

# ATMEL Microcontrollers



This product is RoHS compliant.

## CORTEX M3 MICROCONTROLLERS

Atmel's SAM3U series is the world's first 32-bit ARM Cortex M3 Flash microcontroller with high-speed 480Mbps USB + Phy. The SAM3U is the first Cortex M3 microcontroller with high-speed USB and an integrated transceiver for fast up/downloading of data, robust EMI tolerance, and plug-and-play high-speed serial interconnectivity. This series features a 96MHz maximum operating frequency and a high data-bandwidth architecture based on a 5-layer bus matrix with 22DMA channels and distributed memory. They also provide safe in-application programming (IAP) including the boot program.



For quantities of 250 and up, call for quote.

MOUSER STOCK NO.	Atmel Part No.	Package	Flash	Flash Organization	SRAM	Max. I/O Pins	Number of UARTs	FWUP, SHDN Pins	Power Supply	Price Each			
										1	10	25	100
556-ATSAM3U1CA-AU	ATSAM3U1CA-AU	LQFP-100	64KB	Single Plane	16KB	57	3	1	No	7.85	6.75	5.84	5.29
556-ATSAM3U1CA-CU	ATSAM3U1CA-CU	TFBGA-100	64KB	Single Plane	16KB	57	3	1	No	8.49	7.31	6.32	5.73
556-ATSAM3U1EA-AU	ATSAM3U1EA-AU	LQFP-144	64KB	Single Plane	16KB	96	4	2	Yes	9.57	8.23	7.12	6.45
556-ATSAM3U1EA-CU	ATSAM3U1EA-CU	LFBGA-144	64KB	Single Plane	16KB	96	4	2	Yes	9.89	8.51	7.36	6.67
556-ATSAM3U2CA-AU	ATSAM3U2CA-AU	LQFP-100	128KB	Single Plane	32KB	57	3	1	No	9.35	8.05	6.96	6.31
556-ATSAM3U2CA-CU	ATSAM3U2CA-CU	TFBGA-100	128KB	Single Plane	32KB	57	3	1	No	9.89	8.51	7.36	6.67
556-ATSAM3U2EA-AU	ATSAM3U2EA-AU	LQFP-144	128KB	Single Plane	32KB	96	4	2	Yes	10.75	9.25	8.00	7.25
556-ATSAM3U2EA-CU	ATSAM3U2EA-CU	LFBGA-144	128KB	Single Plane	32KB	96	4	2	Yes	11.07	9.53	8.24	7.47
556-ATSAM3U4CA-AU	ATSAM3U4CA-AU	LQFP-100	256KB	Dual Plane	48KB	57	3	1	No	10.32	8.88	7.68	6.96
556-ATSAM3U4CA-CU	ATSAM3U4CA-CU	TFBGA-100	256KB	Dual Plane	48KB	57	3	1	No	10.97	9.44	8.16	7.40
556-ATSAM3U4EA-AU	ATSAM3U4EA-AU	LQFP-144	256KB	Dual Plane	48KB	96	4	2	Yes	11.93	10.27	8.88	8.05
556-ATSAM3U4EA-CU	ATSAM3U4EA-CU	LFBGA-144	256KB	Dual Plane	48KB	96	4	2	Yes	12.26	10.55	9.12	8.27

## AT32UC3A3 AVR32 MICROCONTROLLER

Featuring Atmel's 91 DMIPS AVR32 CPU, the AT32UC3A3 includes Hi-Speed USB interface with On-The-Go, a dual high speed SD/MMC card interface plus SDRAM and NAND flash interface with SLC, MLC and ECC. It is targeted to the rapidly growing digital media solutions and audio player docking station markets. Atmel's AVR32 microcontroller is one of the world's leaders in low power design, and the AT32UC3A3 consumes less than 2.0mW/MHz in active mode. This allows the AVR32 microcontroller to deliver more than 150 hours of audio playback from two AA batteries. In standby mode with only Real Time Clock running, a device can stay in the drawer for more than 9 years.

