

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

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From: Kevin (*spamisannoying_at_sothisis.fake*)

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On Mon, 17 Jan 2005 13:24:19 GMT, "Kryten"
<kryten_droid_obfusticator@ntlworld.com> wrote:

- >I looked at rechargeable lithiums for LED torches.
- >
- >The manufacturer's web site was very useful
- >
- >For example I found that deep discharge serious limits life.
- >
- >If you have a few % discharge then they recharge many times.

Good – this matches what I was thinking. That's why I selected a 17 mAH lithium battery – I shouldn't need 17 mAH for backup power, so it's oversized – discharge/recharge should be minimal, maximising battery life.

- >Also check you have some way of detecting that the battery has not drooped
- >below allowed minimum for valid data retention, or disappeared completely.
- >People seldom think of that. One chip I saw (from Dallas?) blocked the first
- >one or two write ops after power up if this had happened. The CPU would use
- >this to feature to trust the data or not.

Thought of this – plan to checksum data in ram to ensure integrity. Also the PIC has bits that are set on power-on reset so I plan to use them as well (if everything works then the PIC should never experience a power-on reset (aside from 1st poweron), since the battery is supposed to keep it going when power is lost). The ram retention voltage for the PIC is characterised as ~1.5V so that even if the battery discharges to 2V it should still be sufficient to keep data preserved (although this parameter is characterised and not tested, so it may not be 1.5v for every PIC).