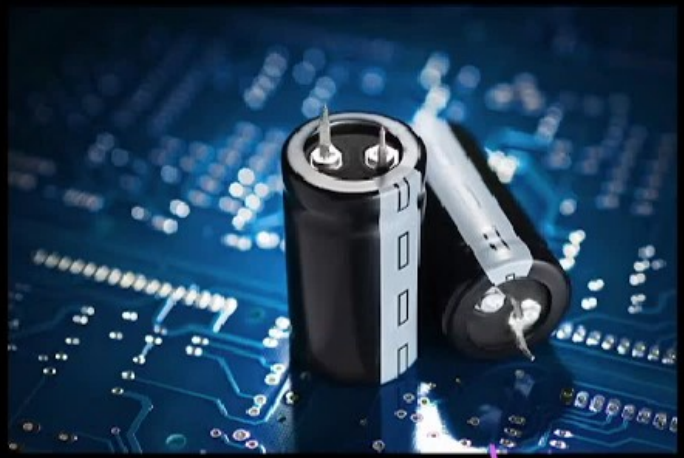
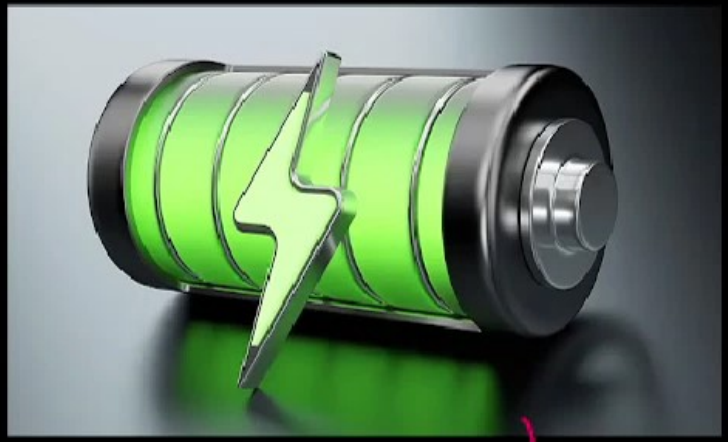


