



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

COIMBATORE-35

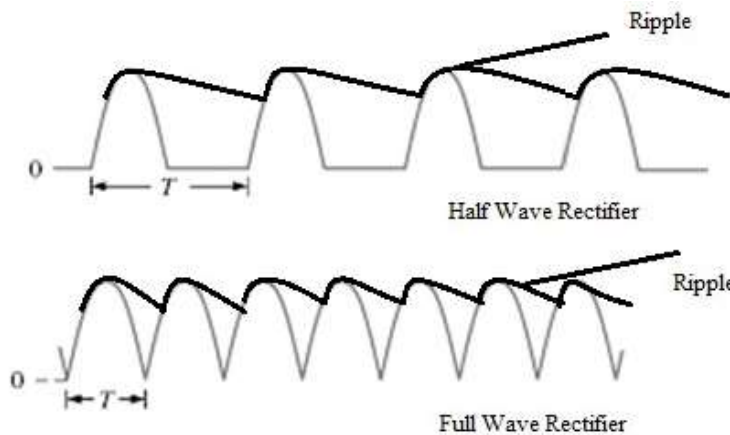
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23EET104 / ANALOG ELECTRONICS CIRCUITS I YEAR / II SEMESTER

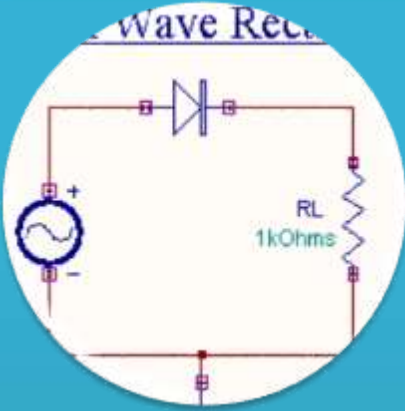
UNIT-I: PN JUNCTION DEVICES



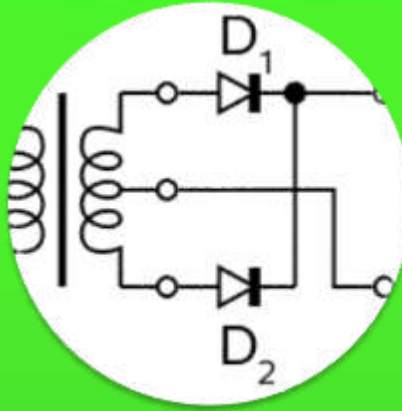
HALF & FULL WAVE RECTIFIER



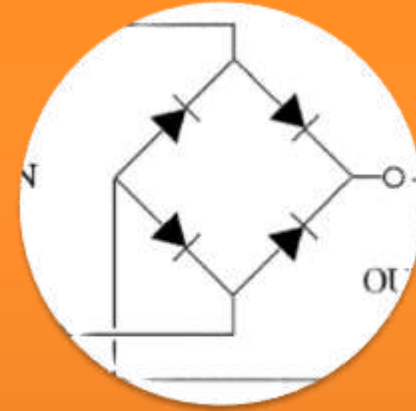
