

FIGURE 2.1

Single-phase half-wave diode rectifier with R load: (a) circuit, (b) input voltage, (c) input current, and (d) output voltage.

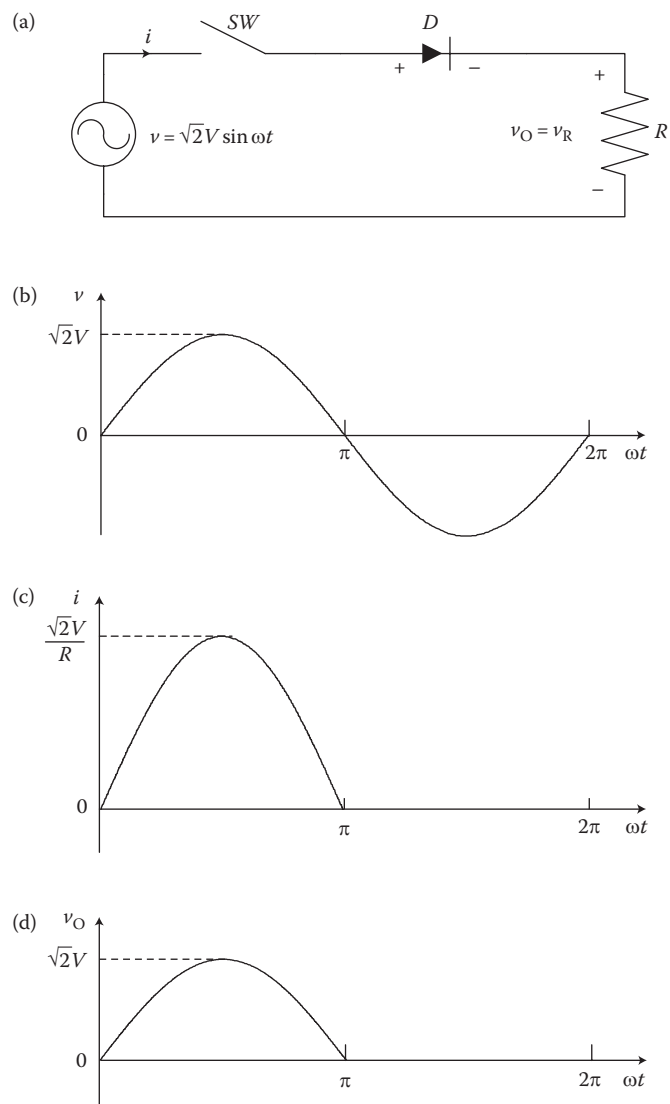


FIGURE 2.2

Half-wave rectifier with R - L load: (a) circuit, (b) input voltage and current, (c) analysis of input voltage and current, (d) output voltage.