For quantities of 250 and up, call for quote.

MOUSER STOCK NO.	Atmel Part No.	Package	Flash	USB	SRAM	AES Crypto Module	Max. I/O Pins	Power Supply	Price Each			
									1	10	25	100
556-AT32UC3A364-ALUT	AT32UC3A364-ALUT	LQFP-144	64KB	Hi-Speed + On the Go	128KB	No	110	2.7V-3.6V	9.67	8.77	8.10	7.42
556-AT32UC3A364-CTUT	AT32UC3A364-CTUT	TBGA-144	64KB	Hi-Speed + On the Go	128KB	No	110	2.7V-3.6V	9.89	8.97	8.28	7.59
556-AT32UC3A364S-ALUT	AT32UC3A364S-ALUT	LQFP-144	64KB	Hi-Speed + On the Go	128KB	Yes	110	2.7V-3.6V	11.18	10.14	9.36	8.58
556-AT32UC3A364S-CTUT	TBGA-144	64KB	Hi-Speed + On the Go	128KB	Yes	110	2.7V-3.6V	11.39	10.33	9.54	8.74	
556-AT32UC3A3128-ALUT	AT32UC3A3128-ALUT	LQFP-144	128KB	Hi-Speed + On the Go	128KB	No	110	2.7V-3.6V	10.75	9.75	9.00	8.25
556-AT32UC3A3128-CTUT	TBGA-144	128KB	Hi-Speed + On the Go	128KB	No	110	2.7V-3.6V	10.96	9.94	9.18	8.41	
556-AT32UC3A3128S-ALUT	AT32UC3A3128S-ALUT	LQFP-144	128KB	Hi-Speed + On the Go	128KB	Yes	110	2.7V-3.6V	12.25	11.11	10.26	9.40
556-AT32UC3A3128S-CTUT	TBGA-144	128KB	Hi-Speed + On the Go	128KB	Yes	110	2.7V-3.6V	12.47	11.31	10.44	9.57	
556-AT32UC3A3256-ALUT	AT32UC3A3256-ALUT	LQFP-144	256KB	Hi-Speed + On the Go	128KB	No	110	2.7V-3.6V	12.68	11.50	9.62	8.56
556-AT32UC3A3256-CTUT	TBGA-144	256KB	Hi-Speed + On the Go	128KB	No	110	2.7V-3.6V	12.90	11.70	9.60	8.70	
556-AT32UC3A3256S-ALUT	AT32UC3A3256S-ALUT	LQFP-144	256KB	Hi-Speed + On the Go	128KB	Yes	110	2.7V-3.6V	14.40	13.06	12.06	11.05
556-AT32UC3A3256S-CTUT	TBGA-144	256KB	Hi-Speed + On the Go	128KB	Yes	110	2.7V-3.6V	14.62	13.26	12.24	11.22	

## QTOUCH™ MICROCONTROLLERS

Atmel's latest innovations in touchscreens help you produce very desirable products that stand out from the crowd. New devices include ICs for creating economical and elegant touchscreens that respond to a wide variety of touch types and gestures. They differentiate between single and two-finger touch, and support tap, press, flick, pinch (zoom in), stretch (zoom out), rotate, press & tap, press & double tap, press & flick, press & drag, and two-finger drag. With the widest variety of sensing solutions for touchscreens and other touch controls, Atmel is the world's leading supplier of robust, reliable, capacitive touch controls.

For quantities of 250 and up, call for quote.

