

Re: Simplest current regulator

Source: <http://sci.tech-archive.net/Archive/sci.electronics.design/2008-02/msg00789.html>

- *From:* Phil Endecott <spam_from_usenet_0606@xxxxxxxxxxxxx>
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Winfield wrote:

Phil Endecott wrote:

bill.slo...@xxxxxxxxx wrote:

The LM334 only requires a 64mV drop across the current sensing resistor – the reference voltage is temperature dependent (see the graph at the bottom of page 3 of the LM334 data sheet), but probably won't move enough to worry you if you use it indoors. <http://www.worldtorch.com/LDO-fixed-current.php>

Ah, now that looks interesting – 64mV is excellent, and it's a 4-component circuit (plus an extra R-C which I reckon it would probably work without...)

No, you need the RC to keep it from oscillating, with the extra loop gain added by the LM3906 pnp transistor.

You were right, of course :-)

I've bought a handful of LM334s and breadboarded a circuit. I'm using a short piece of nichrome as the reference resistor, and a ZTX1149A. The page linked to above suggests 390 Ohms and 0.1 uF to prevent oscillations, but I'm still seeing some oscillations with those components: about 200 mV at 50 kHz. This has reminded me that I don't know anything about filters! (Yes, I'm digital.) I could probably make it work by tweaking things – presumably reducing the resistor and/or increasing the capacitor – but I would prefer to actually know what I'm doing. Can anyone help?

Many thanks,

Phil.

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