

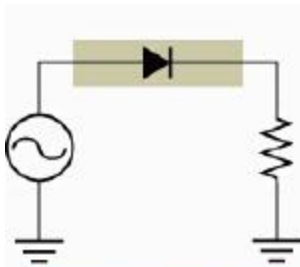
Common Diode Applications

Clippers, Clampers, Voltage Multipliers and Displays

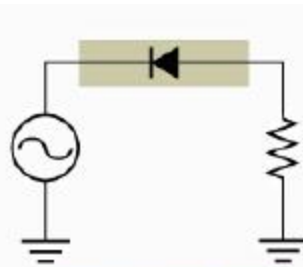
Diode Clippers

A clipper (or limiter) is a circuit used to eliminate some portion (or portions) of a waveform.

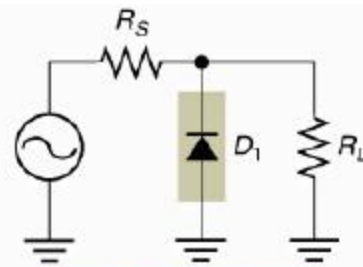
- A series clipper is in series with its load.
- A shunt clipper is in parallel with its load.



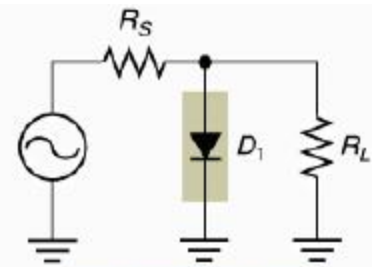
Negative series clipper



Positive series clipper

