

Circuit for standby supply.

Source: <http://sci.tech-archive.net/Archive/sci.electronics.design/2005-12/msg01347.html>

- *From:* Ring Binder <binder@xxxxxxxxxxxx>
 - *Date:* Thu, 08 Dec 2005 23:20:21 +0000
-

Hi.

I am looking for a way of supplying standby power at 1.8V - 3.3V to a microcontroller during shutdown - ideally a circuit that doesn't itself consume power. I proposed the circuit below. This is only for shutdown mode. For normal operation there is a 3.3V regulator which isn't shown. The theory is when the capacitor voltage drops below ~3V, the FET will conduct until bias reduces to $V_{gs}(\text{cutoff})$ and then conduction will cease. The weakness of this design is that $V_{gs}(\text{cutoff})$ varies considerably from FET to FET, so it is unlikely that a capacitor voltage of 1.8V - 3.3V can be repeatably achieved. Other than using a voltage regulator (which consumes power) can anyone suggest a solution to maintain ~3V on C1? Suggestions appreciated.

