

# Schematic Diagram Symbols

- Wires

Wires are connected with a dot at the junction. Wires that are not connected simply cross without a connection dot. If wires form a cross at their connection, it is better to stagger them forming "t" junctions so that the connection is clear even if the connection dot is not.

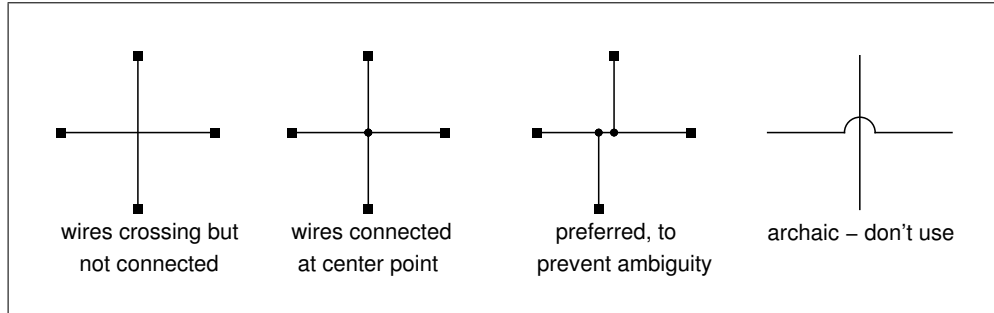


Figure 1: Wires

- Power and Ground Symbols

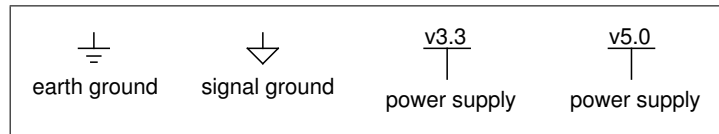


Figure 2: Power and Ground Symbols

There are several symbols used for ground. Some conventions distinguish earth ground, signal ground, and chassis ground. However, these are often used interchangeably. Many different power symbols are also seen depending upon the country of origin. The actual supply voltage usually indicated.

- Switches

There are many different kinds of switches seen in schematics. Most will resemble these samples.

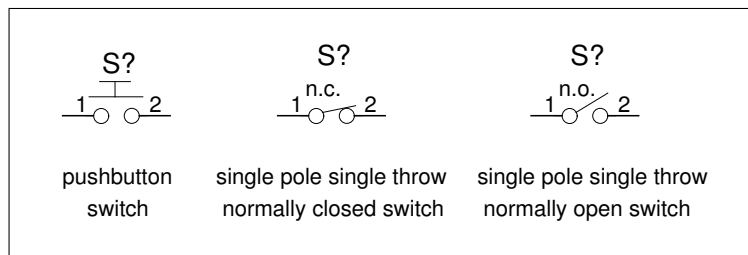


Figure 3: Switches

- Resistors

Resistors typically do not have a rated wattage shown. In most schematics, the resistors are all of the same wattage and this will be stated somewhere on the schematic.

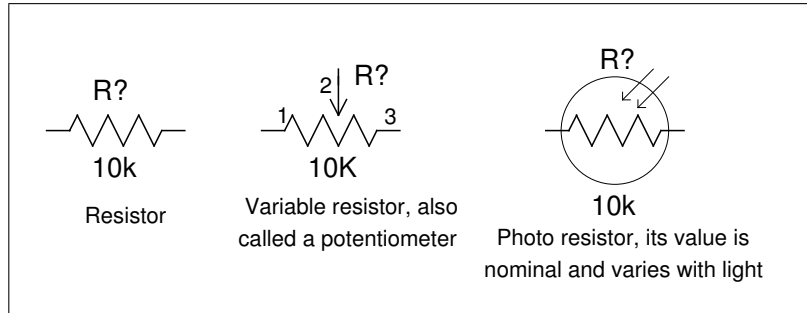


Figure 4: Resistors

- Diodes

There are many types of diodes. Here are a few of the most common. Zener diodes will often have both a part number and the rated voltage to aid in understanding the circuit operation.

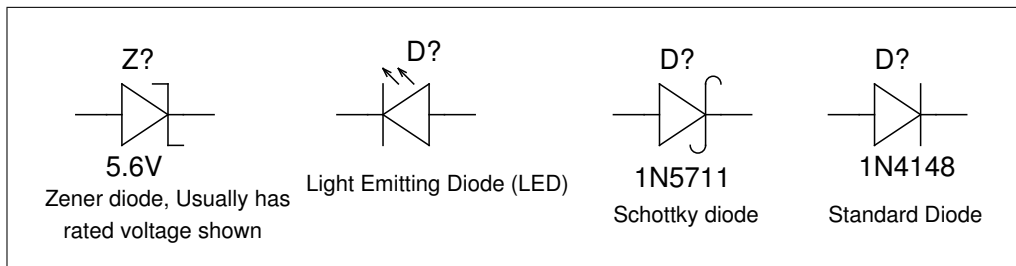


Figure 5: Diodes

- Inductors and Transformers

Transformers often will have a small dot placed at one end of its windings. These are phasing dots which indicate the instantaneous voltage polarity at each of the "dotted" ends of the windings is the same.

