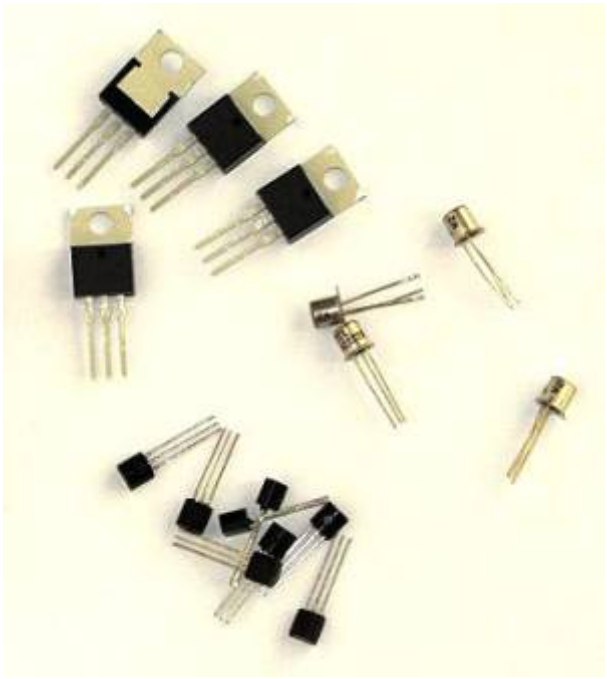
# Transistor



## Introduction

A Transistor is a device composed of semiconductor material that **amplifies a signal or opens or closes a circuit**, like a switch.

It can cause changes in a large electrical output signal by small changes in a small input signal. That is, a weak input signal can be amplified (made stronger) by a transistor. For example, very weak radio signals in the air can be picked up by a wire antenna and processed by transistor amplifiers until they are strong enough to be heard by the human ear.

A transistor consists of three layers of silicon or germanium semiconductor material. Impurities are added to each layer to create a specific electrical positive or negative charged behavior. “P” is for a positive charged layer and “N” is for a negative charged layer.

Transistors are either NPN or PNP in the configuration of the layers.

## MDIBox-related

BC547 / BC557 / BC337 are useful costless references to test with

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