

# Diode Characteristics

Source: James Brophy, Basic Electronics for Scientists, 5<sup>th</sup> Edition

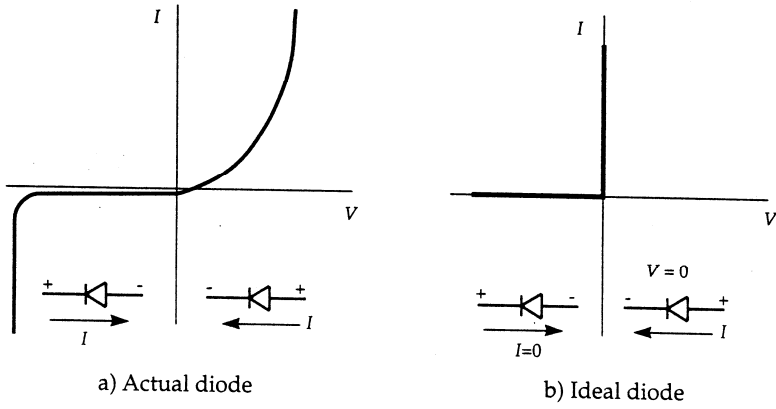


Figure 6.18 Characteristics of a diode.

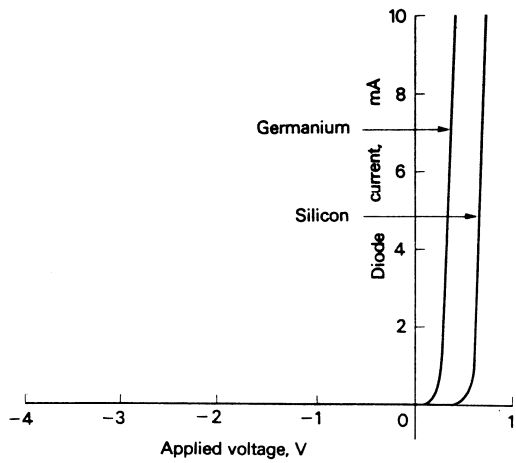


Figure 3-2 Current-voltage characteristics of germanium and silicon junction diodes.

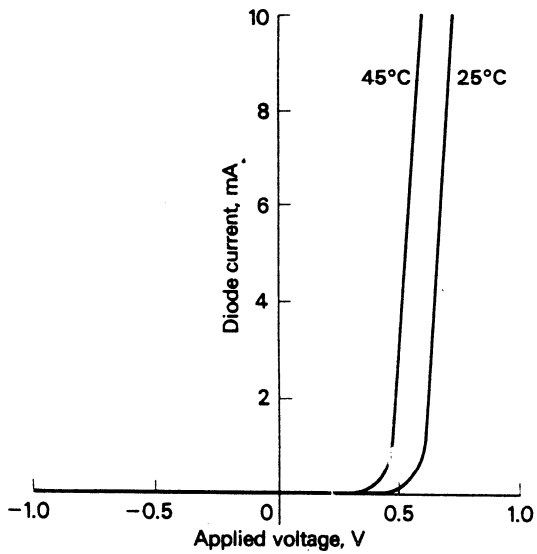


Figure 3-3 Effect of temperature on current-voltage characteristics of silicon junction diode.

# Diode Rectifiers, Clippers, and Clamps

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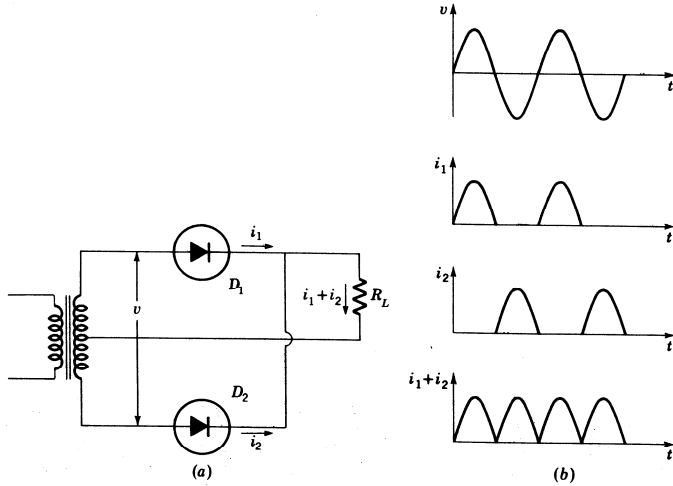


Figure 3-8 (a) Full-wave rectifier and (b) waveforms.

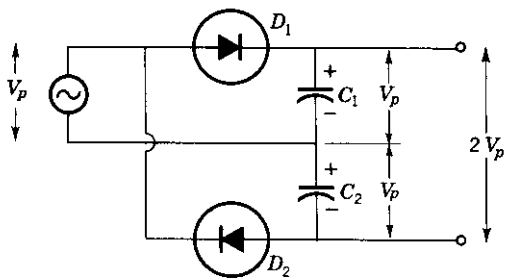


Figure 3-10 Voltage-doubler rectifier yields dc output voltage equal to twice peak input voltage.

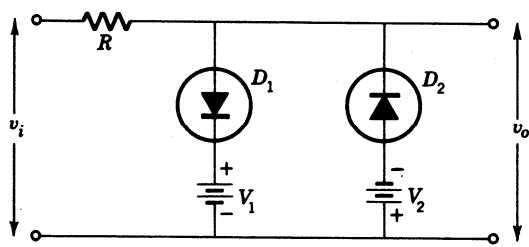


Figure 3-22 Diode clipper.

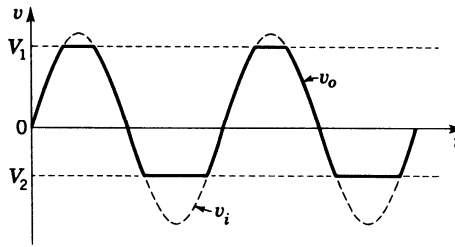


Figure 3-23 Maximum amplitudes in output waveform of diode clipper are limited to values of bias voltage.

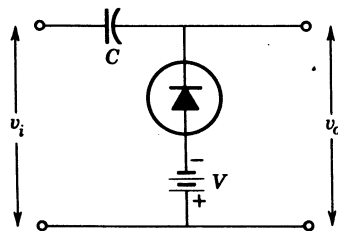


Figure 3-24 Diode clamp.

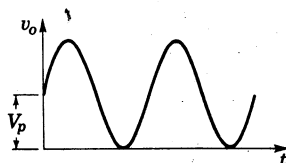


Figure 3-25 Negative peak of output waveform is clamped at zero when  $V = 0$  in diode clamp circuit of Fig. 3-24.