TOPIC OUTLINE



Half wave Rectifier



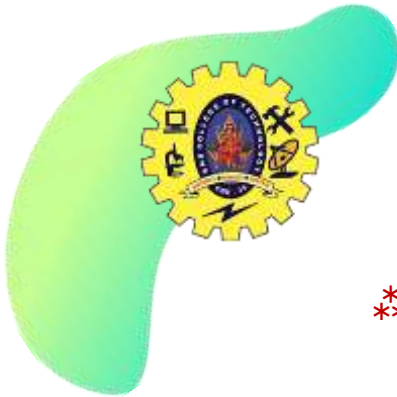
Full wave Rectifier



Bridge Rectifier



Introduction



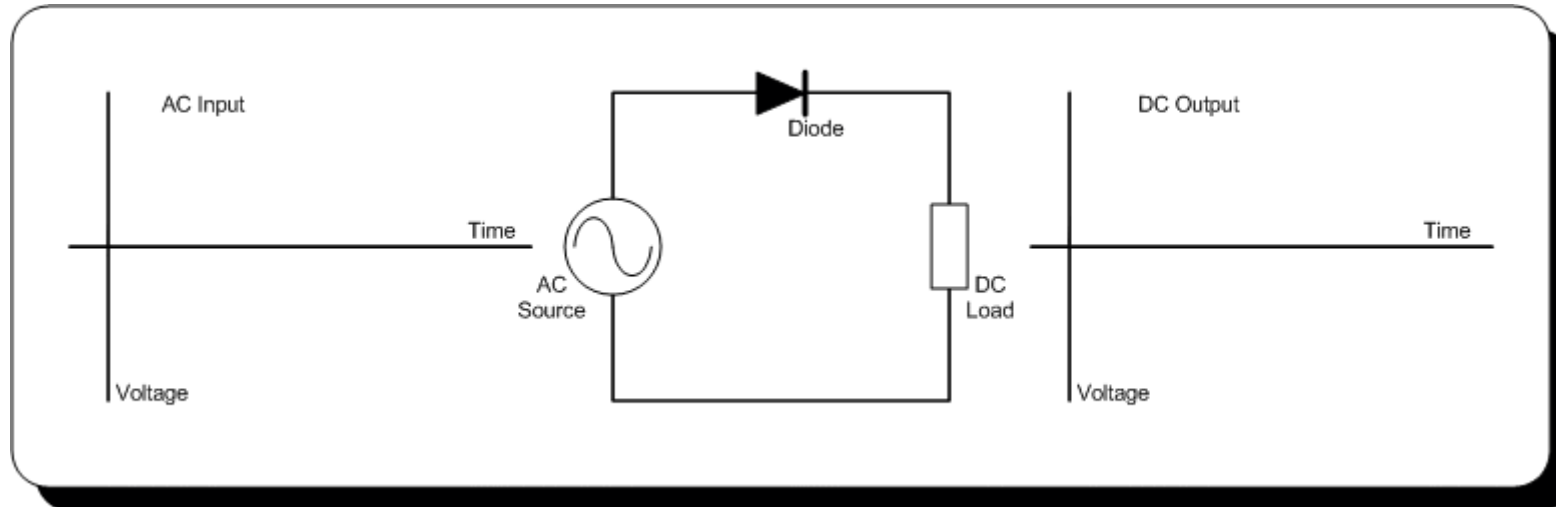
** A **rectifier** is an electrical device that **converts alternating current (AC)**, which periodically reverses direction, **to direct current (DC)**, which is in only one direction, a process known as **rectification**.

