

ATMEL Microcontrollers



32-BIT ARM-BASED MICROCONTROLLERS



This product is RoHS compliant.

Atmel's 32-bit Smart ARM®-based microcontrollers offer: Proven architecture based on ten years experience in ARM-based standard products; predictable response to a real-time event within a specified number of clock cycles; embedded Flash memory for flexible code and reference data storage; code compatibility across all products; and low-cost development tools, all based on the industry-standard ARM 32-bit RISC processor architecture.

For quantities of 500 and up, call for quote.

| MOUSER STOCK NO. | Atmel Part No. | Pkg | Flash | SRAM | USB Device | USB Host | Ether MAC 10/10 | CAN | UART USART DBGU | 10-Bit A/D Chan. | Max. Freq. | PWM (Chan.) | Watch-dog Timer | Brown Out Detect | Price Each | | | | |
|-----------------------|---------------------|------|-------|-------|------------|----------|-----------------|-----|-----------------|------------------|------------|-------------|-----------------|------------------|------------|-------|-------|-------|------|
| | | | | | | | | | | | | | | | 1 | 10 | 25 | 100 | |
| 556-AT91SAM7L128-CU | AT91SAM7L128-CU | BGA | 128KB | 6KB | - | - | - | - | 1 | 4 | 36MHz | 4 | 1 | 1 | 10.48 | 9.84 | 9.21 | 8.26 | |
| 556-AT91SAM7L128-AU | AT91SAM7L128-AU | LQFP | 128KB | 6KB | - | - | - | - | 1 | 4 | 36MHz | 4 | 1 | 1 | 8.99 | 8.45 | 7.90 | 7.09 | |
| 556-AT91SAM7S128AU001 | AT91SAM7S128-AU-001 | LQFP | 128KB | 32KB | 1 | - | - | - | 1 | 8 | 55MHz | 4 | 1 | 1 | 7.20 | 6.80 | 6.40 | 6.00 | |
| 556-A91SAM7S128-MU | AT91SAM7S128-MU | QFN | 128KB | 32KB | 1 | - | - | - | 3 | 8 | 55MHz | 4 | 1 | 1 | 8.92 | 7.57 | 6.76 | 6.23 | |
| 556-A91SAM7X128AU | AT91SAM7X128-AU | LQFP | 128KB | 32KB | 1 | - | 1 | 1 | 3 | 8 | 55MHz | 4 | 1 | 1 | 9.46 | 8.00 | 7.17 | 6.60 | |
| 556-A91SAM7SE256CU | AT91SAM7SE256-CU | CBGA | 256KB | 32KB | 1 | - | - | - | 3 | 8 | 48MHz | 4 | 1 | 1 | 13.55 | 11.68 | 10.08 | 9.14 | |
| 556-A91SAM7SE256AU | AT91SAM7SE256-AU | LQFP | 256KB | 32KB | 1 | - | - | - | 1 | 8 | 48MHz | 4 | 1 | 1 | 12.26 | 10.67 | 9.29 | 8.27 | |
| 556-A91SAM7A3AU | AT91SAM7A3-AU | LQFP | 256KB | 32KB | 1 | - | - | 2 | 1 | 16 | 60MHz | 8 | 1 | 1 | 13.55 | 10.08 | 9.14 | 8.69 | |
| 556-A91SAM7XC256AU | AT91SAM7XC256-AU | LQFP | 256KB | 64KB | 1 | - | 1 | 1 | 1 | 8 | 55MHz | 4 | 1 | 1 | 12.26 | 10.67 | 9.29 | 8.27 | |
| 556-A91SAM7S256AU001 | AT91SAM7S256-AU-001 | LQFP | 256KB | 64KB | 1 | - | - | - | 3 | 8 | 55MHz | 4 | 1 | 1 | 10.32 | 8.98 | 7.82 | 7.20 | |
| 556-A91SAM7S256MU | AT91SAM7S256-MU | QFN | 256KB | 64KB | 1 | - | - | - | 3 | 8 | 55MHz | 4 | 1 | 1 | 10.64 | 9.48 | 8.07 | 7.43 | |