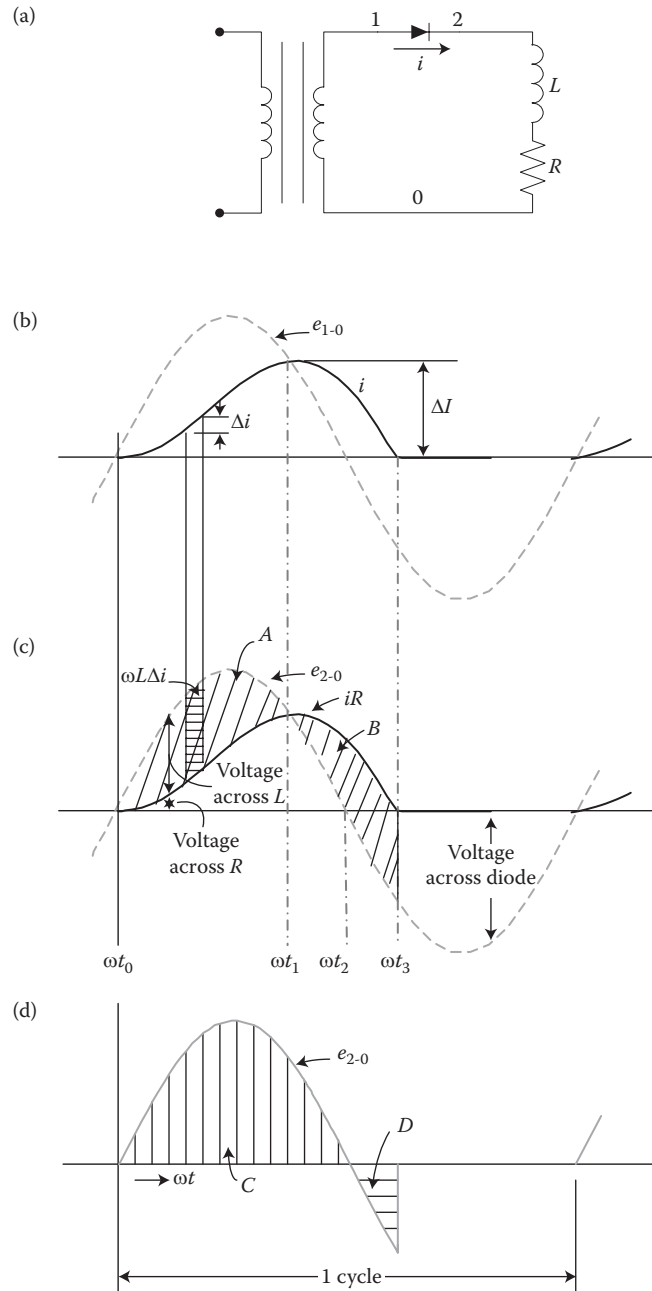


FIGURE 2.3

Determination of extinction angle β .

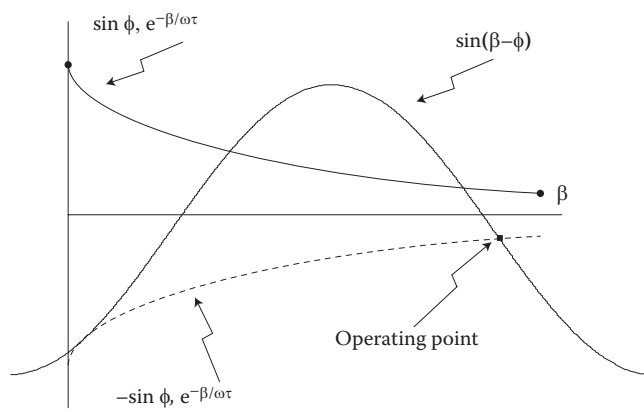


FIGURE 2.4

β versus ϕ .

