

Re: Protecting ADC Inputs

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On Mon, 27 Dec 2004 18:31:07 -0600, "Richard" <rwskinner ATawesomenet Dot net> wrote:

>I'm built a circuit board for my Analog card. My normal inputs will be 0-5
>vdc but the max allowed on the ADC is 10 vdc.
>I was thinking about putting some zeners across the input circuit so the
>voltage will never go above 10 volts. I left a space from each input to
>ground for a surface mount 1/2 watt resistor. These were there so we could
>do a 4-20ma conversion.
>
>So, First, will zeners work without affecting my normal input voltage?
>Second, are zeners available close to the 10 volt range?
>
>Any better simpler solutions?
>

My choice would be to use a series resistor with reverse-biased clamp diodes to each rail. (This is a popular method used for example on the inputs to CMOS logic gates.) This assumes that the input impedance of the ADC is high, and the small RC with the effective diode capacitance is compatible with your signals.

Best regards,

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