

1. Active AT89C51SND2C 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
- Modulation

2. AT89C51SND2C Errata History

Lot Number	Errata List
All lots	1, 2, 3, 4, 5, 6, 7

3. AT89C51SND2C 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 – 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.

4. MP3 Decoder – Bass Boost Effect

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

Workaround

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



**MP3
Microcontrollers**

AT89C51SND2C

Errata Sheet



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

MPFS1:0 bits in MP3STA register are always set to 1 and do not report Sampling Frequency value.

- MP3STA register reset value = 0000 0111b
- MP3STA1 register reset value = 0001 0111b

Workaround

No workaround available.

6. 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 disappears 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.

7. Modulation

Approximately 1 KHz, for pure sinus wave input, depending on the volume band, some modulation may appear for input signal levels above -9dB.

Workaround

Use input signal level lower than -9dB.

4. Active USB Bootloader Errata List

- No Active Errata

5. USB Bootloader Errata History

Version Number	Errata List
V1.6.2	No Active Errata

6. 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.



Atmel Corporation

2325 Orchard Parkway
San Jose, CA 95131, USA
Tel: 1(408) 441-0311
Fax: 1(408) 487-2600

Regional Headquarters

Europe

Atmel Sarl
Route des Arsenaux 41
Case Postale 80
CH-1705 Fribourg
Switzerland
Tel: (41) 26-426-5555
Fax: (41) 26-426-5500

Asia

Room 1219
Chinachem Golden Plaza
77 Mody Road Tsimshatsui
East Kowloon
Hong Kong
Tel: (852) 2721-9778
Fax: (852) 2722-1369

Japan

9F, Tonetsu Shinkawa Bldg.
1-24-8 Shinkawa
Chuo-ku, Tokyo 104-0033
Japan
Tel: (81) 3-3523-3551
Fax: (81) 3-3523-7581

Atmel Operations

Memory

2325 Orchard Parkway
San Jose, CA 95131, USA
Tel: 1(408) 441-0311
Fax: 1(408) 436-4314

Microcontrollers

2325 Orchard Parkway
San Jose, CA 95131, USA
Tel: 1(408) 441-0311
Fax: 1(408) 436-4314

La Chantrerie
BP 70602
44306 Nantes Cedex 3, France
Tel: (33) 2-40-18-18-18
Fax: (33) 2-40-18-19-60

ASIC/ASSP/Smart Cards

Zone Industrielle
13106 Rousset Cedex, France
Tel: (33) 4-42-53-60-00
Fax: (33) 4-42-53-60-01

1150 East Cheyenne Mtn. Blvd.
Colorado Springs, CO 80906, USA
Tel: 1(719) 576-3300
Fax: 1(719) 540-1759

Scottish Enterprise Technology Park
Maxwell Building
East Kilbride G75 0QR, Scotland
Tel: (44) 1355-803-000
Fax: (44) 1355-242-743

RF/Automotive

Theresienstrasse 2
Postfach 3535
74025 Heilbronn, Germany
Tel: (49) 71-31-67-0
Fax: (49) 71-31-67-2340

1150 East Cheyenne Mtn. Blvd.
Colorado Springs, CO 80906, USA
Tel: 1(719) 576-3300
Fax: 1(719) 540-1759

Biometrics/Imaging/Hi-Rel MPU/ High Speed Converters/RF Datacom

Avenue de Rochepleine
BP 123
38521 Saint-Egreve Cedex, France
Tel: (33) 4-76-58-30-00
Fax: (33) 4-76-58-34-80

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4414A-MP3-02/05