

Types of Components

In the field of electrical engineering, you will be studying a variety of different components which all have a variety of uses. Understanding these components can prove to be difficult at first, but with a little practice it becomes easier over time. Below is a list of commonly used elements in electronics, with their symbol and usage grouped together.


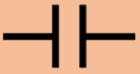


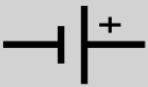

| | | |
|---|--------------------------|--|
|  | DIODE | Used to represent devices that only allow current to flow in one direction. Ex: LED lights |
|  | CAPACITOR | Stores electrical energy, similar to a battery. |
|  | INDUCTOR | Tries to resist the change of an electrical signal. |
|  | RESISTOR | Resists the flow of current. Keeps parts from being overloaded. |
|  | DC VOLTAGE SOURCE | Stands for direct current. Allows current to flow constantly in one direction. Ex: a battery |
|  | AC VOLTAGE SOURCE | Stands for alternating current. Allows current to alternate between directions. Ex: the electricity running through each house |



Figure 1: Capacitors

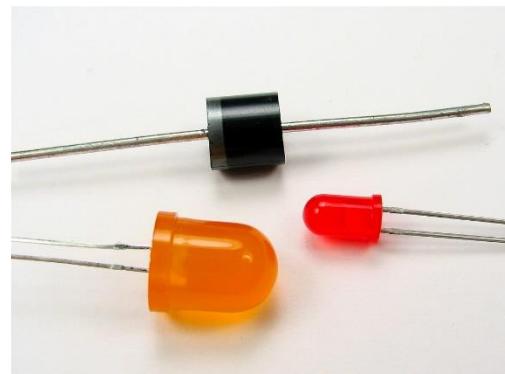



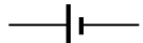


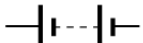

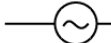
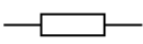
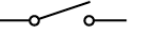

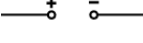
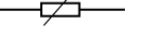
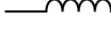
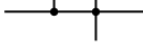
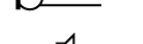
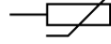
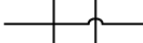

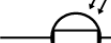




Figure 2: Diodes

For more information on the HSI program at FAU visit: <http://eng.fau.edu/research/hsi/>



Below are some other commonly used symbols:

| | | | | | |
|---|--|---|----------------------------|---|--------------------------------|
|  | Connecting lead |  | Filament lamp |  | Fuse |
|  | Cell |  | Voltmeter |  | Earth |
|  | Battery of cells |  | Ammeter |  | Alternating signal |
|  | Resistor |  | Switch |  | Capacitor |
|  | D.C. Power supply |  | Variable resistor |  | Inductor |
|  | Junction of conductors |  | Microphone |  | Thermistor |
|  | Crossing conductors (no connection) |  | Loudspeaker |  | Light dependant resistor (ldr) |
|  | |  | Light emitting diode (led) | | |

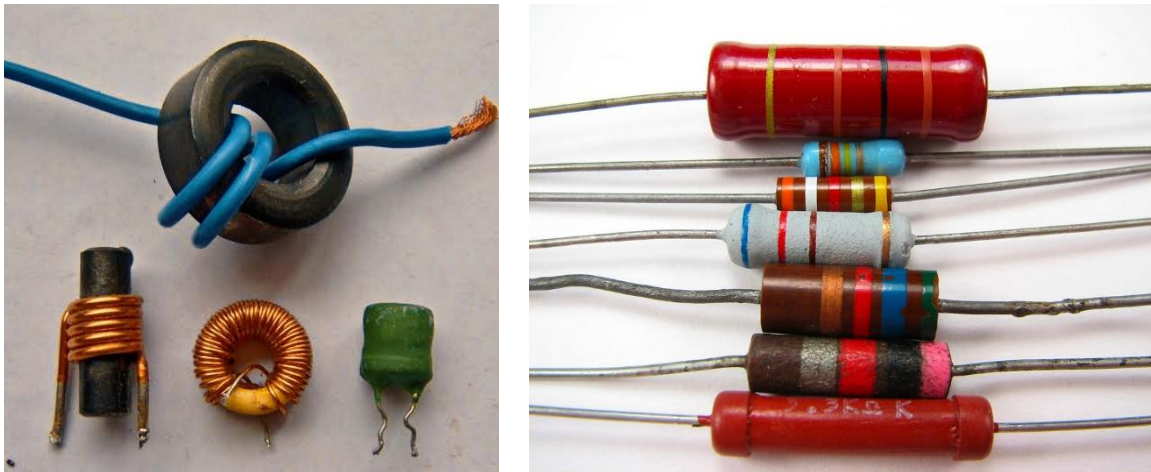


Figure 3: Inductors (left) and resistors (right)

FAU Courses

EGN1002 – Fundamentals of Engineering

EEL3111 – Circuits I

CDA 3201C – Logic Design

EEE3300 – Electronics 1

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