Assortments are the backbone of my lab. Why? And which are my favorite assortments?

Let’s start with the through hole section!

These days, many of us get their electronic parts from China. This has an advantage and a disadvantage. And assortments can combine these two in a good way. The advantage of our Chinese suppliers is, that the parts including shipping generally are extremely cheap. The disadvantage is, that the delivery time is usually around one month. With assortments, I bridge this gap.

Many of my projects need special parts like sensors, or, if I want to test a device or component, of course, the device or component itself. For these parts I have to wait the 20 days. That is why I have a list of these projects on my PC, and if the first part arrives, also a box with the name of the project. As soon as I have all parts, I can start the project. But when I order the stuff, I only have a vague idea, and as soon as I start, I stumble into problems or I get new ideas. This is, when I need parts I did not order. This are small parts like a different resistor, a FET transistor, a power supply, a switch or two, some capacitors to figure out, which one fits best, wires and so on. And for all these products I do not want to order again and wait till they arrive. This would take all the energy out of my project. This is, why I love assortments. My definition of assortment is:

1. Usually, one part is inexpensive, and if you buy many of them, you get a big discount
2. They contain many values of a similar type of product
3. When I buy it, I have no idea for which purpose I will use it later
4. I buy way too much parts and many parts will never be used
5. The parts are properly stored that I find them easily
6. Only after a while I discover, which are the “fast runners”. I restock them usually as single items

Let’s start with the obvious assortments: The ¼ Watt through hole resistors. This was the first assortment in my new lab. It was purchased in Switzerland, before I knew Aliexpress or Banggood. This assortment has only the most important values. And this becomes sometimes a problem. We will cover that later.

The next assortment are capacitors. But here, we have to have more than one. The small ceramic ones and the bigger electrolytic ones. Also through hole. These components are used for my prototypes on the breadboard. I bought them as assortments, already in a plastic box, sometimes even labelled. If not, I label them either inside the box or with a sheet in the cover.

Inductors came quite late to my lab, because I do not use them very often. But now, I also have an assortment. Since I have it, I use them more…

And of course, I always need some LEDs. I have them in all colors, and in 3 and 5 mm diameter.

I ordered from Banggood a few sets, because I really like their approach of selling the assortments in small boxes. My favorite is the one with the main colors and 3 and 5 mm in one box. You see, I like colors, and this maybe is the reason that I probably overdid it with the LED assortments…

If we stay on the passive side, I always need switches in various shapes. These switches often have different sizes. This is, why I do not keep them in a box, but in small drawers. Here, you see the second way of buying assortments: In small plastic bags. These small switches are still in their original bags while the others are unpacked.

Not to forget the trim potentiometers. I have them in two different shapes. One type, where you can cover the whole range in just one turn, and another type, where you need 10 turns for the whole range.

Now I go on with the active components. I have a set of TO-92 transistors. They came not labelled. So, I used Microsoft Visio to draw the 15 boxes and label them according the values. In this case, I even glued the table with the basic values on the back. So, I can save the time to search for the data sheet if I need one particular transistor.

I would love a similar set of FET transistors, but so far, I did not find one. This happens also with other parts, and later, I will show you my solution for that problem.

The next two assortments are somehow “optional”. A set of TTL and a set with the common CMOS logic chips. These assortments are not easy, because to choose the right ones out of the flood of available chips is somehow random and you easily do not find the one you need in your set. This is, why I usually order these chips together with the main parts of my project. And I have a few specialties outside these assortments.

Another very important assortment is the one with voltage regulators. This assortment is not for sale. Fortunately, Banggood sells some very handy empty boxes in different sizes. For the voltage regulators, I used the same box as for the transistors before. Here, you see, that I mixed SMD and through hole parts. And you see also, that I more and more buy SMD parts and mount them on small PCBs if I need one of them for the breadboard. This avoids a double stock-keeping.

The next category of “self-made” assortments are assortments with bigger components like the big potentiometers. Here, I used a mixed strategy: I bought an assortment of potentiometers which also were delivered in small plastic bags. I then used one of the bigger boxes to created my own assortment. This is not a cheap solution, but very convenient. I plan to standardize more on this size of boxes because then, it is easier to stack them.

Now I have other parts with a particular problem: They are many different values, and they are thin and long like resistors and diodes. I presented you my resistor assortment. But it only contains a few values, not even all values of the E6 series. And I wanted to have an assortment with all values of the E12 series. Fortunately, I got one with 130 different values, 20 pcs each. I got them nicely labelled, but for a day-to-day usage, this is not the solution. Unfortunately, I also did not find a box with these dimensions. So, I have to manufacture it myself. For a prototype, I used nice looking coated wood and milled the needed cavities. But, because I used the wrong material, this does not look good. So, I have to redo it with a different material. At the end, I hope, that I will be able to store all 130 values in two of these “boxes”. If this works out, I will do a similar one for my diodes and Zener diodes which still reside in their plastic bags.

This was the first part of my assortments. Stray tuned for a second one.

I hope, this video was useful or at least interesting for you. Bye!