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What is "[Embedded - Microcontrollers](#)"?

"[Embedded - Microcontrollers](#)" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "[Embedded - Microcontrollers](#)"

Details

| | |
|----------------------------|---|
| Product Status | Active |
| Core Processor | AVR |
| Core Size | 32-Bit Single-Core |
| Speed | 66MHz |
| Connectivity | EBI/EMI, Ethernet, I ² C, SPI, SSC, UART/USART, USB OTG |
| Peripherals | Brown-out Detect/Reset, POR, PWM, WDT |
| Number of I/O | 109 |
| Program Memory Size | 256KB (256K x 8) |
| Program Memory Type | FLASH |
| EEPROM Size | - |
| RAM Size | 64K x 8 |
| Voltage - Supply (Vcc/Vdd) | 1.65V ~ 3.6V |
| Data Converters | A/D 8x10b |
| Oscillator Type | Internal |
| Operating Temperature | -40°C ~ 85°C (TA) |
| Mounting Type | Surface Mount |
| Package / Case | 144-LQFP |
| Supplier Device Package | 144-LQFP (20x20) |
| Purchase URL | https://www.e-xfl.com/product-detail/atmel/at32uc3a0256au-alut |

Atmel Audio Datasheets



The following Atmel® AVR® UC3 32-bit microcontrollers are designed for audio applications:

- AT32UC3A0512AU-ALUT
- AT32UC3A0512AU-ALTRA
- AT32UC3A0256AU-ALUT
- AT32UC3A0128AU-ALUT

- AT32UC3A1512AU-AUR
- AT32UC3A1256AU-AUR

- AT32UC3A3256AU-ALUT

- AT32UC3B0512AU-Z2UR
- AT32UC3B0128AU-A2UT
- AT32UC3B0128AU-Z2UR

- AT32UC3C0512CAU-ALUT

These devices are distinguished by the AU letters before the dash in their part numbers. Please note that for a given microcontroller, not all package versions exist. Additional audio part numbers can be created upon customer demand.

The difference between an Audio microcontroller (e.g. AT32UC3A0512AU-ALUT) and its standard counterpart (e.g. AT32UC3A0512-ALUT) is not relevant to the user code.

As far as the user code is concerned, Audio parts are 100% compatible with the standard devices.

Atmel licensed Audio firmware IP cores such as the Proprietary Communication Protocol with iPod®, iPhone® or iPad® devices, MP3, WMA or AAC decoders will only work on Audio microcontrollers. These Audio firmware IP cores will not execute on standard microcontrollers (e.g. AT32UC3A0512-ALUT). The same rule may apply to additional IP cores in the future.

For technical information on an audio part (e.g. AT32UC3A0512AU-ALUT), please refer to the datasheet, architecture manual and technical reference manual of the standard counterpart (e.g. AT32UC3A0512-ALUT). The same applies for other technical documents such as IBIS files, qualification packages, etc.

Tools that support the standard version of AVR UC3 microcontrollers also support their audio counterpart.

Atmel AVR 32-bit Audio Microcontrollers

Rev. doc32174A-AVR-11/11





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