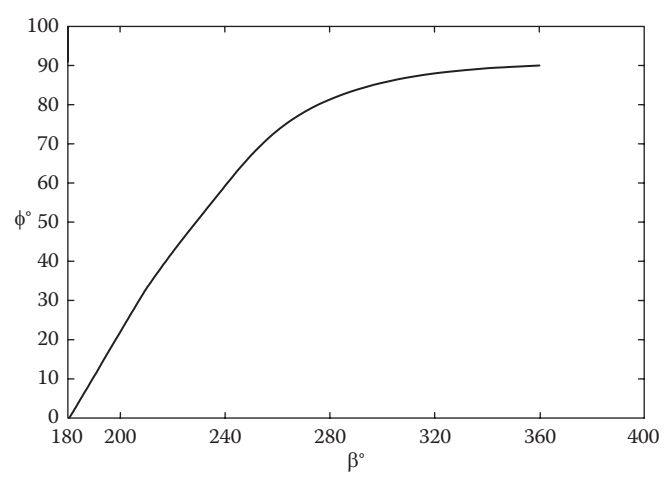
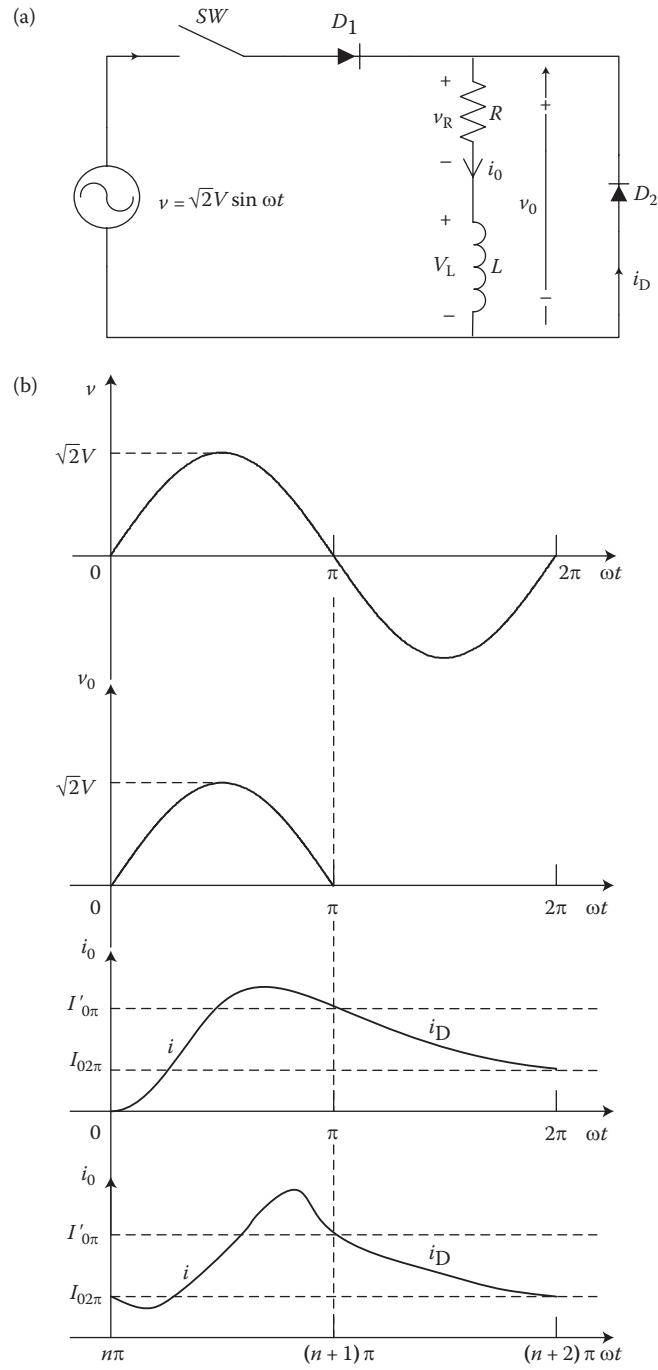


FIGURE 2.5

Half-wave rectifier with R – L load plus freewheeling diode. (a) Circuit and (b) waveforms.



Half-wave rectifier with R - L load plus a back emf. (a) Circuit and (b) waveforms.