| 556-A91SAM7X256AU | AT91SAM7X256-AU | LQFP | 256KB | 64KB | 1 | - | 1 | 1 | 3 | 8 | 55MHz | 4 | 1 | 1 | 11.40 | 9.68 | 8.64 | 7.69 | |
| 556-A91SAM7X256CU | AT91SAM7X256-CU | BGA | 256KB | 64KB | 1 | - | 1 | 1 | 3 | 8 | 55MHz | 4 | 1 | 1 | 12.47 | 11.93 | 9.45 | 8.41 | |
| 556-A91SAM7SE512AU | AT91SAM7SE512-AU | LQFP | 512KB | 32KB | 1 | - | - | - | 3 | 8 | 48MHz | 4 | 1 | 1 | 14.51 | 12.20 | 10.80 | 9.79 | |
| 556-A91SAM7SE512-CU | AT91SAM7SE512-CU | CBGA | 512KB | 32KB | 1 | - | - | - | 3 | 8 | 48MHz | 4 | 1 | 1 | 15.57 | 13.42 | 11.56 | 10.50 | |
| 556-A91SAM7S512AU | AT91SAM7S512-AU | LQFP | 512KB | 64KB | 1 | - | - | - | 1 | 8 | 55MHz | 4 | 1 | 1 | 12.26 | 10.67 | 9.29 | 8.27 | |
| 556-A91SAM7S512-MU | AT91SAM7S512-MU | QFN | 512KB | 64KB | 1 | - | - | - | 1 | 8 | 55MHz | 4 | 1 | 1 | 12.47 | 11.93 | 9.45 | 8.41 | |
| 556-A91SAM7X512AU | AT91SAM7X512-AU | LQFP | 512KB | 128KB | 1 | - | 1 | 1 | 1 | 8 | 55MHz | 4 | 1 | 1 | 15.05 | 14.34 | 11.20 | 10.15 | |
| 556-A91SAM7X512-CU | AT91SAM7X512-CU | BGA | 512KB | 128KB | 1 | - | 1 | 1 | 1 | 8 | 55MHz | 4 | 1 | 1 | 16.23 | 15.45 | 12.08 | 10.76 | |
| 556-A91SAM7XC512-CU | AT91SAM7XC512-CU | BGA | 512KB | 128KB | 1 | - | 1 | 1 | 1 | 8 | 55MHz | 4 | 1 | 1 | 17.09 | 14.48 | 12.72 | 11.33 | |
| 556-AT91FR40162SB-CU | AT91FR40162SB-CU | BGA | 2MB | 256KB | - | - | - | - | 2 | - | 75MHz | - | - | - | 26.02 | 22.39 | 18.15 | 16.94 | |
| 556-AT91SAM9260B-QU | AT91SAM9260-QU | POFP | - | 2x4KB | - | 1 | 2 | 1 | - | 7 | 4 | 180MHz | - | 1 | 2 | 14.62 | 12.48 | 10.88 | 9.86 |
| 556-AT91SAM9263B-CU | AT91SAM9263B-CU | BGA | - | 96KB | 1 | - | 1 | - | 4 | - | 240MHz | 4 | - | - | 24.51 | 21.09 | 18.01 | 16.30 | |
| 556-A91M40800-33AU | AT91M40800-33AU | LQFP | - | 8KB | 1 | - | - | - | 2 | - | 40MHz | - | 1 | - | 7.63 | 6.98 | 6.04 | 5.33 | |
| 556-A91M55800A-33AU | AT91M55800A-33AU | LQFP | - | 8KB | 1 | - | - | - | 3 | 8 | 33MHz | - | 1 | - | 14.08 | 10.48 | 9.50 | 9.17 | |
| 556-A91RM9200CJ-002 | AT91RM9200-CJ-002 | CBGA | - | 16KB | 1 | 2 | 1 | 1 | - | 1 | - | 180MHz | - | - | 25.26 | 21.75 | 17.62 | 15.28 | |
| 556-A91RM9200QU-002 | AT91RM9200-QU-002 | POFP | - | 16KB | 1 | 1 | 1 | - | - | 1 | - | 180MHz | - | - | 23.52 | 19.82 | 16.42 | 16.58 | |
| 556-AT91SAM9G20-CU | AT91SAM9G20-CU | BGA | - | 32KB | 1 | 2 | 1 | - | - | 3 | 4 | 400MHz | - | - | 15.70 | 13.51 | 11.53 | 10.44 | |
| 556-A91R40008-66AU | AT91R40008-66AU | LQFP | - | 256KB | - | - | - | - | 2 | - | - | 75MHz | - | - | 12.79 | 9.54 | 8.48 | 8.05 | |

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 of 500 and up, call for quote.

