

# ATMEL Microcontrollers

RoHS Compliant This product is RoHS compliant.

## 8051 ARCHITECTURE MICROCONTROLLERS

Atmel offers a broad range of microcontrollers based on the 8051 architecture. The product line includes MCS-51® industry standard socket drop-in devices, In-System Programming capability, and small footprint 20-pin derivatives in ROMless, ROM, OTP & Flash flavors.

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Atmel Part No.	Package	Flash	RAM	ISP	Self Memory	I/O Pins	V <sub>CC</sub>	Max. Freq.	UART	16-Bit Timer	Watchdog	SPI	Price Each			
														1	10	25	100
<b>Flash ISP - Single Core</b>																	
556-A89LP214-20PU	AT89LP214-20PU	PDIP-14	2KB	128B	SPI	--	12	2.4V-5.0V	20MHz	1	2	Yes	Yes	1.40	1.35	1.26	1.18
556-A89LP4052-20PU	AT89LP4052-20PU	PDIP-20	4KB	256B	SPI	--	15	2.4V-5.5V	20MHz	1	2	Yes	Yes	1.85	1.79	1.67	1.56
556-A89LP4052-20SU	AT89LP4052-20SU	SOIC-20	4KB	256B	SPI	--	15	2.4V-5.5V	20MHz	1	2	Yes	Yes	1.85	1.79	1.67	1.56
556-AT89LP52-20AU	AT89LP52-20AU	TQFP-44	8KB	256B	UART	--	36	2.4V-5.5V	20MHz	1	3	Yes	Yes	1.69	1.63	1.57	1.47
556-AT89LP52-20MU	AT89LP52-20MU	TQFN-44	8KB	256B	UART	--	36	2.4V-5.5V	20MHz	1	3	Yes	Yes	1.69	1.63	1.57	1.47
556-AT89LP52-20PU	AT89LP52-20PU	PDIP-40	8KB	256B	UART	--	36	2.4V-5.5V	20MHz	1	3	Yes	Yes	1.69	1.63	1.57	1.47
<b>Flash ISP - In-System Programmable</b>																	
556-A89S2051-24PU	AT89S2051-24PU	PDIP-20	2KB	256B	SPI	--	15	2.7V-5.5V	24MHz	1	2	--	Yes	1.54	1.49	1.39	1.30
556-A89S4051-24PU	AT89S4051-24PU	PDIP-20	4KB	256B	SPI	--	15	2.7V-5.5V	24MHz	1	2	--	Yes	1.69	1.63	1.53	1.43
556-A89S51-24PU	AT89S51-24PU	PDIP-40	4KB	128B	SPI	--	32	4.0V-5.5V	33MHz	1	2	Yes	--	.92	.895	.833	.779
556-A89S51-24JU	AT89S51-24JU	PLCC-44	4KB	128B	SPI	--	32	4.0V-5.5V	33MHz	1	2	Yes	--	.92	.895	.833	.779
556-A89LS52-16AU	AT89LS52-16AU	TQFP-44	8KB	256B	SPI	--	32	2.7V-4.0V	16MHz	1	3	Yes	Yes	1.77	1.71	1.60	1.49
556-A89S52-24PU	AT89S52-24PU	PDIP-40	8KB	256B	SPI	--	32	4.0V-5.5V	33MHz	1	3	Yes	--	1.00	.97	.902	.844
556-AT89S52-24JU	AT89S52-24JU	PLCC-44	8KB	256B	SPI	--	32	4.0V-5.5V	33MHz	1	3	Yes	--	1.00	.97	.928	.866
556-A89S52-24AU	AT89S52-24AU	TQFP-44	8KB	256B	SPI	--	32	4.0V-5.5V	33MHz	1	3	Yes	--	1.00	.97	.928	.866
556-A89S8253-24PU	AT89S8253-24PU	PDIP-40	12KB	256B	SPI	--	32	2.7V-5.5V	24MHz	1	3	Yes	Yes	2.08	2.01	1.88	1.75
556-A89S8253-24JU	AT89S8253-24JU	PLCC-44	12KB	256B	SPI	--	32	2.7V-5.5V	24MHz	1	3	Yes	Yes	2.00	1.94	1.81	1.69
