BASIC ELECTRONICS - II
(CAPACITOR)

Presented By

Dr.S.Karthikarani
Assistant Professor
Department of Physics (SF)
CPA College, Bodi.

Capacitor

- A **capacitor** is a device for storing electric charge
- A capacitor is a passive electronic component consisting of a pair of conductors separated by a dielectric (insulator).

CAPACITANCE

- This is a measure of a capacitor's ability to store charge.
- A large capacitance means that more charge can be stored.
- Capacitance can be measured using formula:

  $q = C V$

  where

  C = capacitance,

  q= charge,

  V = potential difference.

- Unit of Capacitance is Farads(F).

Combination of capacitors

- Series combination
- Parallel combination

Series combination

- When capacitors are connected in series, the capacitance decreases.

- In Series, total capacitance is given by the formula:

$$1/C_t = 1/C1 + 1/C2 + \ldots\ldots$$

Parallel combination

- When capacitors are connected in parallel, the capacitance increases.
- In Parallel, total capacitance is given by the formula:

$$C_t = C1 + C2 + \ldots\ldots Cn$$

Types of capacitor

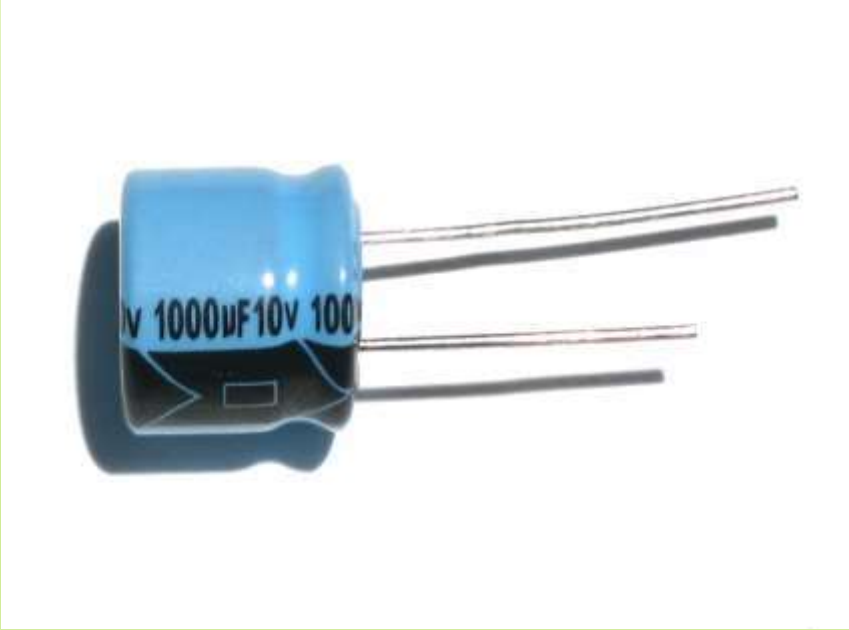
- Polarized capacitor
- Non polarized capacitor

Non Polarized capacitor

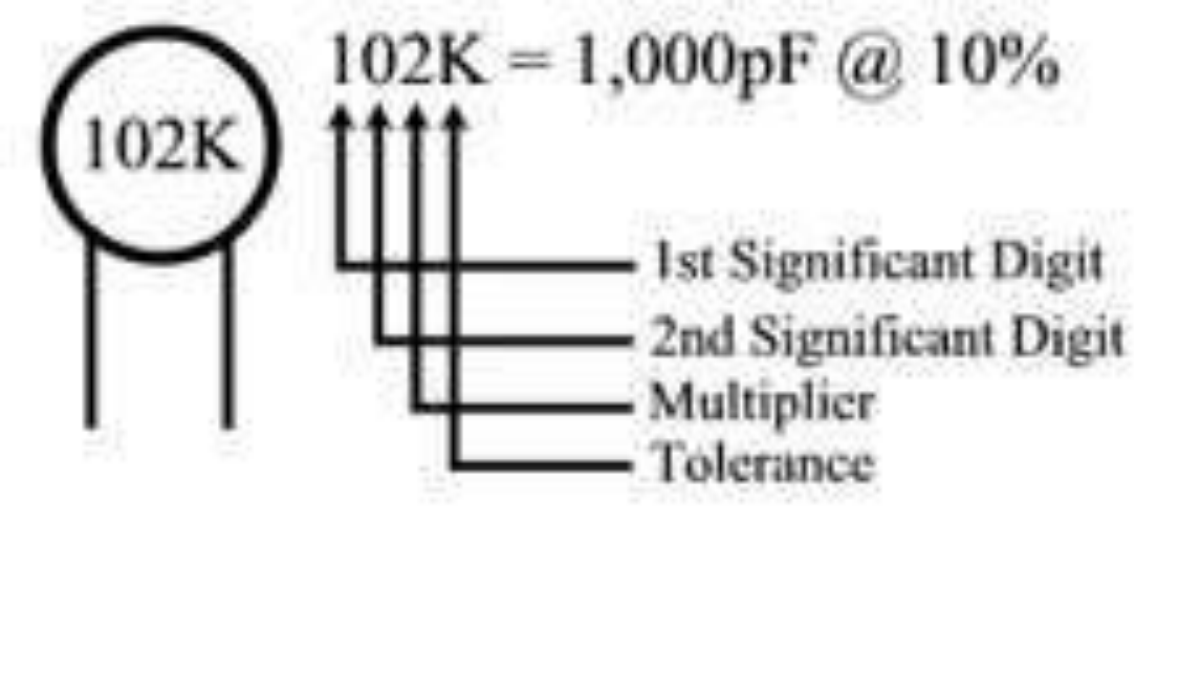
- The capacitor which do not have a polarity

Polarised capacitor

- The capacitor which have a polarity



How to Read Ceramic Capacitor



Features

- Capacitor offers low impedance to AC.
- It offers high impedance to DC.
- Reactance of capacitor is given by:

$$X_c = 1/2\pi fc$$

where $\pi = 22/7$

Applications

- Blocking DC Voltage
- Adjusting Frequency
- Use to generate a time delay application
- Smoothing of dc voltage.

Thank you…