MOUSER STOCK NO.	Atmel Part No.	Package	Description	Price Each			
				1	10	25	100
556-QT1080-ISG	QT1080-ISG	MLF	Designed primarily for use in mobile devices, enabling touch keys through almost any panel devices, enabling touch keys through almost any panel materia.	4.00	3.63	3.35	3.07
556-QT1081-ISG	QT1081-ISG	QFN-32	The QT1081 is designed for low cost appliance, mobile, and consumer electronics applications.	2.97	2.42	2.31	2.00
556-QT1103-ISG	QT1103-ISG	QFN-32	The QT1103 charge-transfer is a self-contained, patented digital controller capable of detecting near-proximity or touch on up to ten electrodes.	3.14	2.56	2.44	2.12
556-QT1106-ISG	QT1106-ISG	QFN-32	The QT1106 charge-transfer is a self-contained, patented charge-transfer capacitive controller capable of detecting near-proximity or touch on up to seven electrodes and a wheel.	4.32	3.52	3.36	2.91
556-QT220-ISSG	QT220-ISSG	SSOP-20	The QT220 is a self-contained digital sensor device capable of detecting near-proximity or touch on 2 electrodes.	2.93	2.38	2.27	1.97
556-QT240-ISSG	QT240-ISSG	SSOP-20	The QT240 is a self-contained digital sensor device capable of detecting near-proximity or touch on 4 electrodes.	2.93	2.38	2.27	1.97
556-QT60160-ISG	QT60160-ISG	MLF-32	This device is designed for low cost mobile and consumer electronics applications.	3.48	2.84	2.71	2.35
556-QT60168-ASG	QT60168-ASG	TQFP	This QMatrix™ QT chip senses 'glass-touch' on 16 keys, using passive electrodes patterned on any PCB.	8.22	7.45	6.88	5.00
556-QT60240-ISG	QT60240-ISG	MLF-32	This device is designed for low cost mobile and consumer electronics applications.	3.83	3.12	2.98	2.58
556-QT60248-ASG	QT60248-ASG	TQFP	This QMatrix™ QT chip senses 'glass-touch' on 24 keys, using passive electrodes patterned on any PCB.	10.35	9.38	8.66	6.30
556-QT60326-ASG	QT60326-ASG	TQFP-32	This QMatrix™ QT chip senses 'glass-touch' on 32 keys, using passive electrodes patterned on any PCB.	12.92	10.52	10.04	7.90
556-QT60486-ASG	QT60486-ASG	TQFP-32	This QMatrix™ QT chip senses 'glass-touch' on 48 keys, using passive electrodes patterned on any PCB.	15.50	12.62	12.04	9.40

## XMEGA 8/16-BIT MICROCONTROLLERS

AVR XMEGA microcontrollers have the same acclaimed characteristics as the established AVR devices, and operate from just 1.6 volts with up to 32 MIPS at 32 MHz. The XMEGA devices are general purpose microcontrollers well suited for a variety of applications including audio systems, ZigBee®, power tools, medical, board controllers, networking, metering, optical transceivers, motor control, white goods and any battery powered product.

