Re: shielded inductor −> low frequency?

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- *From*: LVMarc <LVMarc@xxxxxxx>
- *Date*: Fri, 21 Sep 2007 11:58:06 −0700

Joerg wrote:

> LVMarc wrote:
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> > Michael wrote:
> >
> > > Greetings gents of the SED variety − I have a couple quick questions
> > > for you all:
> > >
> > > I am working on a DC/DC switcher that will use the Linear LT1930A. It
> > > switches at 2.2MHz. I need to find a ~8−10uH inductor that can handle
> > > about .5−1A for this. I identified the Sumida CR43 series as a good
> > > candidate. For example, there is a 8.2uH (at 7.96MHz) CR43 series with
> > > 166.2mohms DCR speced at 0.84A. It also has a very small 4.3x4.8mm
> > > footprint. It would be perfect, except that it isn't shielded. I would
> > > really prefer it to be shielded. I started looking at other Sumida
> > > inductors, and it seems that all the shielded ones are speced in the
> > > low KHz region. Am I missing something here?
> > >
> > > Also, what is the relationship between inductance and frequency? I
> > > googled around about that for a bit but couldn't find anything.
> > >
> > > Thanks,
> > >
> > > −Michael

> Electrostatic (conductive) Shielding does not effect the magnetic lines of flux
> you need high u material for that. and high u magnetic shielding material
> only works at low < 100Kc frequency.
>
> so placing a metal can around a coil is only partially effective in reducing
> radiated emissions.

> I believe what Michael meant is a closed versus open magnetic path. Closed path is what inductor company marketeers call "shielded". For example, a ferrite toroid would be quite good in that respect, that's what I usually use. I found that custom fab in Taiwan/China is actually less expensive than a fancy catalog inductor. Provided the quantities are at least a few thousand a month.

ARE YO MENAING THAT WINFDINGING THE COIL ON A TORRUS, CNTAINS THE STRAY MAGNETCI FEILD FLINES? IF SO .yes THIS WOULD BE A GREAT WAY T GO AND THEY HAVE STEP UP AND DOWN TRANSFORMERS TTHAT ARE WOUND ON A CLOSED FORM, IE TORRUS.. BIT EXPENSIVE AS T IS HARDER TO WIND!

mhp
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