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

Source: http://sci.tech−archive.net/Archive/sci.electronics.design/2005−01/4450.html

---

From: Kevin (*spamisannoying_at_sothisis.fake*)
Date: 01/17/05

Date: Mon, 17 Jan 2005 09:35:05 −0400

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).

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 mAH rating on most of them that I've seen).

>Can you use a fet in place of the diode and run the gate off 12V?
>mike

Possibly... I'd have to look into this. Been googling with various combinations of keywords but haven't seen examples of how others have used rechargeable lithum batteries for data loggers.