Subject: Re: Multiple caps vs. single cap?
Posted by Wayne Parham on Wed, 08 Jun 2005 18:31:17 GMT
View Forum Message <> Reply to Message

There are two issues that come into play right off the top of my head. One is an advantage, the other, a disadvantage.The advantage of using smaller caps is you can generally get better parts. This isn't necesarily true of very small components, but since you're talking about using multiples, I'm assuming you're working with cap values larger than 1uF, probably larger than 10uF. Larger values are usually metalized film and you can replace them with a group of caps that use a metal foil.The disadvantage is that each one has it's own self resonance and other features distinct to the capacitor. So by using a group, you may introduce a very small amount of signal splitting. One cap may act differently than the others, causing a different signal modification through each of the signal paths. It's pretty small though. And this has it's own advantage, in that if you use two identical components and you can identify their orientation, you can actually connect them in opposite directions to act as a conjugate. Whatever differences there are, if asymmetrical according to polarity, this will cancel out. And internal resistance and inductance is paralleled and therefore reduced too.All these are pretty tiny effects. Don't be too concerned about connecting caps in parallel to increase value. Just something to think about as you decide what parts to buy and how to connect 'em up.