

## Supercapacitor

Supercapacitor or ultracapacitor is a charge storage device similar to conventional electrolytic capacitors. It has higher energy density in comparison conventional capacitors and higher power density in comparison with batteries. It is used as source pulse powers in standalone mode or along with other sources like batteries, fuel cell etc. Important components of supercapacitor are electrode, electrolyte, porous separator and casing. Fabrication of it involves coating of active material over thin metal foil to prepare the electrode and winding two such electrode foils in the form of jelly roll with a separator in between the electrodes and sealing inside metal casing after impregnating with electrolyte.



### Salient Features:

- ❖ Pulse power source
- ❖ Cycle life: > 100000 cycles
- ❖ High power density (vs battery)
- ❖ Operating voltage: up to 2.7 V ( Vmax)
- ❖ Wide operating temperature: -40 to 55 °C
- ❖ Low self discharge
- ❖ Maintenance free

### Area of application:

- ❖ Output load compensation for batteries and fuel cells
- ❖ Reliable power for military and aerospace
- ❖ Electric vehicles, communication devices, cranking engines, portable power packs etc.