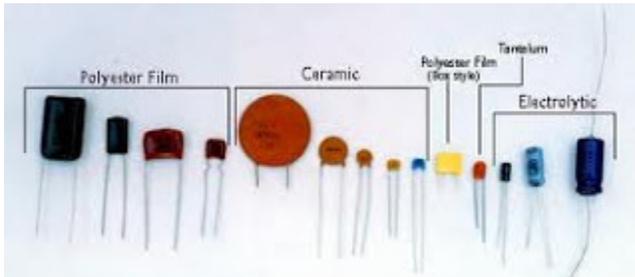
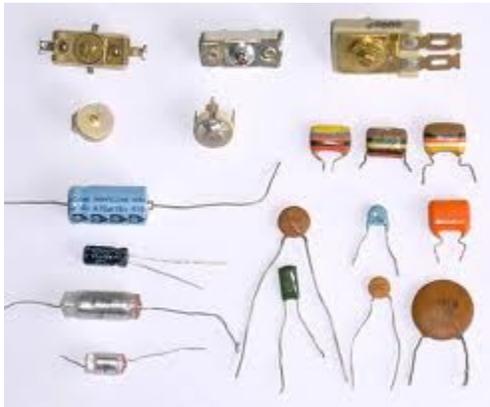
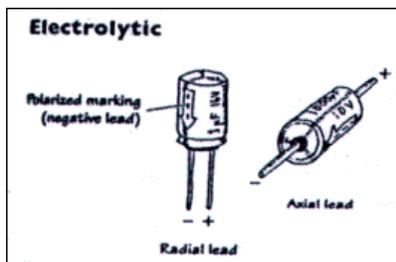


VARIOUS TYPES OF CAPACITORS



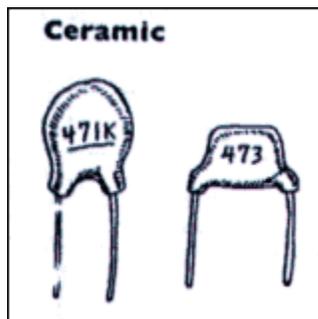
1. ELECTROLYTIC



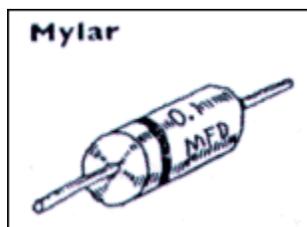
These capacitors include both aluminum and tantalum electrolytics. They are manufactured by an electrochemical formation of an oxide film onto a metal (aluminum or tantalum) surface. The metal on which the oxide film is formed serves as the anode or positive terminal, the oxide film acts as the dielectric, and a conducting liquid or gel acts as the cathode or negative terminal. Tantalum electrolytic capacitors have larger capacitance per volume ratios when compared with aluminum electrolytic. A majority of electrolytic capacitors are polarized. Electrolytic capacitors, when compared with non electrolytic capacitors, typically have greater capacitances but have poor tolerances (as large as +/- 100 percent for aluminum and about +/- 5 to +/-20 percent for tantalum), bad temperature stability, high leakage, and short lives. Capacitances range from about 1 uF to 1 F for aluminum and 0.001 to 1000 uF for tantalum, with maximum voltage ratings from 6 to 450 V.

2. CERAMIC

This type is very popular non polarized capacitor that is small and inexpensive but has poor temperature stability and poor accuracy. It contains a ceramic dielectric and a phenolic coating. It is often used for bypass and coupling applications. Tolerances range from +/-5 to +/-100 percent, while capacitances range from 1 pf to 2.2 uF, with maximum voltage rating from 3 V to 6 kV.

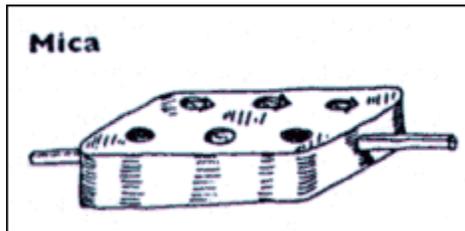


3. MYLAR



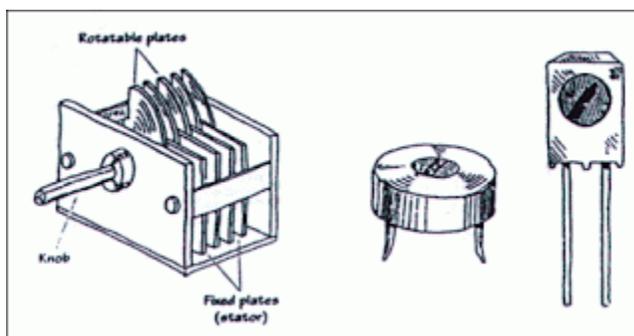
This type is a very popular non polarized capacitor that is reliable, inexpensive, and has low leakage current but poor temperature stability. Capacitances range from 0.001 to 10 uF, with voltage ratings from 50 to 600 V.

4. MICA



This type is an extremely accurate device with very low leakage currents. It is constructed with alternate layers of metal foil and mica insulation, stacked and encapsulated. These capacitors have small capacitances and are often used in high frequency circuits (eg. : RF circuits). They are very stable under variable voltage and temperature conditions. Tolerances range from +/-0.25 to +/-5 percent. Capacitances range from 1 pf to 0.01 uF, with maximum voltage ratings from 100 V to 2.5 kV.

5. VARIABLE CAPACITORS



Variable capacitors are devices that can be made to change capacitance values with the twist of a knob. These devices come in either air variable or trimmer forms. Air variable capacitors consist of 2 sets of aluminum plates (stator and rotor) that mesh together but do not touch. Rotating the rotor plates with respect to the stator varies the capacitor's effective plate surface area, thus changing the capacitance. Air variable capacitors typically are mounted on panels and are used in frequently adjusted tuning applications (eg. : fine tuning fixed frequency communications receivers, crystal frequency adjustments, adjusting filter characteristics). Trimmers may use a mica, air, ceramic, or glass dielectric and may use either a pair of rotating plates or a compression like mechanism that forces the plates closer together.

Source : <http://mediatoget.blogspot.in/2011/01/various-types-of-capacitors.html>