

Re: transformer secondary ringing

Source: <http://sci.tech-archive.net/Archive/sci.electronics.design/2008-12/msg01956.html>

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 - *Date:* Sun, 14 Dec 2008 12:21:45 -0800 (PST)
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On Dec 14, 10:16 am, Jamie Morken <jmor...@xxxxxxx> wrote:

Hi,

I am using a fullbridge SMPS, and when I scope the secondary of the transformer I am noticing a lot of voltage ringing which is approaching the breakdown voltage of the diodes (600VDC). I have RC snubbers across the primary coils, but none yet across the secondary. LTspice shows that if I remove the primary RC snubber the output ringing is reduced, what other methods are there to reduce output ringing or to protect the diodes besides using an RC snubber?

Depending on the circuit type:

You can load the secondary with enough capacitance to keep the ringing amplitude low enough. The current spike on the primary side can be prevented with a circuit like this:

```
L1
--+----))))----+---- To primary switches
!!
---- === C1
^ D1 !
!! L2
-----+----))))---- GND
```

L1 is a lowish valued high current inductor. It causes the voltage on the switches to dip when the current tries to spike up.

C1 is a modest value highish current capacitor. It must be able to handle the ripple current caused by the energy the is circling around in this circuit.

L2 is a largish valued lowish current one. It just prevents there from being any spikes in the current here.

D1 returns the energy in the current spike back onto the power rail.

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