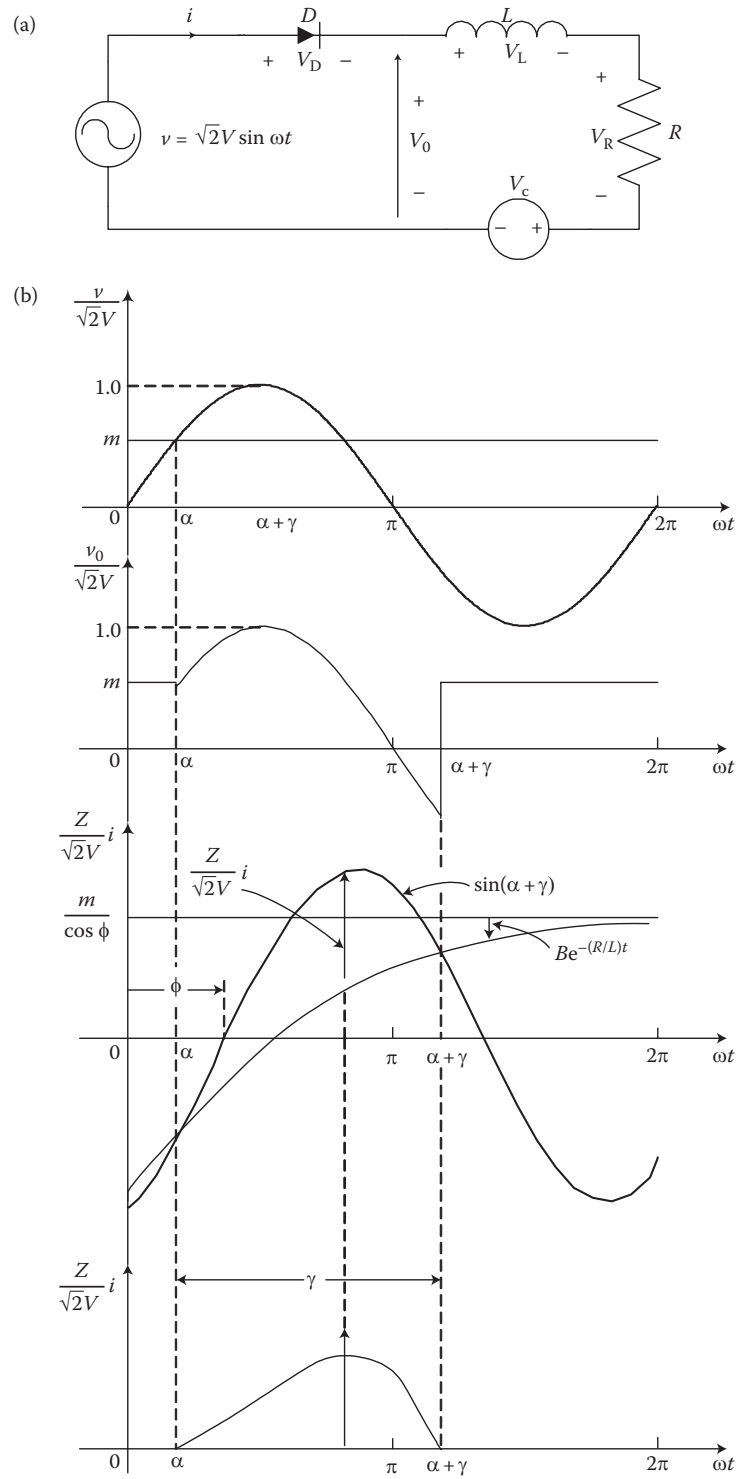


FIGURE 2.7

m versus γ referring to ϕ .

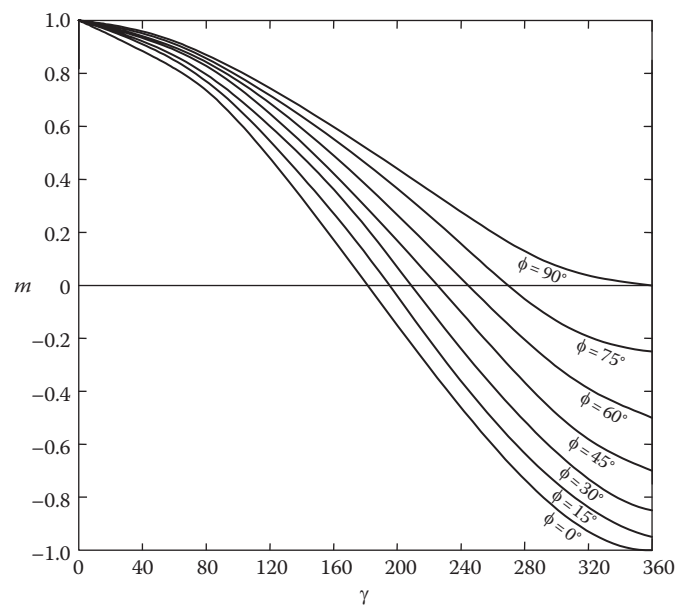


FIGURE 2.8

Half-wave rectifier with R load plus back emf. (a) Circuit and (b) waveforms.

