Atmel AVR UC3 A3/A4 32-bit Flash Microcontrollers

High-Speed Communication, High Throughput, Security

Atmel® AVR® UC3 A3/A4 32-bit Flash microcontrollers are designed for exceptionally high data throughput with Hi-Speed USB OTG, SD/SDIO card, Multi-Level-Cell (MLC) NAND Flash with ECC and SDRAM interfaces. Designed with a multi-layered databus, 128KB on-chip SRAM with triple high-speed interfaces, and multi-channel peripheral and memory-to-memory DMA controller, the AVR UC3 A3/A4 offers outstanding data throughput. The device also features a Hi-Fi stereo Audio DAC and full-duplex multi-channel I^2S audio interface.

The AVR UC3 A3/A4 series is available with an optional AES crypto module, which is capable of 128 to 256-bit AES encryption and decryption at speeds of up to 22.8 Mbit/s. Note that export restrictions apply to this variant.

The AVR UC3 delivers high computational throughput, deterministic real-time control, low power, low system cost, high reliability and ease of use. The CPU includes cutting-edge features such as DSP arithmetic, single-cycle multiply and accumulate instructions and single-cycle SRAM access. In addition, a peripheral DMA controller and a multi-layer high-speed bus architecture make the UC3 CPU ideal for high throughput applications.

Key Features

- 64–256KB Flash
- 128KB SRAM
- (2 x 32KB + 64KB)
- Hi-Speed USB device + OTG
- SD / MMC / SDIO card controller
- Memory stick controller
- SRAM / SDRAM controller
- MLC NAND flash controller with 4-bit ECC
- Optional 256-bit AES HW accelerator
- Memory-to-memory DMA
- High number of serial communication modules
- Available in QFP and BGA packages

Advantages

- High data throughput
- High computing efficiency including DSP instructions
- Industry-best low power consumption
- Excellent real-time performance
- Free application source code

Sales Collateral

- AVR UC3 Sales Introduction
- AVR UC3 Technical Introduction
- AVR UC3 A Introduction
- Atmel Digital Audio
- Application Notes
- Datasheet

Example Applications

- Digital Audio decoding
- iPod docking
- USB to SD card bridge
- USB tokens (authentication)

Product Status

All part numbers are in mass production and samples are available

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Development Tools

Kit P/N		
ATEVK1104 ATEVK1104S ATEVK1104AU	Evaluation kit	
ATUC3A3-XPLD	Evaluation kit	
AVR ONE! / JTAGICE3	Debuggers	
Atmel Studio 6	IDE	
Atmel Software Framework	Library of C source code	
ATSTK600 + TQFP144	Starter kit	

Suggested Resale Price

Ordering Code	10KU
AT32UC3A364-ALUT	$5.83
AT32UC3A3128-ALUT	$6.65
AT32UC3A3256-ALUT	$8.17
AT32UC3A364S-ALUT	$6.15
AT32UC3A3128S-ALUT	$7.04
AT32UC3A3256S-ALUT	$8.65
AT32UC3A464-C1UT	$4.21
AT32UC3A4128-C1UT	$5.09
AT32UC3A4256-C1UT	$6.25
AT32UC3A464S-C1UT	$4.37
AT32UC3A4128S-C1UT	$5.28
AT32UC3A4256S-C1UT	$6.49

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