Types of Rectifiers

- ➔ Half wave Rectifier
- ➔ Full wave Rectifier
- ➔ Bridge Rectifier

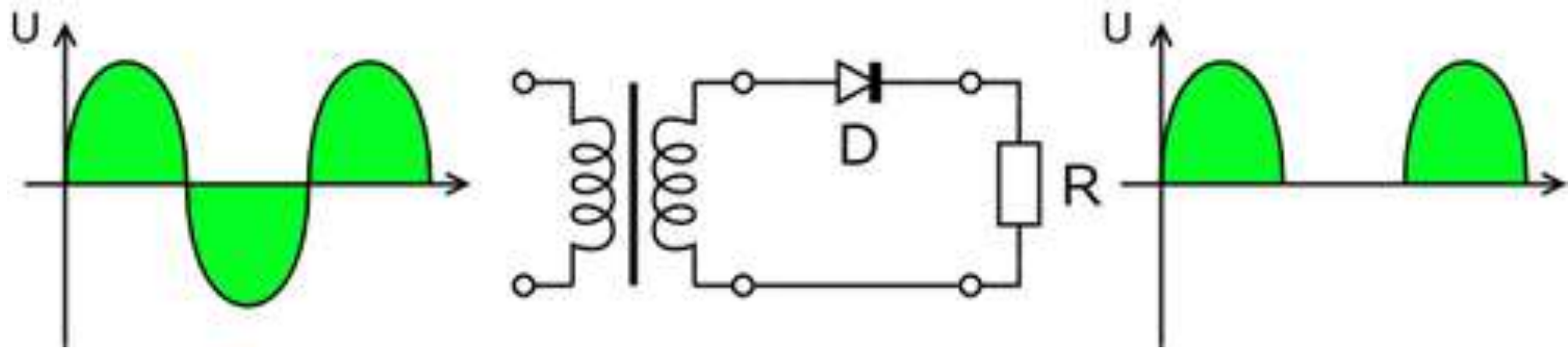


Half wave rectifier working animation

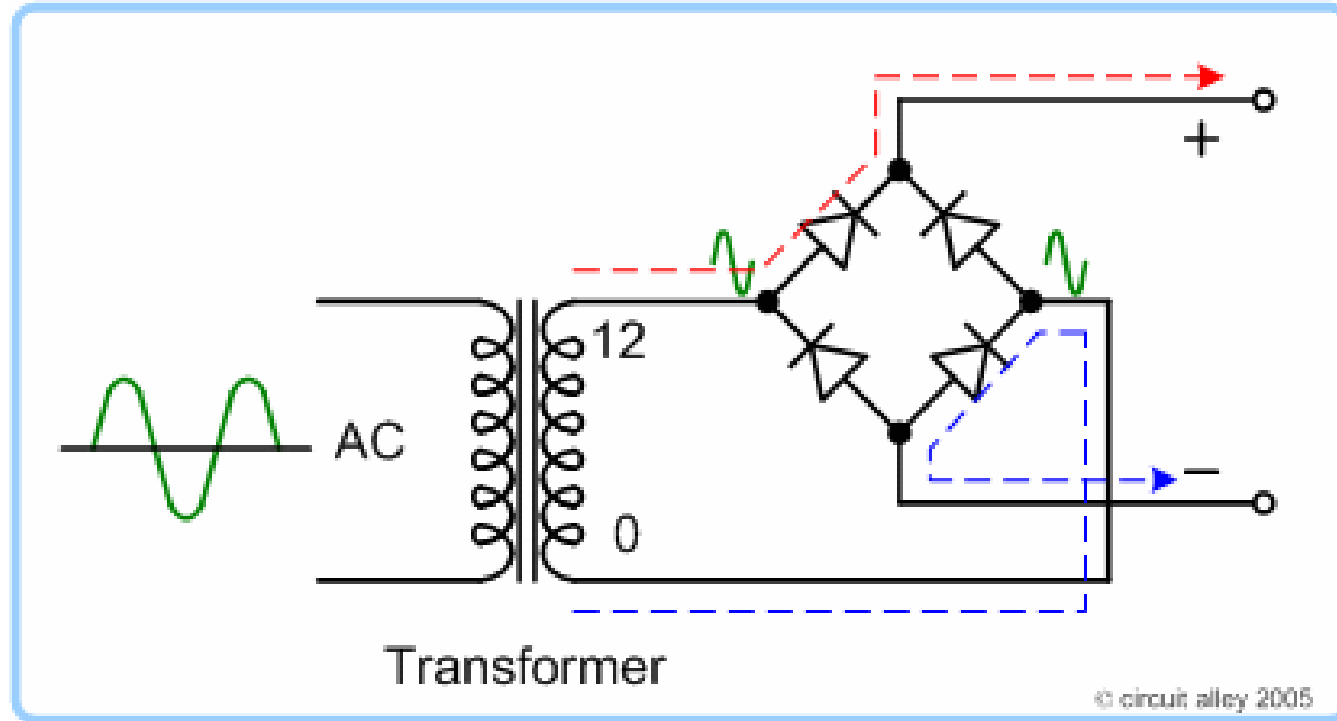




