



FIGURE 3B:

Significant phase change when $ESR = 1/2$ of 3A.
 $F_{\text{resonance}}$ has not changed. Lower ESR is important in
 phase-sensitive circuits.

For the most effective designs, it is necessary to keep losses both in the capacitor and outside it to a minimum. Filter networks, for example, could, with good effect, be located as close as possible to the load they supply a signal to. They might be distributed rather than lumped together in one location. These practices will keep the lead lengths as short as possible and any series wiring/cable resistance to a minimum. This might suggest that distributed driving sources are also needed. In this way, the resonance will be as high as possible, and the phase response will be maintained to the highest possible frequency.