| MOUSER STOCK NO. | Atmel Part No. | Pkg | Flash | RAM | ISP | Self Program Memory | I/O Pins | Vcc | Max. Freq. | UART | 16-bit Timer | Watch-dog | SPI | Price Each | | | |
|----------------------|-------------------|-------|-------|-------|------|---------------------|----------|-----------|------------|------|--------------|-----------|-----|------------|------|------|------|
| | | | | | | | | | | | | | | 1 | 10 | 25 | 100 |
| 556-A89LP214-20PU | AT89LP214-20PU | PDIP | 2KB | 128B | SPI | - | 12 | 2.4V-5.0V | 20MHz | 1 | 2 | Yes | Yes | 1.96 | 1.68 | 1.50 | 1.31 |
| 556-A89C2051-24PU | AT89C2051-24PU | PDIP | 2KB | 128B | -- | -- | 15 | 2.7V-6.0V | 24MHz | 1 | 2 | -- | -- | 1.18 | 1.02 | .87 | .78 |
| 556-A89C2051-12PU | AT89C2051-12PU | PDIP | 2KB | 128B | -- | -- | 15 | 2.7V-6.0V | 12MHz | 1 | 2 | -- | -- | 1.18 | 1.02 | .963 | .853 |
| 556-A89C2051-24SU | AT89C2051-24SU | SO150 | 2KB | 128B | -- | -- | 15 | 4.0V-6.0V | 24MHz | 1 | 2 | -- | -- | 1.18 | 1.02 | .874 | .782 |
| 556-A89S2051-24PU | AT89S2051-24PU | PDIP | 2KB | 256B | SPI | -- | 15 | 2.7V-5.5V | 24MHz | 1 | 2 | -- | Yes | 2.15 | 1.85 | 1.65 | 1.44 |
| 556-A89C4051-24PU | AT89C4051-24PU | PDIP | 4KB | 128B | -- | -- | 15 | 4.0V-6.0V | 24MHz | 1 | 2 | -- | -- | 2.15 | 1.99 | 1.83 | 1.68 |
| 556-A89C4051-24SU | AT89C4051-24SU | SO150 | 4KB | 128B | -- | -- | 15 | 4.0V-6.0V | 24MHz | 1 | 2 | -- | -- | 2.15 | 1.99 | 1.70 | 1.60 |
| 556-A89LP4052-20SU | AT89LP4052-20SU | SO150 | 4KB | 256B | SPI | -- | 15 | 2.4V-5.5V | 20MHz | 1 | 2 | Yes | Yes | 2.58 | 2.40 | 2.04 | 1.92 |
| 556-A89S4051-24PU | AT89S4051-24PU | PDIP | 4KB | 256B | SPI | -- | 15 | 2.7V-5.5V | 24MHz | 1 | 2 | -- | Yes | 2.37 | 2.04 | 1.82 | 1.58 |
| 556-A89S51-24PU | AT89S51-24PU | PDIP | 4KB | 128B | SPI | -- | 32 | 4.0V-5.5V | 33MHz | 1 | 2 | Yes | -- | 1.40 | 1.35 | 1.30 | 1.25 |
| 556-A89S51-24JU | AT89S51-24JU | PLCC | 4KB | 128B | SPI | -- | 32 | 4.0V-5.5V | 33MHz | 1 | 2 | Yes | -- | 1.40 | 1.35 | 1.30 | 1.25 |
| 556-A89LS52-16AU | AT89LS52-16AU | TQFP | 8KB | 256B | SPI | -- | 32 | 2.7V-4.0V | 16MHz | 1 | 3 | Yes | Yes | 2.47 | 2.30 | 2.13 | 1.99 |