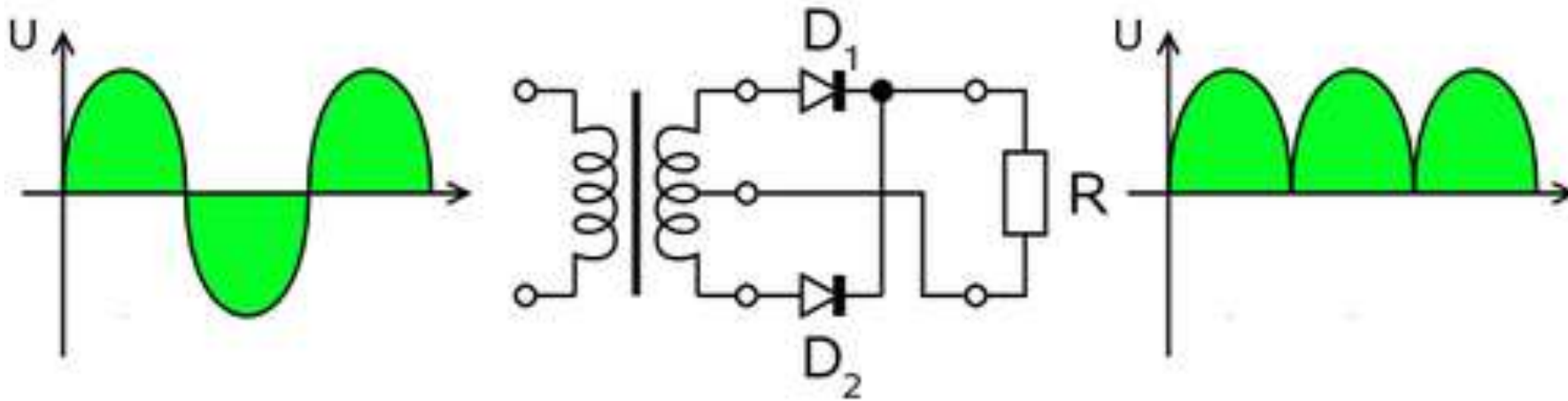
Half wave rectifier



Full wave rectifier working animation

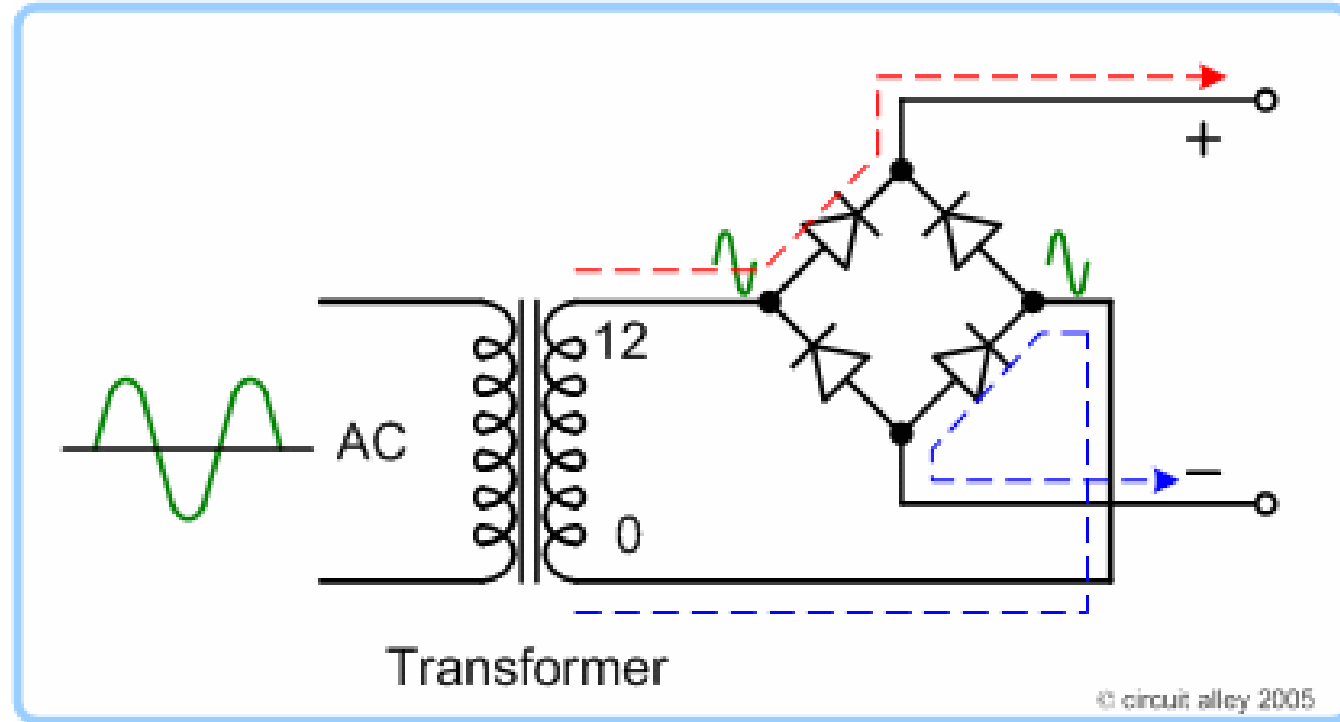


Full wave rectifier using transformer and 2 diodes



