

---

This errata sheet is applicable to the following device:

- AT89C2051

## Problem

In Rev. "E" of the AT89C2051 device, whenever the power-down mode is invoked, the  $I_{CC}$  current can suddenly and permanently exceed values above the maximum specified in the datasheet. The actual amount of current displayed in an application which invokes the power-down mode is dependent on the specific location(s) in the firmware where the power-down instruction is located. This problem affects Rev. "E" only.

## Suggested Workaround

The customer may attempt to change the firmware code in the AT89C2051 in such a way that the instruction which invokes the power-down instruction (MOV PCON,#02H) is located in the address locations just prior to a program memory address ending in 0s but containing as few number of binary 1s as possible (e.g., 100H, 200H, 400H). This may be easier when looking at the listing (.LST) file.

For example:

```
.ORG 0FDH  
MOV PCON,#02H
```

The listing (.LST) file would look like:

```
00FD 758202
```

Locations different from the above can be attempted to see if one of them would solve the problem.

## Solution

Use Rev. "F" or later of the AT89C2051 device. If the suggested workaround does not solve the high power-down current problem, the customer is encouraged to contact the appropriate Atmel reseller and request delivery of Rev. "F" of the AT89C2051. Production of this new version is expected in January 2001, and is identified by the string "19654F" in the back-side marking of the device package.



---

## Microcontrollers

---

**AT89C2051**

**Rev. E**

**Errata Sheet**





## Atmel Headquarters

### *Corporate Headquarters*

2325 Orchard Parkway  
San Jose, CA 95131  
TEL (408) 441-0311  
FAX (408) 487-2600

### *Europe*

Atmel SarL  
Route des Arsenaux 41  
Casa Postale 80  
CH-1705 Fribourg  
Switzerland  
TEL (41) 26-426-5555  
FAX (41) 26-426-5500

### *Asia*

Atmel Asia, Ltd.  
Room 1219  
Chinachem Golden Plaza  
77 Mody Road Tsimhatsui  
East Kowloon  
Hong Kong  
TEL (852) 2721-9778  
FAX (852) 2722-1369

### *Japan*

Atmel Japan K.K.  
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

### *Atmel Colorado Springs*

1150 E. Cheyenne Mtn. Blvd.  
Colorado Springs, CO 80906  
TEL (719) 576-3300  
FAX (719) 540-1759

### *Atmel Rousset*

Zone Industrielle  
13106 Rousset Cedex  
France  
TEL (33) 4-4253-6000  
FAX (33) 4-4253-6001

### *Atmel Smart Card ICs*

Scottish Enterprise Technology Park  
East Kilbride, Scotland G75 0QR  
TEL (44) 1355-357-000  
FAX (44) 1355-242-743

### *Atmel Grenoble*

Avenue de Rochepleine  
BP 123  
38521 Saint-Egreve Cedex  
France  
TEL (33) 4-7658-3000  
FAX (33) 4-7658-3480

---

### *Fax-on-Demand*

North America:  
1-(800) 292-8635  
International:  
1-(408) 441-0732

### *e-mail*

[literature@atmel.com](mailto:literature@atmel.com)

### *Web Site*

<http://www.atmel.com>

### *BBS*

1-(408) 436-4309

### © Atmel Corporation 2001.

Atmel Corporation makes no warranty for the use of its products, other than those expressly contained in the Company's standard warranty which is detailed in Atmel's Terms and Conditions located on the Company's web site. The Company assumes no responsibility for any errors which may appear in this document, reserves the right to change devices or specifications detailed herein at any time without notice, and does not make any commitment to update the information contained herein. No licenses to patents or other intellectual property of Atmel are granted by the Company in connection with the sale of Atmel products, expressly or by implication. Atmel's products are not authorized for use as critical components in life support devices or systems.

Terms and product names in this document may be trademarks of others.



Printed on recycled paper.