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From: Winfield Hill (whill@picovolt.com)

Search Result 1

Subject: Re: Adjustable current source

Newsgroups: sci.electronics.basics, sci.electronics.misc

Date: 2002-12-15 10:22:23 PST

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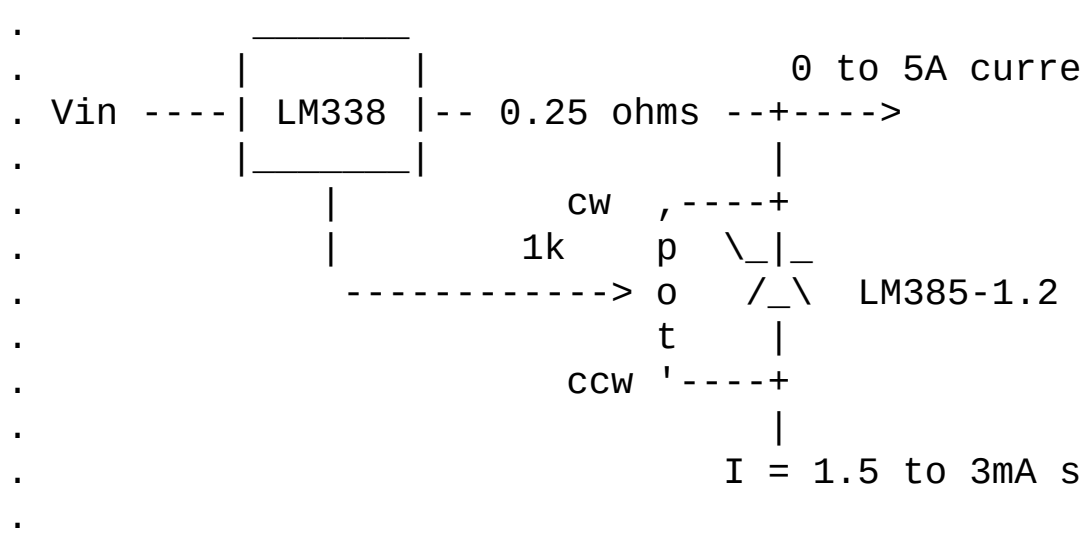
Original Format

Watson wrote...

> Billy wrote:
>> could somebody point me to a circuit of an adjustable current source?
>> It's gonna be used in a Ni-mh / ni-cad battery charger. It will need
>> an output of about 3A and it has to be controllable by an 68HC11 either
>> by d/a or digitally inputs.
>
> If you are going to do batt charging, you can do it easily by monitoring
> both sides of a series resistor. Just monitor both voltages and
> subtract, use the diff to calculate the current. Your control will be
> the voltage to the battery. This can be done with a LM350 or similar.

 Here's an s.e.d. posting I made 5 years ago, showing an easy way to make
 adjust current sources from LM317 - LM350 - LM338 adjustable regulators.
 Later I'll modify this circuit into a programmable current source.

Let me offer the following simple circuit, which I just created and
haven't tried but "oughta work," as a solution to this problem.



The 1k pot selects a portion of the floating 1.23V reference voltage, and
tricks the LM317 or LM338 into correspondingly reducing the voltage across
the 0.25 ohm current-sense resistor. The pot is conventional and may be
panel mounted. It should be possible to nearly shut off the LM338 (a
minimum quiescent current will still flow). The current sink, I, which
powers the floating 1.23V reference, is not critical and may be a simple
current mirror (sorry to see the TL011 gone!), or even a resistor to
ground or any available negative voltage, depending upon the desired
current-source voltage-compliance range. That's it!

--------------- A blast from the past...

 Thanks,
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