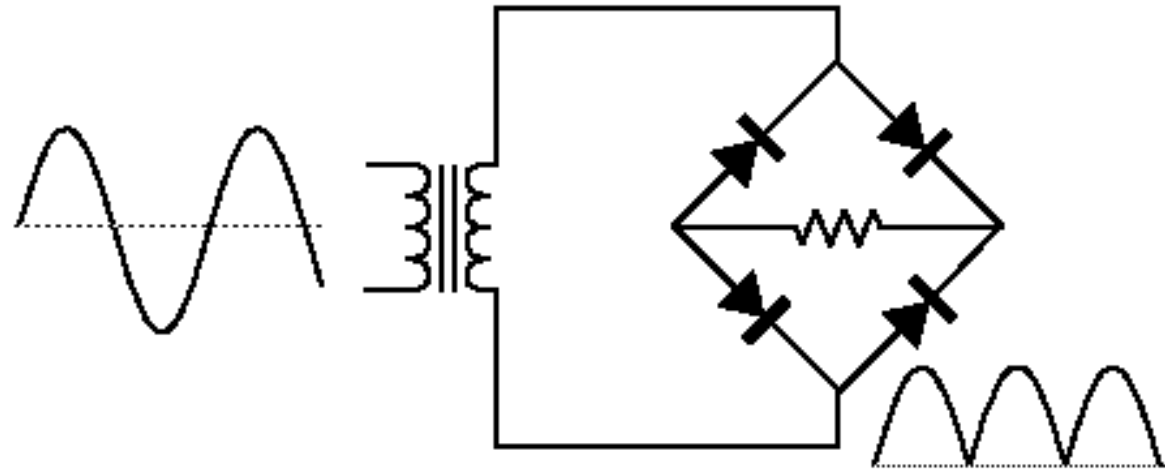


Full wave rectifier working animation



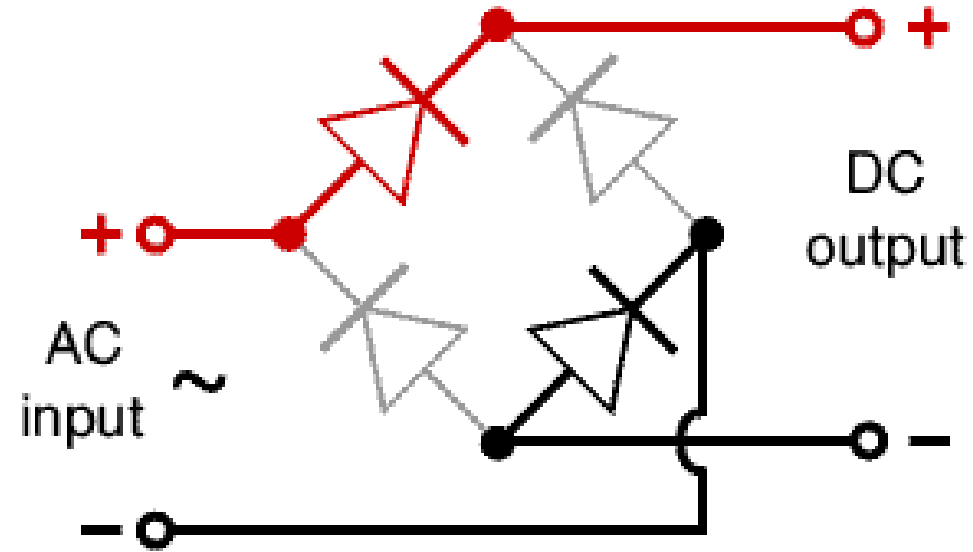


Bridge Rectifier

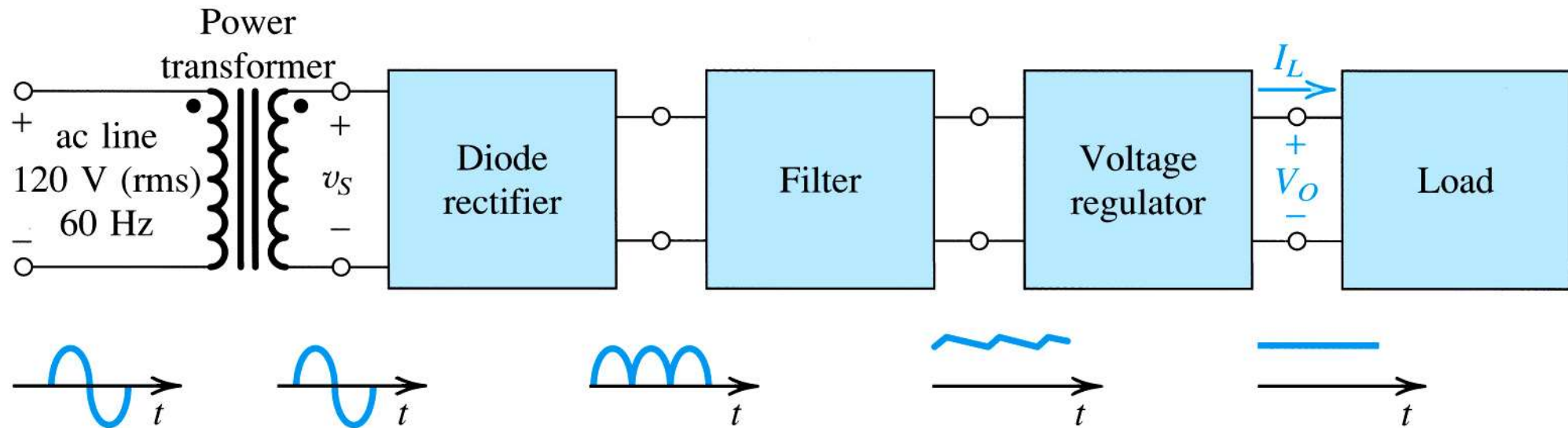




Bridge Rectifier Animation



