

Re: Loosely coupled transformer windings

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Steve Carroll wrote:

I thought I had the concepts right, but just wanted to be sure. I've wound my share of simple inductors in the past, but nothing like this. I like your lateral thinking – a bar across a toroid.

There are lots of other possibilities, also. Keep in mind that the top and bottom bar in your drawing are essentially equi-potential (from a magnetic field standpoint) nodes, so the ordering of the parallel branches is not very important. The flux shunt could be on either side of either the primary or secondary branches. It doesn't need to be between them. Think E cores with center or one leg ground off to make a gap. There are E core shapes made that have all 3 legs the same cross sectional area for this purpose. And, of course, you could add an external inductor in series with a tightly coupled secondary and get a very similar effect.

In this application, the impedance of the secondary isn't too critical, but I'll have a play around now that I know I'm on the right track and increase it as much as possible.

A question – what do you mean by UU cores? (Two "U" cores?)

Right. I don't have keyboard characters for a pair of Us facing each other to form a loop. ;-)

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Regards,

John Popelish

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