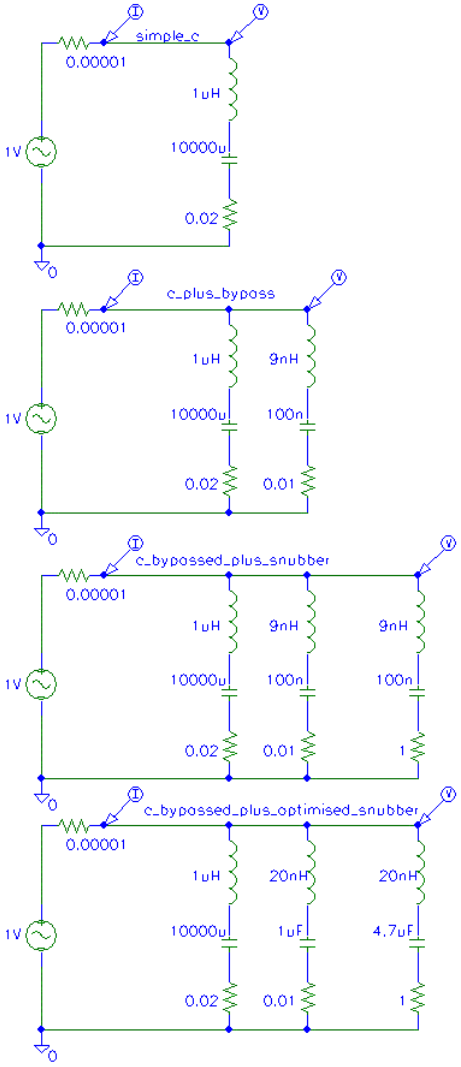
Konnichiwa,

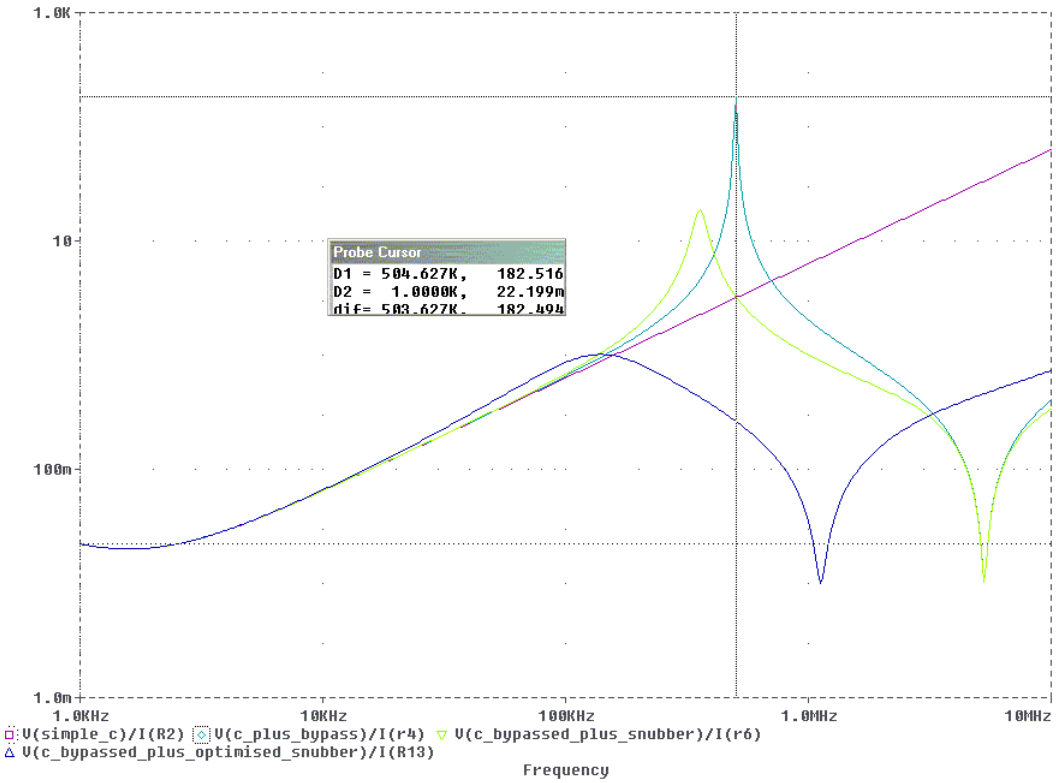
As we have complete blockheads around who could not think themselves out of a room that is open on three sides, here some proof. I have quickly installed P-Spice at work and run a basic impedance analysis of 4 possible networks:

1) Standard 10,000uF PSU Cap
2) Standard 10,000uF PSU Cap with 100nF bypass
3) Standard 10,000uF PSU Cap with 100nF bypass and 100n/1R snubber
4) Standard 10,000uF PSU Cap with optimised bypass and snubber

First here the various equivalent circuits employed in the simulation, these include a first order approximation of the parasitics in the capacitors, as John Watson (I think) showed in recent Wireless World issues this is a very inadequate solution but is sufficient to illustrate the problems, reality is a lot worse than my cute simulations BTW, not better....



Now, lets see what sort of impedance each combination offers, shall we?



The purple line is the plain, unbypassed capacitor, the impedance rises from 64mOhm at 10KHz to 6.3 Ohm at 1MHz.

The aquamarine (neon blue) line is the capacitor with a 100nF bypass capacitor, our impedance starts at 64mOhm and peaks >180 Ohm at 500KHz (hint, study the LM3875 Datasheet, check the pasemargin at 500KHz and also the PSRR....).

The green/yellowish line is the in the capacitor with bypass and snubber, our impedance starts again at 64mOhm at 10KHz but rises only to 19 Ohm at 360KHz, a nearly tenfold reduction of the peak impedance.

Now if we take my own ballpark formula of a 1:3 ratio and change the snubber capacitor to 330nF we drop the magnitude of the impedance peak to a little over 4 Ohm at 250Khz, so a hint for Carlos & co, change your 100nF Snubber capacitor to 330nF, this should be even better.

Finally, the bypassing/snubber I personally would suggest is shown in royal blue. We start again from 64mOhm at 10KHz, our impedance peaks with 1 Ohm at 140KHz and stays low to above and beyond 10MHz, assuming the 1uF bypass is placed close to the Amplifier Chip.

I think the above illustrates the issues and problems as well the usefullness and limits of the solution(s).

It is worthwhile to note also that many of the empirically arrived at bypass combinations (Stein Music, l'Audiophile) invariably use a fairly high ESR Film capacitor as the largest value bypass with the smaller additional bypasses with also progresiively lower ESR, resulting in a well behaved and low PSU line impedance.

Sayonara

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Die gefährlichste Weltanschauung ist die Weltanschauung derjenigen, die die Welt nicht angeschaut haben.

(The most dangerous worldview is the worldview of those who have not viewed the world...)

Alexander von Humboldt (1769-1859)