

## Re: Rechargeable 3v battery details for microcontroller (Can't lose data!)

**Source:** <http://sci.tech-archive.net/Archive/sci.electronics.design/2005-01/4593.html>

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**From:** Mark Jones (*abuse\_at\_127.0.0.1*)

**Date:** 01/17/05

Date: Mon, 17 Jan 2005 18:28:34 -0500

Kevin wrote:

> *On Mon, 17 Jan 2005 04:00:31 -0800, mike <spamme0@netscape.net> wrote:*

>

>> *I'm too lazy to look up the spec. Don't all recent PICs have flash memory?*

>> *Does the thing have to log while the power is off? If not, might think*

>> *about using a super-cap.*

>

>

> *The problem is ensuring reliability – saving to internal EEPROM takes*

> *time (I think 10mS \*per byte\*) so if a power failure occurs I am not*

> *sure that I will have that much time to store data to EEPROM and shut*

> *down gracefully. In any case I'd wear out the on-chip EEPROM*

> *eventually by exceeding recommended write cycles – when that happens*

> *I'd have to replace the entire microcontroller. (The PIC16F628A can't*

> *write to its own flash, but even if it could the EEPROM has better*

> *reliability specs than the flash).*

>

Hmmm... 10mS is not a long time at all... and the EEPROM has a 1-million write cycle life... is that not good enough? If not, cycle through the EEPROM bytes as they are being written and it could last for hundreds of millions of cycles.

> *If power is off there's nothing worth logging ;-) so I'm just*

> *concerned about preserving logged data.*

>

> *Regarding the supercap, how do you know exactly how long you can run*

> *off one? (there is no mA·H rating on most of them that I've seen).*

>

Probably for quite awhile, but don't forget about internal resistances. The cap would probably go dead on its own accord long before a 99.2% sleeping PIC would kill it. You can try some supercaps cheap from [www.allelectronics.com](http://www.allelectronics.com) though.