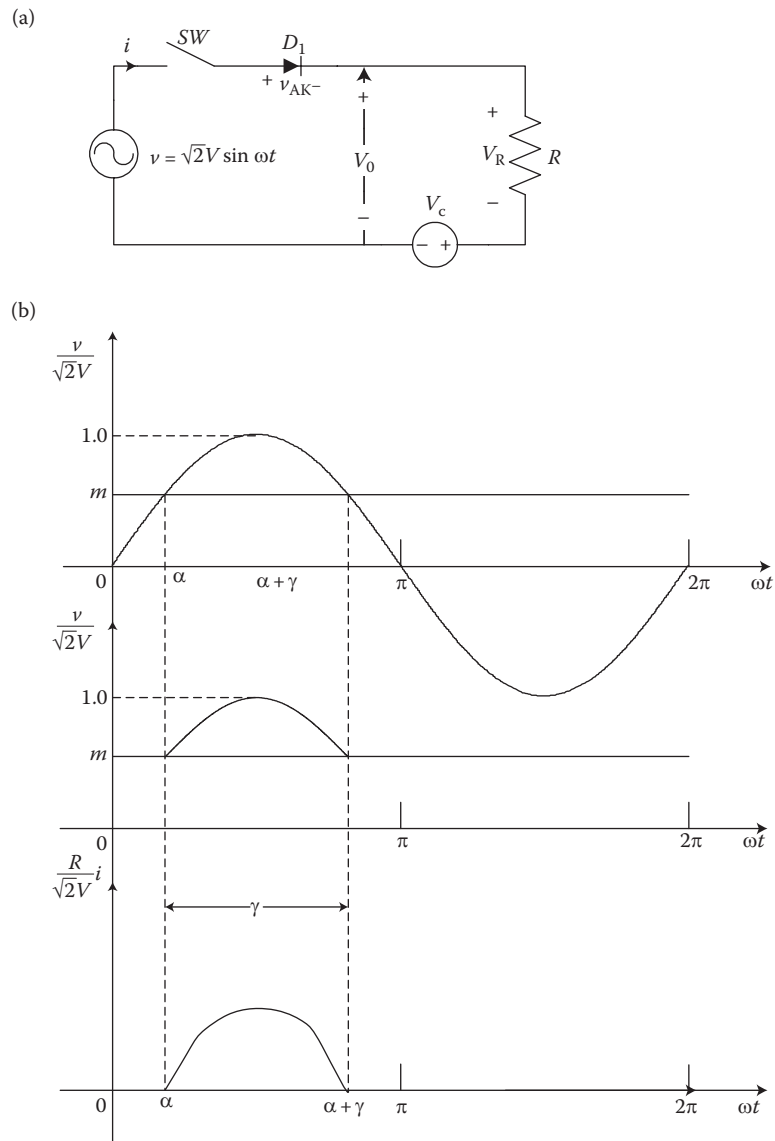
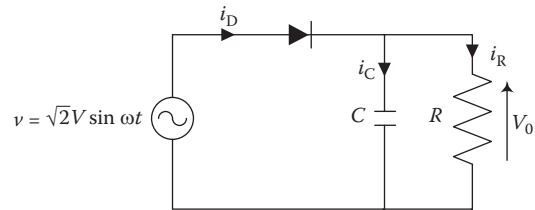


FIGURE 2.9

Half-wave rectifier with an R – C load: (a) circuit and (b) input and output voltage.

(a)



(b)

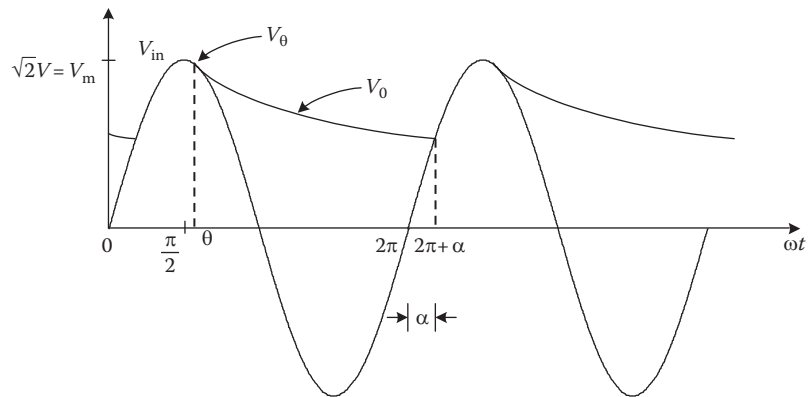


FIGURE 2.10

Simulation results: (a) circuit, (b) input (sine-wave) and output voltages, and (c) input (top), capacitor (middle), and resistor (lower) currents.

