

Use of Capacitor Circuits

FILTER. Pulsating Direct Current from the rectifier Circuit is still not suitable to power the actual circuit load, pulsations mostly varies from zero to peak voltages, therefore we need to insert a circuit to use as a energy storage for a length of time, during the voltage peak and will release the energy when the voltage drop.

Filter work as a pulse reducer, from large voltage ripple to smaller voltage ripple. A simple way to accomplish this kind of requirement is to insert a capacitor parallel to the voltage terminal, capacitor filter is the most simplest type of filter that can be build in a power supply, this is also called the voltage buffer.

Capacitor or condenser, a passive components a pair of conductor that keep a part by a dielectric substances, dielectric substances can store energy for a long time of period.

Capacitor is measured by farad, capacitor is generally use in electronic circuit to block the flow of direct current while allowing alternating current to pass, in some cases it is use as direct current voltage conditioner, or they are use to smooth varying Direct Current supplies, acting as reservoir of charges.

In a way a capacitor is a little bit analogous to a battery, although they function differently, they are both storage electrical energy.

Types of capacitors

Polarized Capacitors:

Electrolytic Capacitors

Tantalum Bead Capacitors

Non Polarize Capacitor :

Metalized film Capacitors

Ceramic Capacitors

Variable Capacitors

Non polarize Electrolytic Capacitors

Polyester Film Capacitors

Polypropylene Capacitors (Mylar)

Mica Capacitors

Metalized Polyester Film Capacitors

Typically the filter circuit comprises one or more capacitors, place between Direct Current line and the ground

Another filter capacitors that can be found inside a power supply is the Line-Filter Capacitors, power line are subjected to lot's of kind's of disturbances that induce transients, voltage spike and and surges.

The filter capacitors can endure these kind of transient. Line Capacitors are use for variety of purposes, this kind of circuit is called noise suppressor it is keeping or preventing disruptive or damaging line transient and EMI out of susceptible Devices and Equipment.

Capacitors are also can be use as power factor corrector, the power factor of Alternating Current line is can be define as a Ratio of Real Power to apparent power. Linear loads with minimal power factor correction can be corrected with a passive network of inductor or capacitor.

Why do we need to correct the power factor?

Current flow through the circuit is increase by the reactive component such as Transformer and Condenser, power factor can be describe as energy loss, correcting the power factor can save energy, it can improve energy efficiency

Conclusion :

Capacitor help filter the unwanted electrical noise out of the circuit of a power supply units, they remove the alternating currents caused by ripple voltage.

Source: <http://electrical-all.blogspot.in/2010/05/use-of-capacitor-circuits.html>