

Re: AC spike go pass XFRM and regulator to reset CPU!??

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- *From:* "Rodo" <noway@xxxxxxxxxxx>
 - *Date:* Sat, 26 Apr 2008 17:57:58 GMT
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I was thinking about a ground loop with the scope but the circuit is being powered by a 110VAC to 220 VAC transformer. I know the grounds are not connected because I checked. I wonder if the transformer (110-to-220) is not really isolated. I'll have to check this next week.

Someone asked if the fan is part of the equipment. No, it is a totally disconnected from the circuit.

Thanks all.

"Rocky" <RobertGush@xxxxxxxxxxx> wrote in message
news:373bb65d-28c8-483a-ae9c-8a165480ceea@xx
On Apr 26, 10:24 am, "Paul E. Bennett" <Paul_E.Benn...@xxxxxxxxxxx>
wrote:

Rodo wrote:

Hi all,

I have a device that is powered by 240VAC (also works from 120VAC). The AC drives the primary of a transformer (with a fuse and a MOV). There is also a fan connected to the 240VAC with a switch. The secondary of the transformer has a bridge, a large electrolytic cap (1000uF/25v) and an LM7805 regulator. There is a smaller cap (10uF/10v and 01uF/25v) at the output of the LM7805. Then the 5vdc connects to a PIC.

Almost every time I flip the fan switch a spike shows up at the output of the regulator. This is the part that I mostly do not get: even if I disconnect the fan and I flip the switch... the spike shows up ... and it is a bit larger in amplitude. I grabbed a picture of the spike ... you can see it at:<http://mysite.verizon.net/rodo/ds0000.bmp>

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The spike is obviously not always exactly the same. Sometimes is a bigger, or smaller more or less oscillations. But the general timing is the same. By this I mean I do not have to change the scope's setting to see it.

I tried to: add caps, common mode choke, remove ground (from circuit and scope), add larger cap at the output of LM7805, etc., to find why is there a spike when there is no load (I removed the fan remember). The ultimate thing is that I need to avoid the spike from occurring (with or without load) because it is resetting the CPU.

Could someone enlighten me or point me in the right direction please?

IS the fan part of the equipment or is it a desk fan?

Rodo: You might find that a very similar spike on the 0v line. i.e. Just a loop in the scope input to ground. The reason you see the spike is probably because of the EMI filtering around the on/off switch.
== Rocky ==