Block diagram of a DC power supply



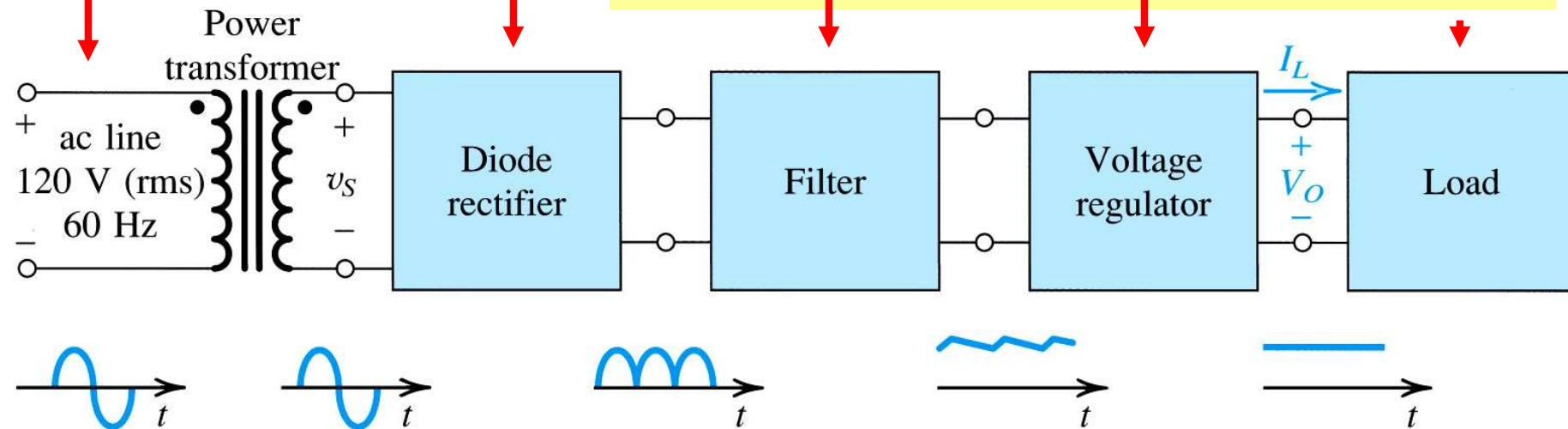
step #1: increase / decrease rms magnitude of AC wave via power transformer

step #2: convert full-wave AC to half-wave DC (still time-varying and periodic)

