Active AT89C51SND1C Errata List

- **SPI Controller – Bad Transfer in Slave Mode with CPHA = 0**
- **C51 Core – Bad Exit of Power-down in X2 Mode**
- **MP3 Decoder – Bad Cut Frequency of Bass, Medium, Treble Control**
- **MP3 Decoder – Bass Boost Effect**
- **MP3 Decoder – Sampling Frequency Report in MP3 Status Register**
- **MP3 Decoder – Extra Power Consumption after Reset**

AT89C51SND1C Errata History

Lot Number	Errata List
A01539 and below	1, 2, 3, 4
A01639 and above	**1, 2, 4, 5, 6, 7**

AT89C51SND1C Errata Description

1. SPI Controller – Bad Transfer in Slave Mode with CPHA = 0

SPI controller used in slave mode with CPHA = 0 leads to erratic data reception and transmission.

Workaround

Use slave mode only with CPHA = 1.

2. C51 Core – Bad Exit of Power-down in X2 Mode

When exiting Power-down mode by interrupt while CPU is in X2 mode, it leads to bad execution of first instruction executed when CPU restarts.

Workaround

Put the CPU in X1 mode just before entering power-down mode.

3. MP3 Decoder – Underrun When Playing High Bit-Rate Frames

When playing frames with the following frequencies sampling and bit rates, audio DAC runs out of data leading to noise and wow.

– 44.1 kHz - 320 Kbs

– 32 kHz - 256 Kbs, 320 Kbs

Workaround

Implemented in latest firmware packages.

4. MP3 Decoder – Bad Cut Frequency of Bass, Medium, Treble Control

The cut frequency of bass control is 300 Hz instead of 750 Hz and cut frequency of treble control is 2 kHz instead of 3.3 kHz.

Workaround

No workaround available.

5. MP3 Decoder – Bass Boost Effect

Enabling the built-in bass boost effect with some MP3 song leads to sound distorsion.

Workaround

Use the equalizer bass band control instead of bass boost control.

MP3 Microcontrollers

AT89C51SND1C

Errata Sheet

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6. MP3 Decoder – Sampling Frequency Report in MP3 Status Register

MPFS1:0 bits in MP3STA register are always cleared and do not report Sampling Frequency value.

Workaround

No workaround available.

7. MP3 Decoder – Extra Power Consumption after Reset

Under certain power-up conditions, MP3 decoder may not be well reset leading to an extra power consumption. This extra consumption diseappears after playing one MP3 song.

Workaround

The software workaround consists in enabling and disabling the MP3 macrocell while PLL is running. This starts internal decoder reset process and remove the extra power consumption.

Implemented in latest firmware packages.

Active USB Bootloader Errata List

- **No Active Errata**

USB Bootloader Errata History

Version Number	Errata List
V1.6.0	1
V1.6.2	**None**

USB Bootloader Errata Description

1. Boot Process - Marginal SBV Value

When Bootloader is called from user's application with SBV = F0h, the bootloader is never executed and execution enters an infinite loop.

Workaround

Always set SBV value to FFh instead of F0h.

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