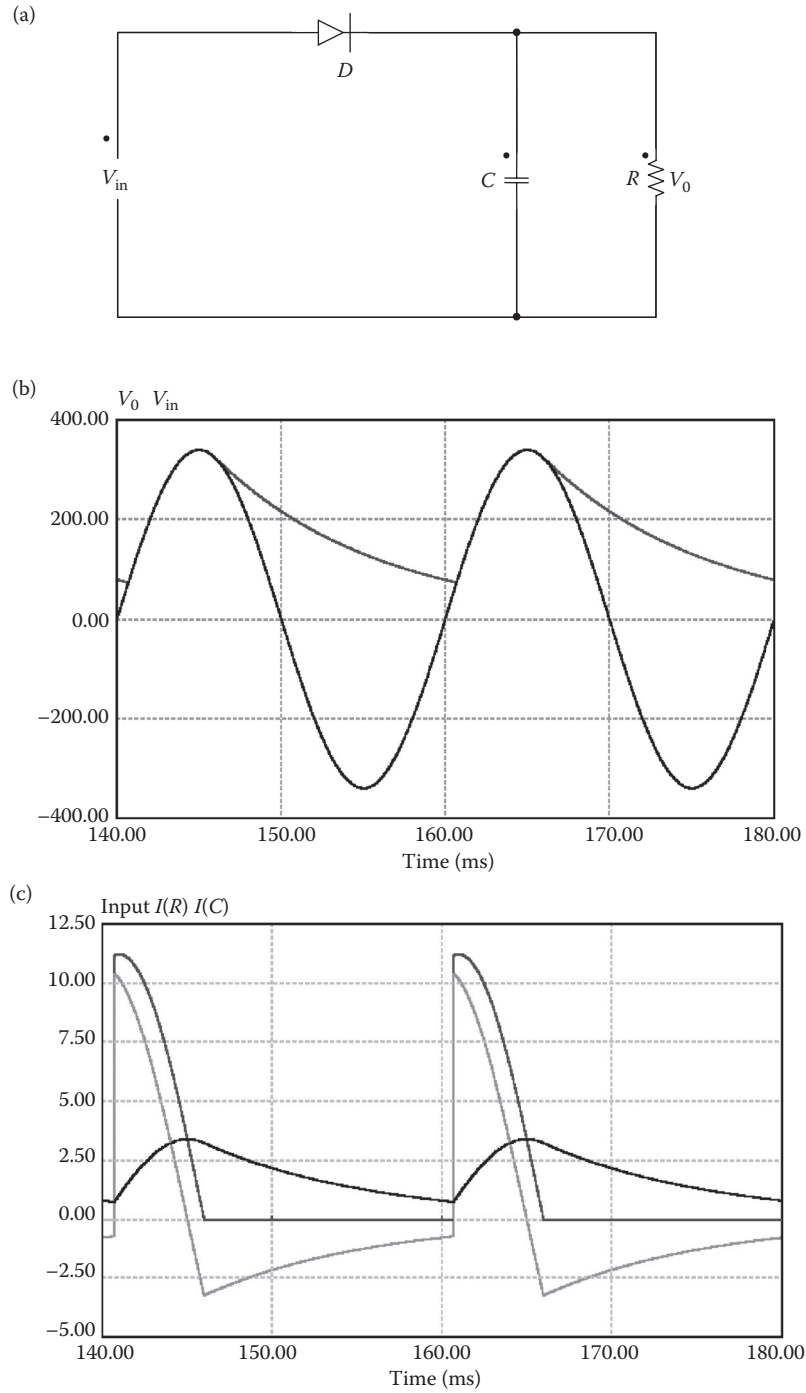


FIGURE 2.11

Center-tap (midpoint) rectifier: (a) circuit diagram and (b) waveforms.

