lowest possible power consumption.

### picoPower® Technology

PicoPower enables AVR to achieve the industry's lowest power consumption with 650nA with a RTC running and 100nA in Power Down sleep.

- True 1.8V Supply Voltage
- Minimized Leakage Current
- Sleeping BOD
- Clock Gating
- Power Reduction Register
- Digital Input Disable Registers
- Flash Sampling

For quantities of 250 and up, call for quote.

MOUSER STOCK NO.	Atmel Part No.	Package	Flash	EEPROM	SRAM	Max. I/O Pins	Power Supply	Speed	Price Each					
									1	10	25	100		
<b>General Purpose</b>														
556-ATTINY13A-MMU	ATTINY13A-MMU	MLF	1KB	64B	64B	6	1.8V-5.5V	20MHz	1.40	1.20	1.07	.98		
556-ATTINY13A-MU	ATTINY13A-MU	MLF	1KB	64B	64B	6	1.8V-5.5V	20MHz	1.40	1.20	1.07	.98		
556-ATTINY13A-PU	ATTINY13A-PU	PDIP	1KB	64B	64B	6	1.8V-5.5V	20MHz	1.40	1.20	1.07	.98		
556-ATTINY13A-SSU	ATTINY13A-SSU	SOIC150	1KB	64B	64B	6	1.8V-5.5V	20MHz	1.40	1.20	1.07	.98		
556-ATTINY13A-SU	ATTINY13A-SU	SOIC	1KB	64B	64B	6	1.8V-5.5V	20MHz	1.40	1.20	1.07	.98		
556-ATTINY48-AU	ATTINY48-AU	TQFP	4KB	64B	256B	6	1.8V-5.5V	12MHz	1.83	1.57	1.36	1.19		
556-ATTINY48-MMU	ATTINY48-MMU	MLF	4KB	64B	256B	6	1.8V-5.5V	12MHz	1.83	1.57	1.36	1.19		
556-ATTINY48-MU	ATTINY48-MU	MLF	4KB	64B	256B	6	1.8V-5.5V	12MHz	1.83	1.57	1.36	1.19		
556-ATTINY48-PU	ATTINY48-PU	PDIP	4KB	64B	256B	6	1.8V-5.5V	12MHz	1.83	1.57	1.36	1.19		
556-ATMEGA48PV-10PU	ATMEGA48PV-10PU	PDIP	4KB	256B	512B	23	1.8V-5.5V	10MHz	2.58	2.22	1.86	1.68		
556-ATTINY88-AU	ATTINY88-AU	TQFP	8KB	64B	512B	6	1.8V-5.5V	12MHz	2.37	2.04	1.76	1.54		
556-ATTINY88-MMU	ATTINY88-MMU	MLF	8KB	64B	512B	6	1.8V-5.5V	12MHz	2.37	2.04	1.76	1.54		
556-ATTINY88-MU	ATTINY88-MU	MLF	8KB	64B	512B	6	1.8V-5.5V	12MHz	2.37	2.04	1.76	1.54		
556-ATTINY88-PU	ATTINY88-PU	PDIP	8KB	64B	512B	6	1.8V-5.5V	12MHz	2.37	2.04	1.76	1.54		
556-ATMEGA88P-20PU	ATMEGA88P-20PU	PDIP	8KB	512B	512B	23	1.8V-5.5V	20MHz	3.48	3.10	2.59	2.27		
556-ATMEGA164P-20PU	ATMEGA164P-20PU	PDIP	16KB	512B	1024B	32	2.7V-5.5V	20MHz	4.82	4.14	3.56	3.18		
556-ATMEGA164P-20AU	ATMEGA164P-20AU	TQFP	16KB	512B	1024B	32	2.7V-5.5V	20MHz	4.82	4.14	3.56	3.18		
556-ATMEGA164P-20MU	ATMEGA164P-20MU	MLF	16KB	512B	1024B	32	2.7V-5.5V	20MHz	4.82	4.14	3.56	3.18		
556-ATMEGA164PV10AU	ATMEGA164PV-10AU	TQFP	16KB	512B	1024B	32	1.8V-5.5V	10MHz	4.82	4.14	3.56	3.18		
556-ATMEGA164PV10MU	ATMEGA164PV-10MU	MLF	16KB	512B	1024B	32	1.8V-5.5V	10MHz	4.82	4.14	3.56	3.18		
556-ATMEGA164PV10PU	ATMEGA164PV-10PU	PDIP	16KB	512B	1024B	32	1.8V-5.5V	10MHz	4.82	4.14	3.56	3.18		
556-ATMEGA168P-20PU	ATMEGA168P-20PU	PDIP	16KB	512B	1KB	23	1.8V-5.5V	20MHz	4.08	3.77	3.41	2.90		
556-ATMEGA165P-16AU	ATMEGA165P-16AU	TQFP	16KB	512B	1024B	54	2.7V-5.5V	16MHz	5.74	4.94	4.25	3.79		