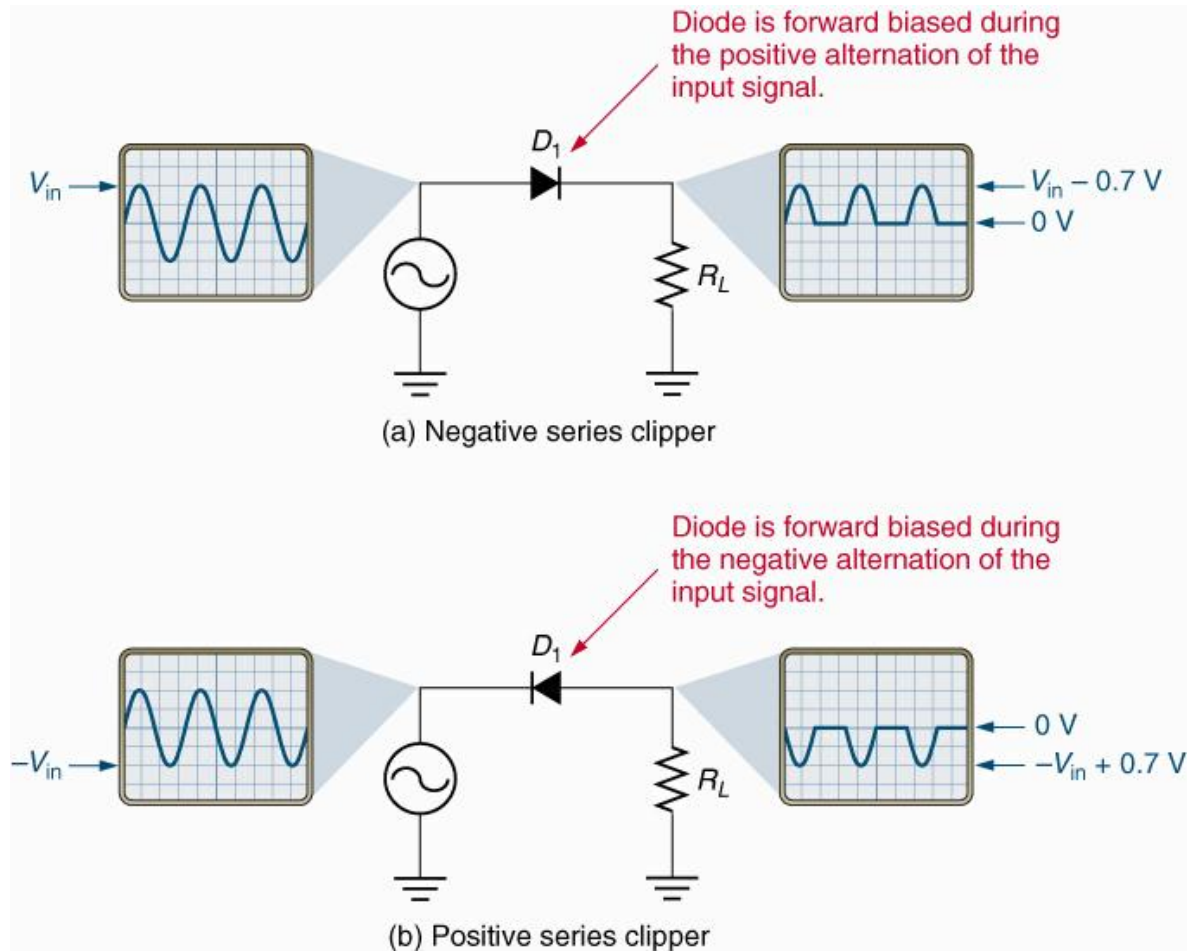


Negative shunt clipper

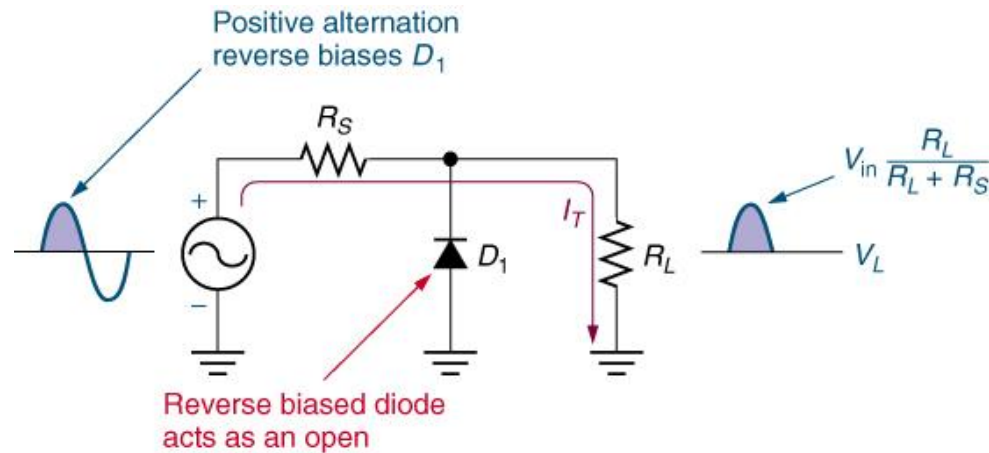


Positive shunt clipper

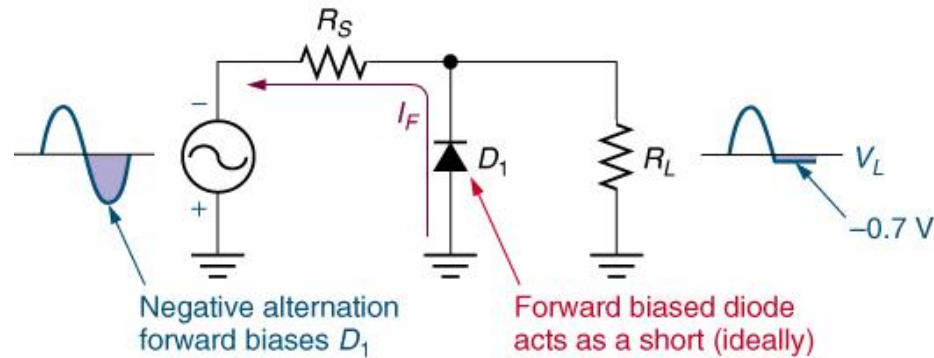
Series Clippers



Negative Shunt Clipper Operation

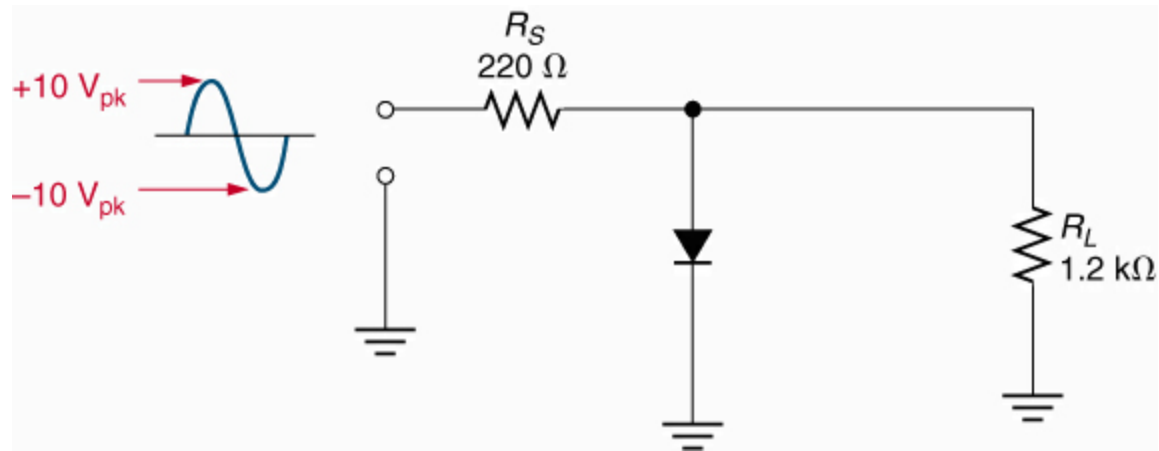


(a) Positive half-cycle operation



(b) Negative half-cycle operation

A Positive Shunt Clipper



When the diode is conducting:

$$V_L = V_F$$

When the diode is not conducting:

$$V_L = V_{in} \frac{R_L}{R_L + R_S}$$

Biased Shunt Clippers

