

BASIC POWER SUPPLY CIRCUITS PART 1

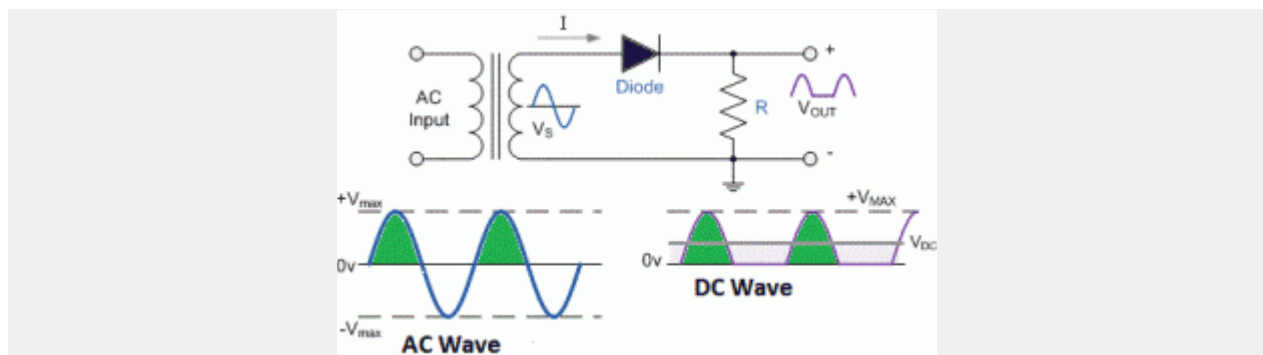
To understand power supply circuits, we need to understand rectifiers.

A rectifier converts AC or alternating current to DC direct current. Rectifiers are used in Power supply circuits which we will discuss in detail.

The process of converting AC to DC is called Rectification.

Half wave rectification.

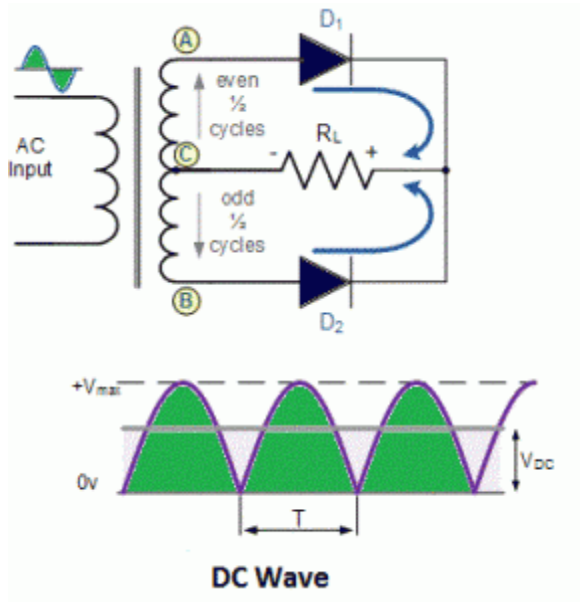
It requires only single diode. Only positive cycle of the current is passed through the diode i.e only half of the AC wave is passed and hence the name half wave.



Half wave rectifier

Full Wave rectification

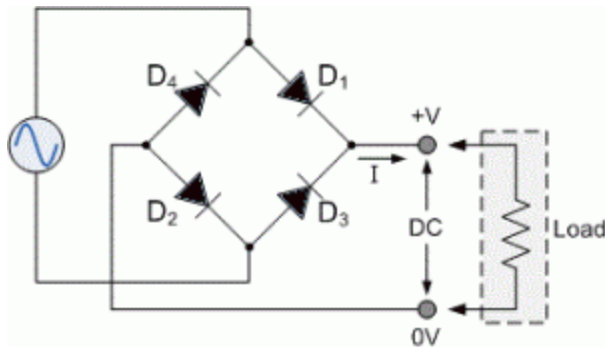
It requires 2 diodes or 4 diodes. In this both positive and negative AC cycle is passed through the diode alternatively.



DC Wave

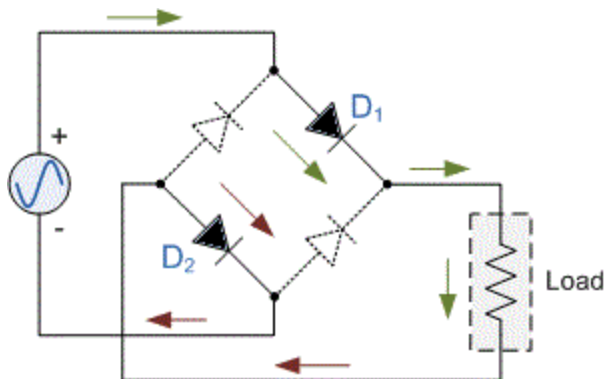
Bridge Rectifier

Bridge rectifier also produces same output as full wave rectifier.

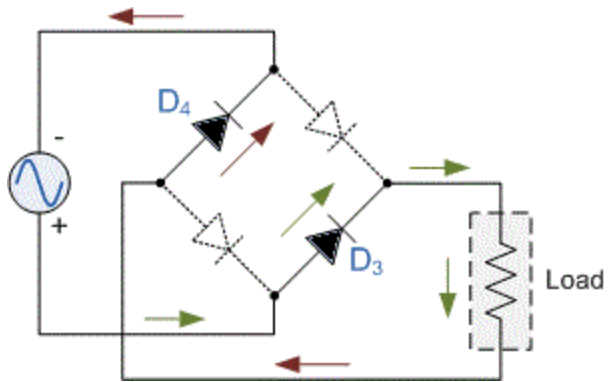


The four diodes D₁-D₄ are arranged in series pair with only 2 diodes conducting current during each positive half cycle.

During the positive half cycle of the supply, diode D₁ and D₂ conduct in series while diodes D₃ and D₄ are reverse biased.



During the negative half cycle of the supply, diode D3 and D4 conduct while D1 and D2 are reverse biased.



Source : <http://electronichobbyist.wordpress.com/2012/06/15/basic-power-supply-circuits-part-1/>