Capacitor

Electric energy store



Battery

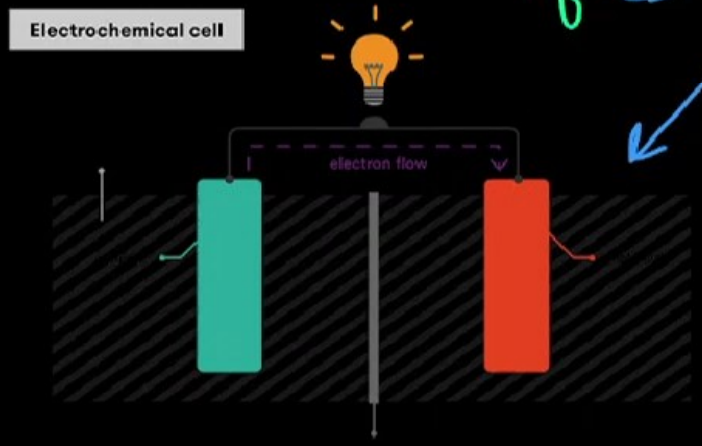
Electric energy store


Capacitor U/s Battery

Form of energy storage

Store energy in the form of electric field

Store energy in form of chemicals



Active passive component

passive component

Can't power an electrical circuit

Never be consider as source

active component

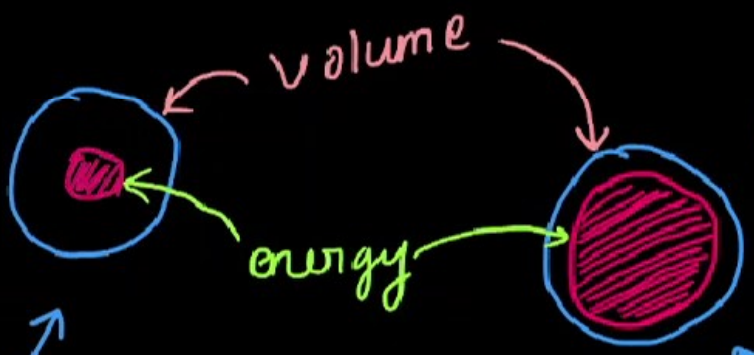
Can power an electrical ckt

Consider as source

Energy Density

Low energy density

Low electric energy store in Large volume

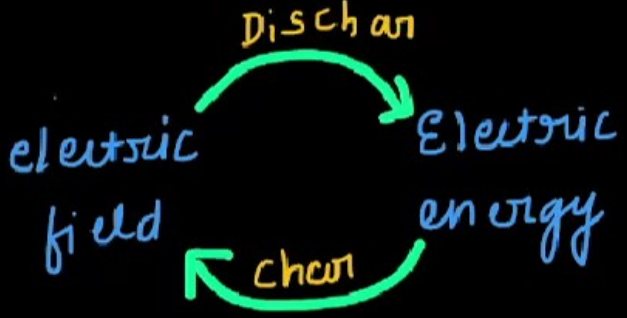


High energy density

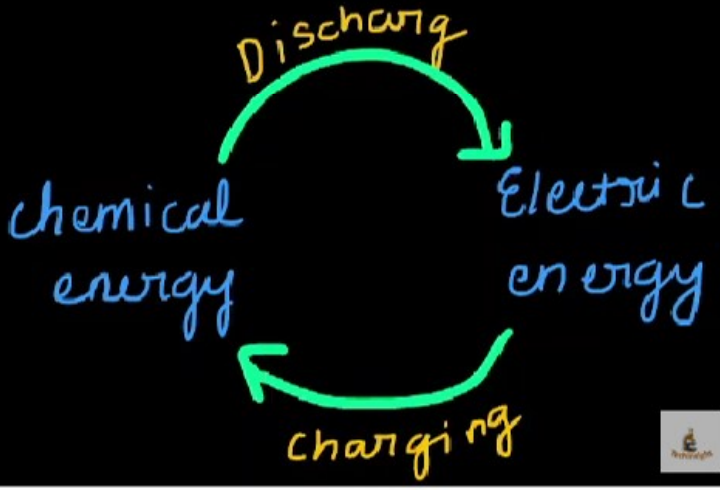
Large electric energy stored in small volume

Charging / Discharging Rate

fast charging and discharging



slow charging and discharging



A.C and D.C Application

Used for AC application

Blocks DC

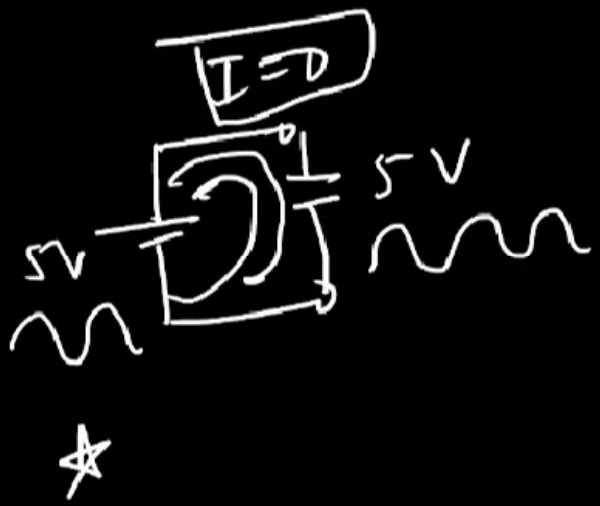
Used for DC applications

Don't works on AC

A.C and D.C Application

Used for AC application

Blocks DC



can fix polarity

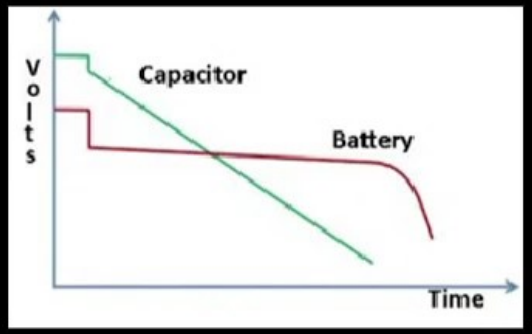
Used for DC applications

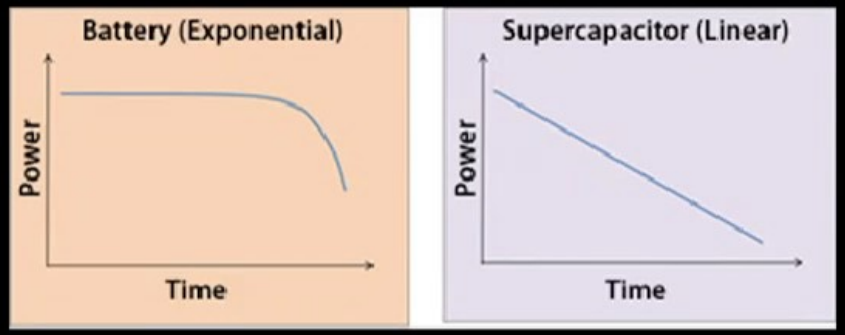
Don't works on AC

Voltage drop Rate

Voltage drop very fastly during discharging

due to small energy density





Maintain constant voltage across its terminal for large duration during discharging

due to large energy density

Efficiency

Eletrical ⟷ Electrical

↓

Low energy conversion losses

↓

High η

chemical ⟷ Eletrical

↓

High energy conversion losses

↓

Low η