

Features

- MPEG1/2/2.5 Audio Layer 1,2,3 decoder, bit-rate: 8~448Kbps, 8~48KHz, CBR/VBR
- Support WMA Decoder, bit-rate: 32~384Kbps, 8~48KHz
- Digital Voice Recording at ultra low 4.4 or 8Kbps with Actions Speech Algorithm
- Supports WMA Digital Rights Management (DRM 10) and other security schemes
- 24 bits DSP Core and 8-bit MCU with on-chip Debug Support Unit (DSU)
- Support up to 3(pcs)* 32M / 64M / 128M / 256M / 512M / 1G / 2G / 4G bytes Nand type Flash accessed
- External Smart Media Card / Multi Media Card /CF / SD interface support
- Support 24.576MHz OSC with on-chip PLL for DSP and 32.768KHz oscillator
- 2-channel DMA, 1-channel CTC (Counter/Timer Controller) and interrupt controller
- Energy saving dynamic power management (PMU), supporting 1xAA(A), 2xAA(A), and Li-ion battery
- Built-in USB 2.0 (FS) Compliance PHY+SIE, almost 1M bytes/s downloading speed
- Build in Stereo 18-bit Sigma-Delta DAC and its modulator digital out
- Build in Key Scan Circuit(8*12) and GPIO (max38+3, duplex)
- I²C / SPI / UART / IR interface
- Support external LCM (STN / Color STN)
- Built-in 4*20 LCD Driver
- FM tuner input and control support
- Support Stereo 18-bit Sigma-Delta ADC for Microphone / FM Input / Line Input, sample rate at 8 / 12 / 16 / 24 / 32 / 48KHz
- MCU run at 24.576MHz(typ.) and can be programmed from DC up to 60MHz
- DSP Speed up to 72MIPS
- THD+N: 80dB (typ.)
- SNR: 88dB (typ.)
- Output: 2x11Mw @16ohm
- Standby Current: VCC:15uA, VDD: <110uA
- Low Power Consumption: 70mW (typ.) -- MP3 decoder solution; 80mW (typ.) -- WMA decoder solution
- Package: LQFP100(14*14 mm)

Application Highlight

- MP3 with Line-in Encoding (MP3)
- MP3 with Flash Card

ATJ2087

UFD & MP3 / WMA SoC with Music Encoding & Flash Card Interface

Function Description

The ATJ2087 is a second generation single-chip highly-integrated digital music system solution for devices such as dedicated audio players. The ATJ2087 can be programmed for MP3, WMA and other digital audio standards. It can act as a mass storage device of a PC through USB Port Connector. The ATJ2087 has low power consumption which is ideal for a battery and an efficient flexible on-chip DC-DC converter that allows many

different battery configurations, including 1*AA, 1*AAA, 2*AA, 2*AAA and Li-Ion. The built-in Sigma-Delta DAC includes a headphone driver to directly drive low impedance headphones. The Sigma-Delta ADC includes inputs for both Microphone and Analog Audio to support voice recording and FM radio integration features. Thus, the ATJ2087 provides a true 'ALL-IN-ONE' solution that is ideally suited for high quality digital audio players.

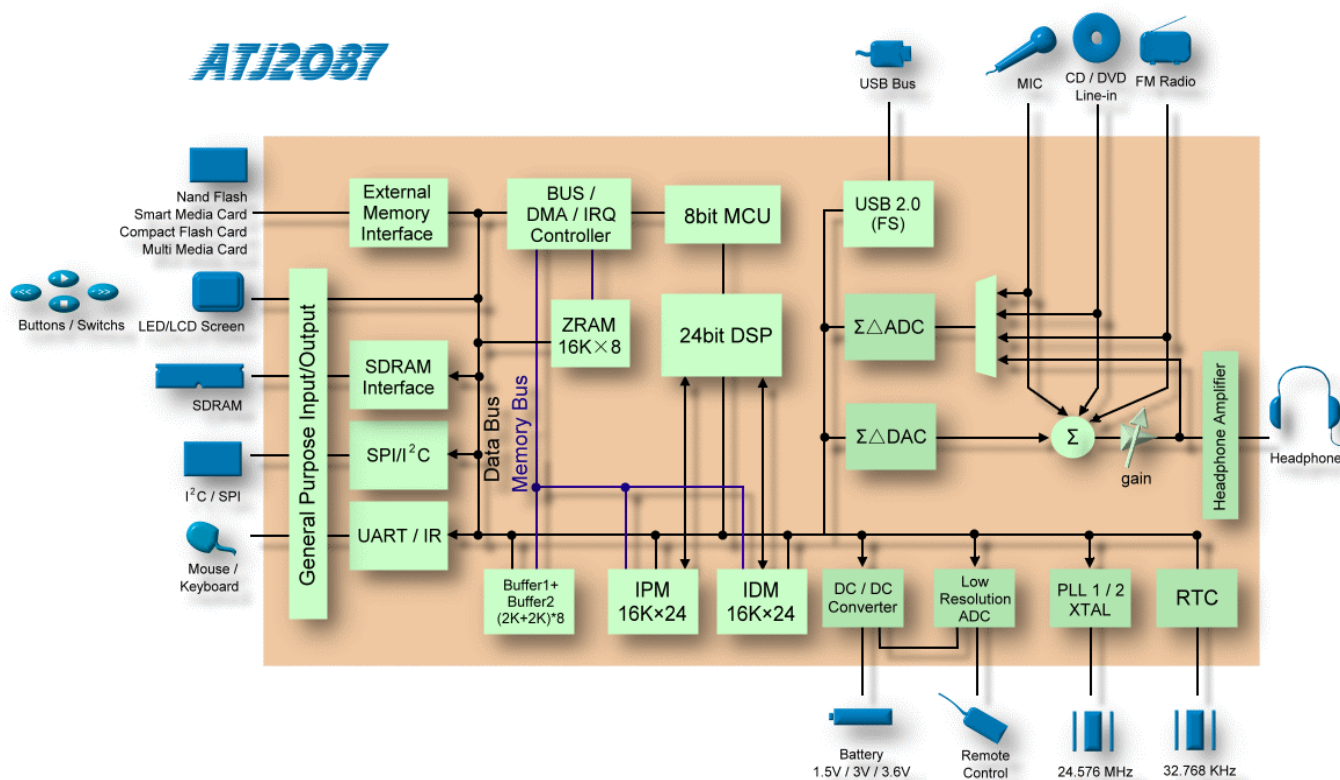


Figure1. ATJ2087 Block Diagram

Additional product and company information can be obtained by going to the Actions website at: www.actions.com.cn.

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