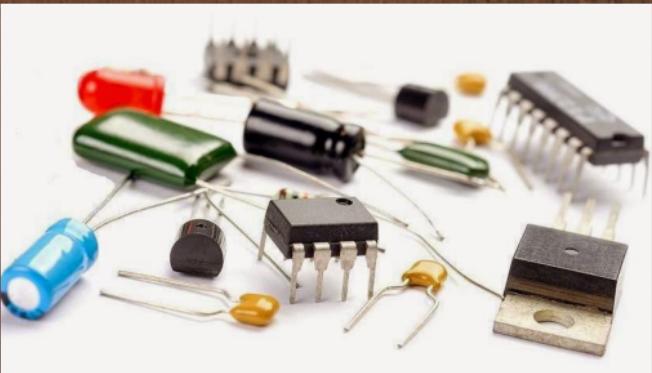




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ELECTRONICS SNIPPETS- CAPACITORS





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THE DIELECTRIC OF A CAPACITOR





- Capacitor has two metal plates which are separated by non-conducting medium. This medium is generally known as “Dielectric” which acts as an insulator between the capacitor plates.
- This dielectric material can be made from a number of insulating materials or combinations of these materials. The most commonly used dielectric materials are air, paper, polyester, Mylar, polypropylene, ceramic, or oil, glass, or a variety of other materials. The various insulating materials used as the dielectric in a capacitor differ in their ability to block or pass an electrical charge through it.





- The factors which effect the total capacitance of a capacitor are the overall size of the metal plates and the distance between them and one more factor which influences the overall capacitance of a capacitor is the type of dielectric material used between the plates, because the capacitance of the capacitor depends on the permittivity (ϵ) of the dielectric material.





- The ‘Dielectric Constant (k)’ is a factor of the dielectric material or non conducting material which increases the overall capacitance of a capacitor compared to air.
- With a high dielectric constant (k), a dielectric material is said to be better insulator than a dielectric material with less dielectric constant (k).
- The Dielectric constant (k) is a quantity with dimensionless because it is relative to the free space.