

Capacitors: Types and Applications A capacitor is an electrical component that stores electrical energy by accumulating electric charges on two closely spaced surfaces that are insulated from each other.

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Variable Capacitors (Varicap Diodes): Used for voltage-controlled tuning in radio receivers.

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Signal Processing: Capacitors are essential in filters, oscillators, and timing circuits. Fixed Capacitors: These capacitors have a fixed capacitance value. The capacitor was originally known as the condenser, a term still encountered in a

few compound names, such as the condenser microphone. Capacitance Value: Capacitance is

measured in farads (F), microfarads (μF), and nanofarads (nF).

Ceramic Capacitors: Commonly employed for bypass and decoupling in power supplies.

Aluminum Electrolytic Capacitors: Widely used in electronics and electrical systems.

Tantalum Electrolytic Capacitors: Known for their high capacitance-to-volume ratio.

Adjustable and Variable Capacitors: Adjustable Capacitors: Used for tuning and resonance in radio circuits. Coupling and Decoupling: Used to couple or decouple signals in electronic circuits.

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