

Re: Questions about SMD passive components

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Hello !

Kurt Harders wrote:

- > Hallo Antti,
- >
- > Some simple rules: the value of resistors is printed for devices in the
- > sizes 1206 and 0805. I prefer 1206 for prototyping. There are only
- > little differences if you need resistors for digital purposes. Just
- > take the cheap ones :-).
- >

This isn't what I meant, exactly. You see, I know resistors come in specific package sizes, such as the ones you listed above. It is the type of the resistor, and technology, which puzzle me so greatly and make my strip my hair out. Should I, for example, choose a thick film or a thin film resistor to act as a serial resistor in an RC-circuit ? Or should it be a ceramic resistor ? Can ceramic resistors be film-based at all ? What are metal film resistors then ? Should I choose a similar type resistor to act as a signal line terminator ?

- >
- > capacitors are a little more complex, but if you need pF there is not
- > so much choice. Size again 1206, but there is no value printed on it,
- > so keep it sorted. μ F is a bigger problem. If it may be a polarized
- > capacitor just choose an electrolytic one with sufficient voltage.
- > If it comes to the 100nF for ICs I take ceramic ones.
- >

Again, it's not the size or the capacitance which puzzle me, since capacitance category (pF, nF, μ F) mostly goes hand-in-hand with the size. It's the same with non-SMD capacitors. But, there are tantalum capacitors, aluminium ones, ceramic ones, multi-layer ones etc etc. Which one should I choose as a bypass capacitor for an IC then ? Should I use a similar capacitor to filter an audio signal that exists an IC and enters another ? Is such "filter capacitor" even needed ?

The problem is that with the current knowledge I have, I cannot efficiently browse the manufacturer pages for capacitors or resistors. I don't know

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which technology options I should tick in order to be even able to select the resistance/capacitance ranges :)

Greetings,
Antti Keskinen

- **Follow-Ups:**

- ◆ **[Re: Questions about SMD passive components](#)**

◇ *From:* John Devereux

- **References:**

- ◆ **[Questions about SMD passive components](#)**

◇ *From:* Antti Keskinen

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