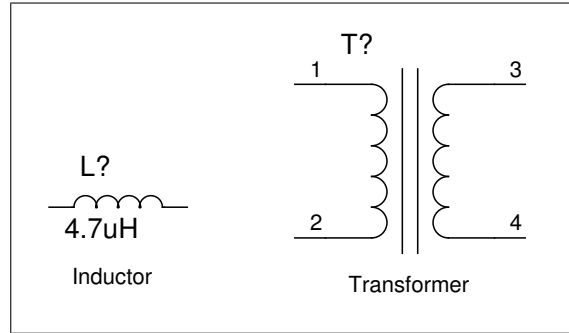


Figure 6: Inductors

- Capacitors

Capacitors will sometimes have a voltage listed if it is critical. Often, all the capacitors on a schematic will have the same voltage rating. If so, this will be stated somewhere on the schematic.

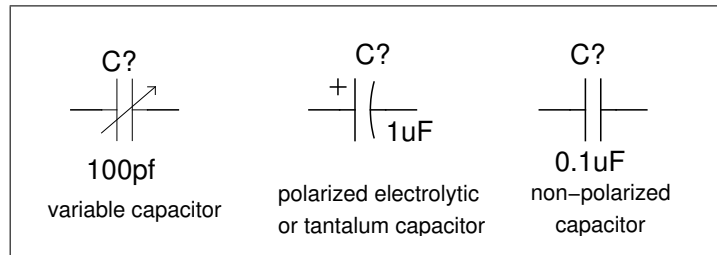


Figure 7: Capacitors

- Independent Sources

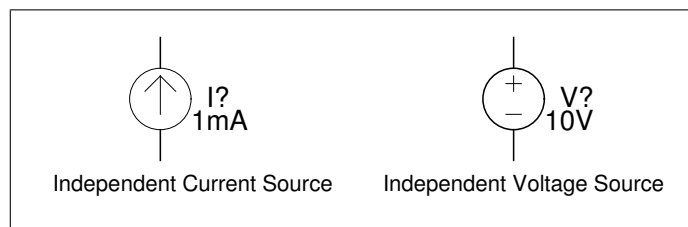


Figure 8: Independent Sources

- Bipolar Junction Transistors (BJT's)

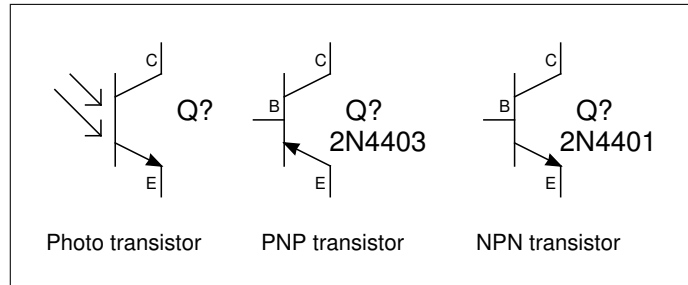


Figure 9: Bipolar Junction Transistors

- Metal Oxide Field Effect Transistors (MOSFET'S)

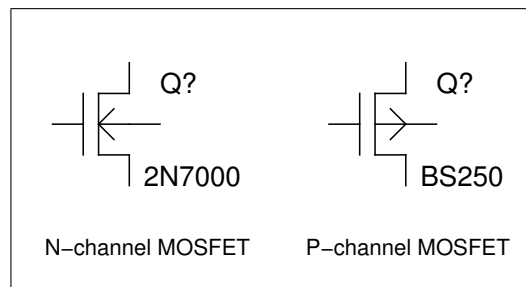


Figure 10: Metal Oxide Field Effect Transistors (MOSFET'S)

- Battery, Motor, Connections

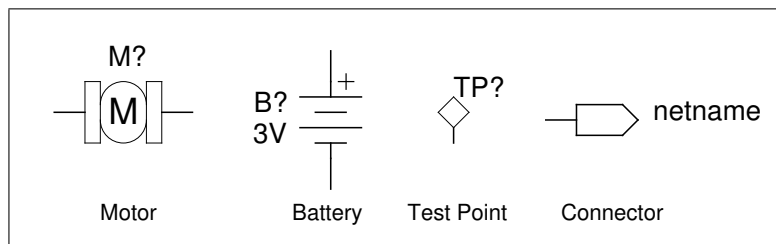


Figure 11: Motor, Battery and Connection Symbols