556-A89S8253-24AU	AT89S8253-24AU	TQFP-44	12KB	256B	SPI	--	32	2.7V-5.5V	24MHz	1	3	Yes	Yes	2.00	1.94	1.81	1.69
556-A89C51RB2RLTUM	AT89C51RB2-RLTUM	LQFP-44	16KB	1280B	UART	API	34	2.7V-5.5V	60MHz	1	3	Yes	Yes	5.29	5.13	4.86	4.55
556-A89C51RB2SLSUM	AT89C51RB2-SLSUM	PLCC-44	16KB	1280B	UART	API	32	2.7V-5.5V	60MHz	1	3	Yes	Yes	7.53	7.49	5.60	5.25
556-A89C51AC2RLTUM	AT89C51AC2-RLTUM	LQFP-44	32KB	1280B	UART	API	34	3.0V-5.5V	40MHz	1	3	Yes	--	7.38	7.15	6.67	6.23
556-A89C51RC2RLTUM	AT89C51RC2-RLTUM	LQFP-44	32KB	1280B	UART	API	32	2.7V-5.5V	60MHz	1	3	Yes	Yes	5.20	5.12	5.00	4.91
556-A89C51RC2-3CSUM	AT89C51RC2-3CSUM	PDIP-40	32KB	1280B	UART	API	32	2.7V-5.5V	60MHz	1	3	Yes	Yes	6.65	6.45	6.25	6.06
556-A89C51ED2RLTUM	AT89C51ED2-RLTUM	LQFP-44	64KB	2048B	UART	API	32	2.7V-5.5V	60MHz	1	3	Yes	Yes	7.38	7.15	6.86	6.40
556-A89C51RD2SLSUM	AT89C51RD2-SLSUM	PLCC-44	64KB	2048B	UART	API	32	2.7V-5.5V	60MHz	1	3	Yes	Yes	8.71	8.50	6.72	5.82
556-A89C51ED2SLSUM	AT89C51ED2-SLSUM	PLCC-44	64KB	2048B	UART	API	32	2.7V-5.5V	60MHz	1	3	Yes	Yes	9.31	9.09	7.68	7.20
556-A89C51RE2SLSUM	AT89C51RE2-SLSUM	PLCC-44	128KB	8448B	UART	Yes	34	2.7V-5.5V	60MHz	2	3	Yes	Yes	7.86	7.62	7.22	6.75
<b>Flash - Reprogrammable</b>																	
556-A89C2051-24PU	AT89C2051-24PU	PDIP-20	2KB	128B	--	--	15	2.7V-6.0V	24MHz	1	2	--	--	.84	.82	.763	.714
556-A89C2051-122PU	AT89C2051-122PU	PDIP-20	2KB	128B	--	--	15	2.7V-6.0V	12MHz	1	2	--	--	.84	.82	.763	.714
556-A89C2051-24SU	AT89C2051-24SU	SOIC-20	2KB	128B	--	--	15	4.0V-6.0V	24MHz	1	2	--	--	.92	.892	.865	.839
556-A89C4051-24PU	AT89C4051-24PU	PDIP-20	4KB	128B	--	--	15	4.0V-6.0V	24MHz	1	2	--	--	2.15	1.76	1.66	1.62
556-AT89C55WD-24JU	AT89C55WD-24JU	PLCC-44	20KB	256B	--	--	32	4.0V-6.0V	33MHz	1	3	Yes	--	1.92	1.86	1.74	1.62
556-A89C55WD-24AU	AT89C55WD-24AU	TQFP-44	20KB	256B	--	--	32	4.0V-5.5V	24MHz	1	3	Yes	--	2.22	2.20	1.74	1.62
556-AT89C55WD-24PU	AT89C55WD-24PU	PDIP-40	20KB	256B	--	--	32	4.0V-5.5V	24MHz	1	3	Yes	--	3.69	3.37	3.36	3.19
556-A89C51RC-24PU	AT89C51RC-24PU	PDIP-40	32KB	512B	--	--	32	4.0V-5.5V	24MHz	1	3	Yes	--	2.08	2.01	1.88	1.75
<b>CAN Networking</b>																	
556-A89C51C01UARLTUM	AT89C51CC01UA-RLTUM	LQFP-44	32KB	1280B	Yes	Yes	34	3.0V-5.5V	40MHz	1	2	Yes	-	6.72	6.51	5.87	5.78
<b>Full Speed USB (1.1 &amp; 2.0)</b>																	
556-A89C5131ARDTUM	AT89C5131A-RDTUM	LQFP-64	32KB	1280B	Yes	Yes	34	3.0V-3.6V	48MHz	1	1	Yes	Yes	5.74	5.56	5.28	4.94
556-A89C5131AS3SUM	AT89C5131A-S3SUM	PLCC-52	32KB	1280B	Yes	Yes	34	3.0V-3.6V	48MHz	1	1	Yes	Yes	6.15	5.96	5.56	5.19