| 556-A89S52-24PU | AT89S52-24PU | PDIP | 8KB | 256B | SPI | -- | 32 | 4.0V-5.5V | 33MHz | 1 | 3 | Yes | -- | 1.51 | 1.30 | 1.11 | .99 |
| 556-AT89S52-24JU | AT89S52-24JU | PLCC | 8KB | 256B | SPI | -- | 32 | 4.0V-5.5V | 33MHz | 1 | 3 | Yes | -- | 1.51 | 1.30 | 1.11 | .99 |
| 556-A89LS52-16JU | AT89LS52-16JU | PLCC | 8KB | 256B | SPI | -- | 32 | 2.7V-4.0V | 33MHz | 1 | 3 | Yes | -- | 2.47 | 2.15 | 1.83 | 1.74 |
| 556-A89S52-24AU | AT89S52-24AU | TQFP | 8KB | 256B | SPI | -- | 32 | 4.0V-5.5V | 33MHz | 1 | 3 | Yes | -- | 1.98 | 1.92 | 1.87 | 1.76 |
| 556-A89S8253-24PU | AT89S8253-24PU | PDIP | 12KB | 256B | SPI | -- | 32 | 2.7V-5.5V | 24MHz | 1 | 3 | Yes | Yes | 4.95 | 4.30 | 3.66 | 3.27 |
| 556-A89S8253-24JU | AT89S8253-24JU | PLCC | 12KB | 256B | SPI | -- | 32 | 2.7V-5.5V | 24MHz | 1 | 3 | Yes | Yes | 4.95 | 4.30 | 3.66 | 3.27 |
| 556-A89S8253-24AU | AT89S8253-24AU | TQFP | 12KB | 256B | SPI | -- | 32 | 2.7V-5.5V | 24MHz | 1 | 3 | Yes | Yes | 4.95 | 4.30 | 3.66 | 3.27 |
| 556-A89C51RB2-RLTUM | AT89C51RB2-RLTUM | LQFP | 16KB | 1280B | UART | API | 32 | 2.7V-5.5V | 60MHz | 1 | 3 | Yes | Yes | 7.22 | 6.30 | 5.39 | 4.75 |
| 556-A89C51RB2-SLSUM | AT89C51RB2-SLSUM | PLCC | 16KB | 1280B | UART | API | 32 | 2.7V-5.5V | 60MHz | 1 | 3 | Yes | Yes | 7.53 | 7.49 | 5.60 | 5.25 |
| 556-AT89C55WD-24JU | AT89C55WD-24JU | PLCC | 20KB | 256B | -- | -- | 32 | 4.0V-6.0V | 33MHz | 1 | 3 | Yes | -- | 3.74 | 3.65 | 3.57 | 3.40 |
| 556-A89C55WD-24AU | AT89C55WD-24AU | TQFP | 20KB | 256B | -- | -- | 32 | 4.0V-5.5V | 24MHz | 1 | 3 | Yes | -- | 3.70 | 3.53 | 3.37 | 3.21 |
| 556-AT89C55WD-24PU | AT89C55WD-24PU | PDIP | 20KB | 256B | -- | -- | 32 | 4.0V-5.5V | 24MHz | 1 | 3 | Yes | -- | 3.70 | 3.53 | 3.37 | 3.21 |
| 556-A89C51RC-24PU | AT89C51RC-24PU | PDIP | 32KB | 512B | -- | -- | 32 | 4.0V-5.5V | 24MHz | 1 | 3 | Yes | -- | 4.09 | 3.80 | 3.52 | 3.14 |
| 556-A89C51RC2-RLTUM | AT89C51RC2-RLTUM | LQFP | 32KB | 1280B | UART | API | 32 | 2.7V-5.5V | 60MHz | 1 | 3 | Yes | Yes | 7.74 | 7.38 | 6.40 | 6.00 |