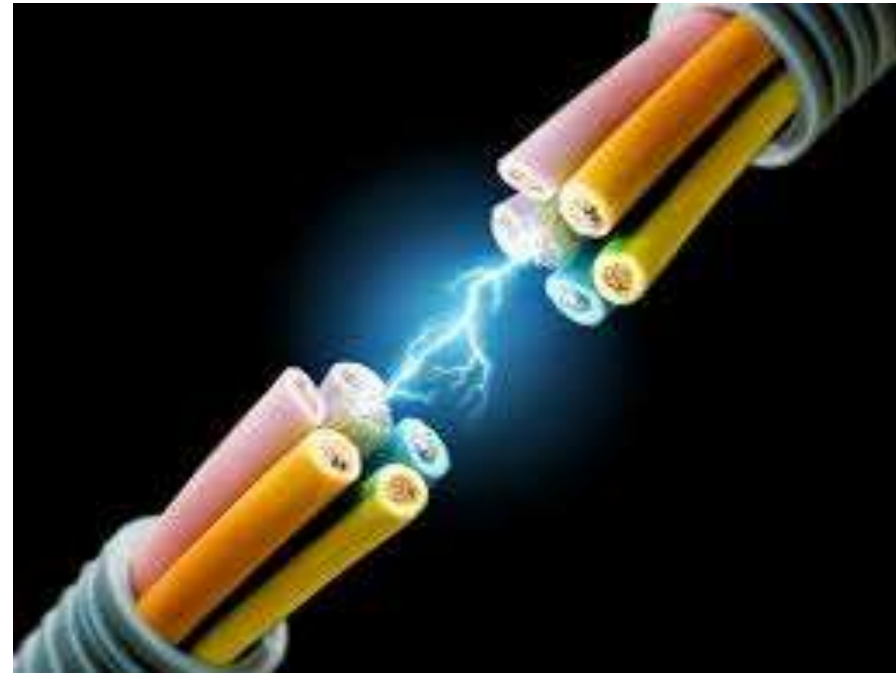
step #3: employ low-pass filter to reduce wave amplitude by > 90%

step #4: employ voltage regulator to eliminate ripple

step #5: supply dc load



RECAP...



...THANK YOU