## 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.

### tinyAVR - 1KB-8KB Flash Programmable Memory

Atmel tinyAVR devices are optimized for applications that require performance, power efficiency, and ease of use in a small package. All tinyAVR devices are based on the same architecture and compatible with other AVR devices. Integrated ADC, EEPROM memory and Brown out detector let you build applications without adding external components. tinyAVR offers flash memory and on-chip debug for fast, secure, cost-effective in-circuit upgrades that significantly cuts your time to market.

For quantities greater than listed, 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-ATTINY13V10PU	ATTINY13V-10PU	PDIP-8	1KB	64 Bytes	64 Bytes	6	1.8V-5.5V	20MHz	1.37	1.19	1.13	1.10
556-ATTINY28L-4PU	ATTINY28L-4PU	PDIP-28	2KB	-	-	11	2.7V-5.5V	4MHz	2.43	1.87	1.75	1.71
556-ATTINY2313-20MU	ATTINY2313-20MU	MLF-20	2KB	128 Bytes	128 Bytes	18	2.7V-5.5V	20MHz	1.90	1.84	1.66	1.51
556-ATTINY2313-20PU	ATTINY2313-20PU	PDIP-20	2KB	128 Bytes	128 Bytes	18	2.7V-5.5V	20MHz	1.91	1.66	1.53	1.52
556-ATTINY2313-20SU	ATTINY2313-20SU	SOIC-20	2KB	128 Bytes	128 Bytes	18	2.7V-5.5V	20MHz	1.84	1.59	1.47	1.46
556-ATTINY2313V10MU	ATTINY2313V-10MU	MLF-20	2KB	128 Bytes	128 Bytes	18	1.8V-5.5V	10MHz	2.65	2.20	1.66	1.51
556-ATTINY2313V10PU	ATTINY2313V-10PU	PDIP-20	2KB	128 Bytes	128 Bytes	18	1.8V-5.5V	10MHz	1.91	1.75	1.67	1.52
556-ATTINY2313V10SU	ATTINY2313V-10SU	SOIC-20	2KB	128 Bytes	128 Bytes	18	1.8V-5.5V	10MHz	1.84	1.59	1.50	1.47
556-ATTINY24-20MU	ATTINY24-20MU	MLF-20	2KB	128 Bytes	128 Bytes	12	2.7V-5.5V	20MHz	1.79	1.49	1.43	1.42
556-ATTINY24-20PU	ATTINY24-20PU	PDIP-14	2KB	128 Bytes	128 Bytes	12	2.7V-5.5V	20MHz	1.81	1.56	1.45	1.44
556-ATTINY24-20SSU	ATTINY24-20SSU	SOIC-14	2KB	128 Bytes	128 Bytes	12	2.7V-5.5V	20MHz	1.73	1.48	1.42	1.38
556-ATTINY24V10PU	ATTINY24V-10PU	PDIP-14	2KB	128 Bytes	128 Bytes	12	1.8V-5.5V	10MHz	1.81	1.56	1.45	1.44
556-ATTINY24V10SSU	ATTINY24V-10SSU	SOIC-14	2KB	128 Bytes	128 Bytes	12	1.8V-5.5V	10MHz	1.73	1.56	1.47	1.45
556-ATTINY25-20PU	ATTINY25-20PU	PDIP-8	2KB	128 Bytes	128 Bytes	6	2.7V-5.5V	20MHz	1.43	1.33	1.22	1.14
556-ATTINY25-20SSU	ATTINY25-20SSU	SOIC-8	2KB	128 Bytes	128 Bytes	6	2.7V-5.5V	20MHz	1.35	1.26	1.15	1.12
556-ATTINY25-20SU	ATTINY25-20SU	SOIC-8	2KB	128 Bytes	128 Bytes	6	2.7V-5.5V	20MHz	1.35	1.18	1.09	1.08
556-ATTINY25V10MU	ATTINY25V-10MU	MLF-20	2KB	128 Bytes	128 Bytes	6	1.8V-5.5V	10MHz	1.41	1.36	1.24	1.13
556-ATTINY25V10PU	ATTINY25V-10PU	PDIP-8	2KB	128 Bytes	128 Bytes	6	1.8V-5.5V	10MHz	1.43	1.33	1.22	1.13
556-ATTINY25V-10SSU	ATTINY25V-10SSU	SOIC-8	2KB	128 Bytes	128 Bytes	6	1.8V-5.5V	10MHz	1.80	1.20	1.10	1.08
556-ATTINY25V10SU	ATTINY25V-10SU	SOIC-8	2KB	128 Bytes	128 Bytes	6	1.8V-5.5V	10MHz	1.18	1.13	1.09	1.08
556-ATTINY26-16PU	ATTINY26-16PU	PDIP-20	2KB	128 Bytes	128 Bytes	16	4.5V-5.5V	16MHz	2.19	2.12	1.91	1.74
556-ATTINY26-16SU	ATTINY26-16SU	SOIC-20	2KB	128 Bytes	128 Bytes	16	4.5V-5.5V	16MHz	2.11	1.83	1.70	1.68
556-ATTINY26L-8PU	ATTINY26L-8PU	PDIP-20	2KB	128 Bytes	128 Bytes	16	2.7V-5.5V	8MHz	2.19	1.91	1.77	1.75
556-ATTINY26L-8SU	ATTINY26L-8SU	SOIC-20	2KB	128 Bytes	128 Bytes	16	2.7V-5.5V	8MHz	2.11	1.83	1.70	1.68
556-ATTINY261-20SU	ATTINY261-20SU	SOIC-20	2KB	128 Bytes	128 Bytes	16	2.7V-5.5V	20MHz	2.02	1.95	1.75	1.71
556-ATTINY261-20PU	ATTINY261-20PU	PDIP-20	2KB	128 Bytes	128 Bytes	16	2.7V-5.5V	20MHz	2.08	2.01	1.82	1.71
556-ATTINY4313-PU	ATTINY4313-PU	PDIP-20	2KB	128 Bytes	128 Bytes	18	1.8V-5.5V	20MHz	2.80	2.60	2.41	2.15
556-ATTINY4313-SU	ATTINY4313-SU	SOIC-20	2KB	128 Bytes								