556-ATMEGA165PV8MU	ATMEGA165PV-8MU	MLF	16KB	512B	1024B	54	1.8V-5.5V	8MHz	5.74	4.94	4.25	3.79		
556-ATMEGA328P-AU	ATMEGA328P-AU	TQFP	32KB	1KB	2KB	23	1.8V-5.5V	20MHz	4.30	3.70	3.30	3.00		
556-ATMEGA328P-PU	ATMEGA328P-PU	PDIP	32KB	1KB	2KB	23	1.8V-5.5V	20MHz	4.30	3.70	3.30	2.66		
556-ATMEGA324P-20AU	ATMEGA324P-20AU	TQFP	32KB	1024B	2048B	32	2.7V-5.5V	20MHz	6.02	5.18	4.45	3.98		
556-ATMEGA324P-20PU	ATMEGA324P-20PU	PDIP	32KB	1024B	2048B	32	2.7V-5.5V	20MHz	6.02	5.18	4.45	3.98		
556-ATMEGA324P-20MU	ATMEGA324P-20MU	MLF	32KB	1024B	2048B	32	2.7V-5.5V	20MHz	6.02	5.18	4.45	3.98		
556-ATMEGA324PV10AU	ATMEGA324PV-10AU	TQFP	32KB	1024B	2048B	32	1.8V-5.5V	10MHz	6.02	5.18	4.45	3.98		
556-ATMEGA324PV10MU	ATMEGA324PV-10MU	MLF	32KB	1024B	2048B	32	1.8V-5.5V	10MHz	6.02	5.18	4.45	3.98		
556-ATMEGA324PV10PU	ATMEGA324PV-10PU	PDIP	32KB	1024B	2048B	32	1.8V-5.5V	10MHz	6.02	5.18	4.45	3.98		
556-ATMEGA325P-20AU	ATMEGA325P-20AU	TQFP	32KB	1024B	2048B	54	2.7V-5.5V	20MHz	6.99	6.06	5.14	4.63		
556-ATMEGA3250P-20AU	ATMEGA3250P-20AU	TQFP	32KB	1024B	2048B	69	2.7V-5.5V	20MHz	7.25	6.28	5.32	4.80		
556-ATMEGA644P-20AU	ATMEGA644P-20AU	TQFP	64KB	2KB	4KB	32	2.7V-5.5V	20MHz	7.76	7.22	6.47	4.77		
556-ATMEGA644P-20MU	ATMEGA644P-20MU	MLF	64KB	2KB	4KB	32	2.7V-5.5V	20MHz	7.76	7.22	5.70	5.14		
556-ATMEGA644PV10AU	ATMEGA644PV-10AU	TQFP	64KB	2KB	4KB	32	1.8V-5.5V	10MHz	7.76	7.22	5.70	5.14		
556-ATMEGA1284P-PU	ATMEGA1284P-PU	PDIP	128KB	4KB	16KB	32	1.8V-5.5V	20MHz	7.53	6.48	5.78	5.25		
<b>4x25 LCD Control</b>														
556-ATMEGA169PV8AU	ATMEGA169PV-8AU	TQFP	16KB	0.5KB	1024 Bytes	54	1.8V-5.5V	8MHz	6.06	4.93	3.81	3.53		
556-ATMEGA169P-16AU	ATMEGA169P-16AU	TQFP	16KB	0.5KB	1024 Bytes	54	2.7V-5.5V	16MHz	6.06	4.93	3.81	3.53		
556-ATMEGA329PV10AU	ATMEGA329PV-10AU	TQFP	32KB	1KB	2048 Bytes	54	1.8V-5.5V	10MHz	7.61	6.60	5.59	5.04		
556-ATMEGA329P-20AU	ATMEGA329P-20AU	TQFP	32KB	1KB	2048 Bytes	54	2.7V-5.5V	20MHz	7.61	6.55	5.59	5.04		
<b>4x40 LCD Control</b>														
556-ATMEGA3290P-20AU	ATMEGA3290P-20AU	TQFP	32KB	1KB	2048 Bytes	69	2.7V-5.5V	20MHz	8.64	7.49	6.35	5.73		

## USB AVR

For quantities of 250 and up, call for quote.

MOUSER STOCK NO.	Atmel Part No.	Package	Flash	EEPROM	SRAM	Max. I/O Pins	Power Supply	Speed	Price Each			
									1	10	25	100
556-AT90USB162-16AUR	AT90USB162-16AUR	TQFP	16KB	512B	512B	22	2.7V-5.5V	8-16MHz	3.76	3.06	2.92	2.54
556-A90USB647-16AU	AT90USB647-AU	TQFP	64KB	2KB	4KB	48	2.7V-5.5V	20MHz	11.87	9.00	8.72	7.87
556-A90USB1286-16MU	AT90USB1286-16MU	QFN	128KB	4KB	8KB	48	2.7V-5.5V	8-16MHz	13.98	12.02	9.75	8.66
556-A90USB1287-16AU	AT90USB1287-16AU	TQFP	128KB	4KB	8KB	48	2.7V-5.5V	8-16MHz	15.05	12.95	10.50	9.33
556-A90USB1287-16MU	AT90USB1287-16MU	QFN	128KB	4KB	8KB	48	2.7V-5.5V	8-16MHz	15.05	12.95	10.50	9.33