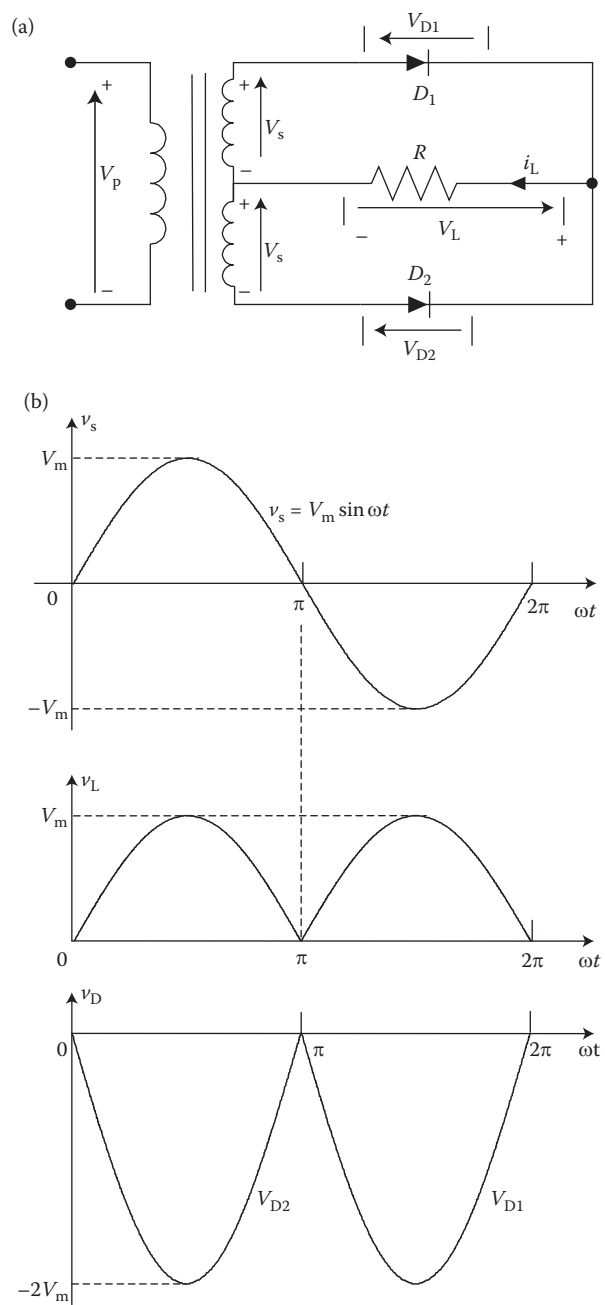


FIGURE 2.12

Bridge (Graetz) rectifier: (a) circuit diagram and (b) waveforms.