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	Temperature	Price Each			
										1	10	25	100
556-ATXMEGA16A4-AU	ATXMEGA16A4-AU	TQFP-44	16KB	1KB	2KB	34	1.6V-3.6V	32MHz	-40 to 85°C	4.30	3.70	3.20	2.80
556-ATXMEGA16A4-CU	ATXMEGA16A4-CU	PBGA-49	16KB	1KB	2KB	34	1.6V-3.6V	32MHz	-40 to 85°C	4.63	3.98	3.44	3.01
556-ATXMEGA16A4-CUR	ATXMEGA16A4-CUR	PBGA-49	16KB	1KB	2KB	34	1.6V-3.6V	32MHz	-40 to 85°C	4.80	4.13	3.57	3.13
556-ATXMEGA16A4-MH	ATXMEGA16A4-MH	QFN-64	16KB	1KB	2KB	34	1.6V-3.6V	32MHz	-40 to 85°C	4.09	3.52	3.18	2.80
556-ATXMEGA32A4-AU	ATXMEGA32A4-AU	TQFP-44	32KB	1KB	4KB	34	1.6V-3.6V	32MHz	-40 to 85°C	4.73	4.07	3.52	3.08
556-ATXMEGA32A4-CU	ATXMEGA32A4-CU	PBGA-49	32KB	1KB	4KB	34	1.6V-3.6V	32MHz	-40 to 85°C	5.06	4.35	3.76	3.29
556-ATXMEGA32A4-CUR	ATXMEGA32A4-CUR	PBGA-49	32KB	1KB	4KB	34	1.6V-3.6V	32MHz	-40 to 85°C	5.23	4.50	3.89	3.41
556-ATXMEGA32A4-MH	ATXMEGA32A4-MH	QFN-64	32KB	1KB	4KB	34	1.6V-3.6V	32MHz	-40 to 85°C	4.52	3.89	3.52	3.26
556-ATXMEGA64A1-AU	ATXMEGA64A1-AU	TQFP	64KB+4KB	2KB	8KB	78	1.6V-3.6V	32MHz	-40 to 85°C	7.53	6.48	5.60	4.90
556-ATXMEGA64A1-CU	ATXMEGA64A1-CU	CBGA	64KB+4KB	2KB	8KB	78	1.6V-3.6V	32MHz	-40 to 85°C	8.92	7.68	6.64	5.81
556-ATXMEGA64A3-AU	ATXMEGA64A3-AU	TQFP-64	64KB	2KB	4KB	50	1.6V-3.6V	32MHz	-40 to 85°C	7.10	6.11	5.28	4.62
556-ATXMEGA64A3-MH	ATXMEGA64A3-MH	QFN-64	64KB	2KB	4KB	50	1.6V-3.6V	32MHz	-40 to 85°C	7.10	6.11	5.53	5.12
556-ATXMEGA64A4-AU	ATXMEGA64A4-AU	TQFP-44	64KB	2KB	4KB	34	1.6V-3.6V	32MHz	-40 to 85°C	5.38	4.63	4.00	3.50
556-ATXMEGA64A4-MU	ATXMEGA64A4-MU	QFN-44	64KB	2KB	4KB	34	1.6V-3.6V	32MHz	-40 to 85°C	5.38	4.63	4.00	3.50
556-ATXMEGA128A1-AU	ATXMEGA128A1-AU	TQFP	128KB+8KB	2KB	8KB	78	1.6V-3.6V	32MHz	-40 to 85°C	8.06	6.94	6.00	5.25
556-ATXMEGA128A1-CU	ATXMEGA128A1-CU	CBGA	128KB+8KB	2KB	8KB	78	1.6V-3.6V	32MHz	-40 to 85°C	9.46	8.14	7.04	6.16
556-ATXMEGA128A3-AU	ATXMEGA128A3-AU	TQFP-64	128KB	2KB	8KB	50	1.6V-3.6V	32MHz	-40 to 85°C	7.53	6.48	5.60	4.90
556-ATXMEGA128A3-MH	ATXMEGA128A3-MH	QFN-64	128KB	2KB	8KB	50	1.6V-3.6V	32MHz	-40 to 85°C	7.53	6.48	5.86	5.43
556-ATXMEGA192A3-AU	ATXMEGA192A3-AU	TQFP-64	192KB	4KB	16KB	50	1.6V-3.6V	32MHz	-40 to 85°C	8.60	7.40	6.40	5.60
556-ATXMEGA192A3-MH	ATXMEGA192A3-MH	QFN-64	192KB	4KB	16KB	50	1.6V-3.6V	32MHz	-40 to 85°C	8.60	7.40	6.70	6.20
556-ATXMEGA256A3-AU	ATXMEGA256A3-AU	TQFP-64	256KB	4KB	16KB	50	1.6V-3.6V	32MHz	-40 to 85°C	9.68	8.33	7.20	6.30
556-ATXMEGA256A3-MH	ATXMEGA256A3-MH	QFN-64	256KB	4KB	16KB	50	1.6V-3.6V	32MHz	-40 to 85°C	9.68	8.33	7.20	6.30
556-ATXMEGA256A3B-MH	ATXMEGA256A3B-MH	QFN-64	256KB	4KB	16KB	49	1.6V-3.6V	32MHz	-40 to 85°C	10.43	8.97	8.12	7.52



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