

Re: differences between shunt and series voltage references?

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Source: <http://sci.tech-archive.net/Archive/sci.electronics.design/2005-07/msg01348.html>

- *From:* "Ban" <bansuri@xxxxxx>
 - *Date:* Mon, 11 Jul 2005 10:42:28 GMT
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Spehro Pefhany wrote:

> On Sun, 10 Jul 2005 20:03:47 -0500, the renowned Michael Noone
> <mnoone.uiuc.edu@xxxxxxxxxx> wrote:

>

>> Hi – I need a 4.096 voltage reference for an ADC. I'd like it to be
>> as accurate as possible, naturally. I've been looking at the various
>> 4.096 voltage references (Maxim alone makes about 45) – and I've
>> noticed that they for the most part can be grouped as either shunt
>> or as series voltage references. From what I can tell a shunt V
>> reference is just a zener diode of the rated voltage. A series V
>> reference is just a voltage regulator. Is this right? Does one have
>> a major advantage over the other? Thanks for your help!

>>

>> –Michael Noone

>

> Aside from series vs. shunt, some ADCs are quite demanding as far as
> the reference output impedance goes.

>

> This is a pretty accurate (0.05%) and stable (and low current)
> reference for the price:

>

> http://www.analog.com/UploadedFiles/Data_Sheets/564838270REF19x_h.pdf

>

>

>

> Best regards,
> Spehro Pefhany

But the dropout voltage is so high, it cannot be fed from the +5V rail, here
is a brand new reference REF3240

http://focus.ti.com/docs/prod/folders/print/ref3212.html?DCMP=hpa_dc_general&HQS=NotApplicable+PR+sc05144

it needs only 100mV for an output current of 8mA, and just 1mV if the
current is 1uA.

—

ciao Ban
Bordighera, Italy

- *Follow-Ups:*

- ◆ *Re: differences between shunt and series voltage references?*
◇ *From:* PeteS

- *References:*

- ◆ *differences between shunt and series voltage references?*
◇ *From:* Michael Noone
- ◆ *Re: differences between shunt and series voltage references?*
◇ *From:* Spehro Pefhany

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