| 556-A89C51RC2-3CSUM | AT89C51RC2-3CSUM | PDIP | 32KB | 1280B | UART | API | 32 | 2.7V-5.5V | 60MHz | 1 | 3 | Yes | Yes | 7.80 | 7.65 | 7.04 | 6.60 |
| 556-A89C51RC2-SLSUL | AT89C51RC2-SLSUL | PLCC | 32KB | 1280B | UART | API | 32 | 2.7V-5.5V | 60MHz | 1 | 3 | Yes | Yes | 8.30 | 8.10 | 7.20 | 6.75 |
| 556-A89C5131A-PUTUM | AT89C5131A-PUTUM | MLP | 32KB | 1280B | Yes | Yes | 34 | 3.0V-3.6V | 48MHz | 1 | 1 | Yes | Yes | 7.96 | 5.55 | 4.88 | 4.86 |
| 556-A89C5131A-RDTUM | AT89C5131A-RDTUM | VQFP | 32KB | 1280B | Yes | Yes | 34 | 3.0V-3.6V | 48MHz | 1 | 1 | Yes | Yes | 8.17 | 6.27 | 5.74 | 5.37 |
| 556-A89C5131A-S3SUM | AT89C5131A-S3SUM | PLCC | 32KB | 1280B | Yes | Yes | 34 | 3.0V-3.6V | 48MHz | 1 | 1 | Yes | Yes | 7.20 | 6.80 | 6.40 | 6.00 |
| 556-A89C51AC2-RLTUM | AT89C51AC2-RLTUM | LQFP | 32KB | 1280B | UART | API | 34 | 3.0V-5.5V | 40MHz | 1 | 3 | Yes | -- | 8.64 | 8.16 | 7.68 | 7.20 |
| 556-A89C51C01CASLSUM | AT89C51C01CASLSUM | PLCC | 32KB | 1280B | Yes | Yes | 34 | 3.0V-5.5V | 40MHz | 1 | 2 | Yes | -- | 9.57 | 7.12 | 6.68 | 6.23 |
| 556-A89C51C01UARLTUM | AT89C51C01UARLTUM | LQFP | 32KB | 1280B | Yes | Yes | 34 | 3.0V-5.5V | 40MHz | 1 | 2 | Yes | -- | 9.57 | 7.12 | 5.87 | 5.85 |
| 556-A89C51RC2-SLSUM | AT89C51RC2-SLSUM | PLCC | 32KB | 1280B | UART | API | 32 | 2.7V-5.5V | 60MHz | 1 | 3 | Yes | Yes | 8.92 | 8.50 | 8.10 | 7.72 |
| 556-A89C51C01CARLTUM | AT89C51C01CARLTUM | LQFP | 32KB | 1280B | Yes | Yes | 34 | 3.0V-5.5V | 40MHz | 1 | 2 | Yes | -- | 9.57 | 8.24 | 7.12 | 6.68 |
| 556-A89C51ED2-RLTUM | AT89C51ED2-RLTUM | LQFP | 64KB | 2048B | UART | API | 32 | 2.7V-5.5V | 60MHz | 1 | 3 | Yes | Yes | 9.31 | 9.09 | 7.68 | 7.20 |
| 556-A89C51RD2-SLSUM | AT89C51RD2-SLSUM | PLCC | 64KB | 2048B | UART | API | 32 | 2.7V-5.5V | 60MHz | 1 | 3 | Yes | Yes | 8.71 | 8.50 | 6.72 | 6.30 |
| 556-A89C51ED2-SLSUM | AT89C51ED2-SLSUM | PLCC | 64KB | 2048B | UART | API | 32 | 2.7V-5.5V | 60MHz | 1 | 3 | Yes | Yes | 9.31 | 9.09 | 7.68 | 7.20 |
| 556-A89C51ED2-RDTUM | AT89C51ED2-RDTUM | VQFP | 64KB | 2048B | | | | | | | | | | | | | |