



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 I²S 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 × 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



Atmel AVR UC3 A3/A4 32-bit Flash Microcontrollers

High-Speed Communication, High Throughput, Security

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



Atmel Corporation 1600 Technology Drive, San Jose, CA 95110 USA **T:** (+1)(408) 441-0311 **F:** (+1)(408) 487-2600 | **www.atmel.com**

© 2012 Atmel Corporation. All rights reserved. Rev.: 32187B_AVR UC3A3/A4_E_US-0912

Atmel®, Atmel logo and combinations thereof, and others are registered trademarks or trademarks of Atmel Corporation or its subsidiaries. Other terms and product names may be trademarks of others.

Disclaimer: The information in this document is provided in connection with Atmel products. No license, express or implied, by estoppel or otherwise, to any intellectual property right is granted by this document or in connection with the sale of Atmel products. EXCEPT AS SET FORTH IN THE ATMEL TERMS AND CONDITIONS OF SALES LOCATED ON THE ATMEL WEBSITE, ATMEL ASSUMES NO LIABILITY WHATSOEVER AND DISCLAIMS ANY EXPRESS, IMPLIED OR STATUTORY WARRANTY RELATING TO ITS PRODUCTS INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. IN NO EVENT SHALL ATMEL BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE, SPECIAL OR INCIDENTAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS AND PROFITS, BUSINESS INTERRUPTION, OR LOSS OF INFORMATION) ARISING OUT OF THE USE OR INABILITY TO USE THIS DOCUMENT, EVEN IF ATMEL HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Atmel makes no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and products descriptions at any time without notice. Atmel does not make any commitment to update the information contained herein. Unless specifically provided otherwise, Atmel products are not suitable for, and shall not be used in, automotive applications. Atmel products are not intended, authorized, or warranted for use as components in applications intended to support or sustain life.