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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	CANbus, EBI/EMI, Ethernet, I²C, IrDA, LINbus, SPI, UART/USART, USB
Peripherals	Brown-out Detect/Reset, DMA, I²S, POR, PWM, WDT
Number of I/O	123
Program Memory Size	512KB (512K x 8)
Program Memory Type	FLASH
EEPROM Size	-
RAM Size	64K x 8
Voltage - Supply (Vcc/Vdd)	3V ~ 5.5V
Data Converters	A/D 16x12b; D/A 4x12b
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/at32uc3c0512cau-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 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

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