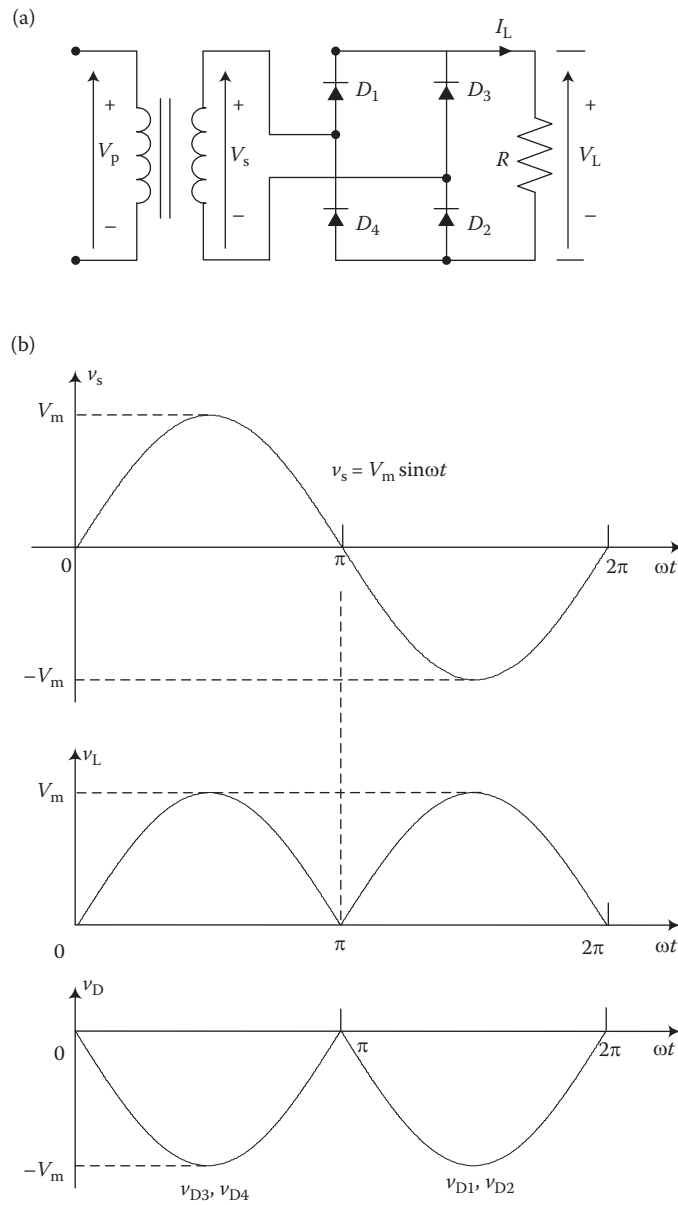


FIGURE 2.13

Single-phase full-wave bridge rectifier with R - C load: (a) circuit, (b) input voltage, (c) output voltage, and (d) current waveforms.

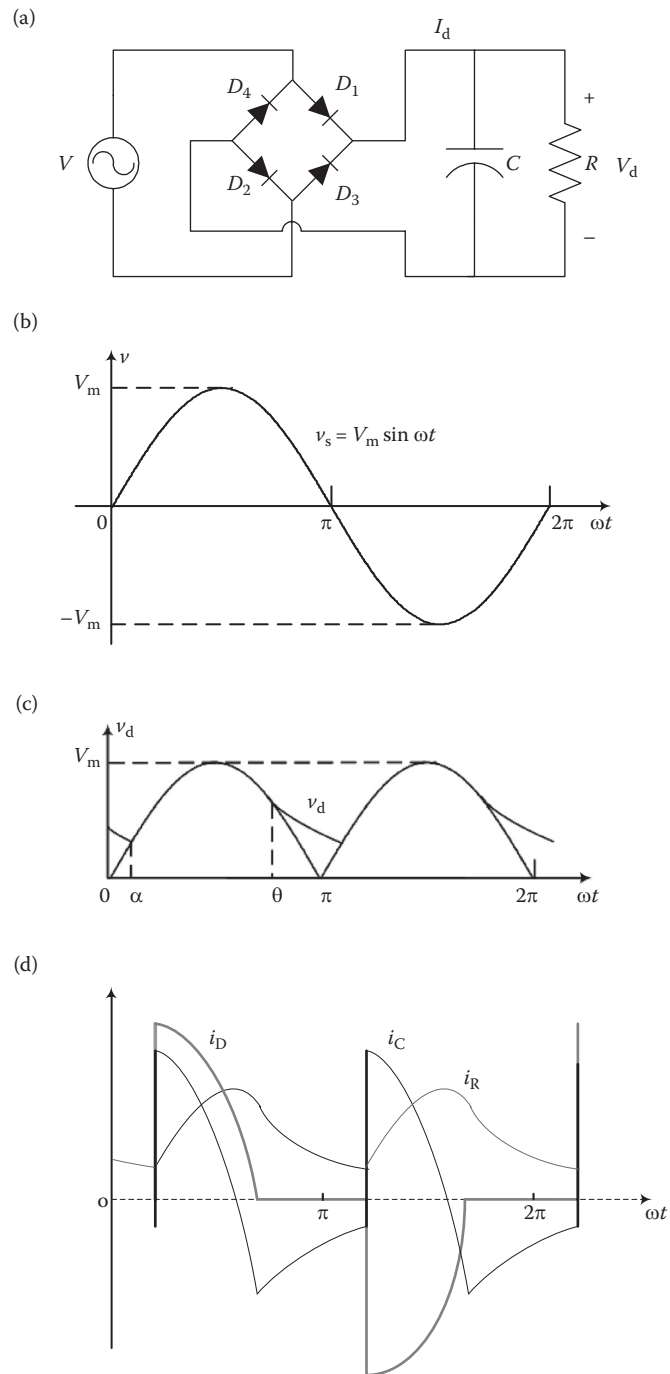


FIGURE 2.14

Single-phase full-wave bridge rectifier with R plus large L load: (a) circuit, (b) input voltage, and (c) output voltage.

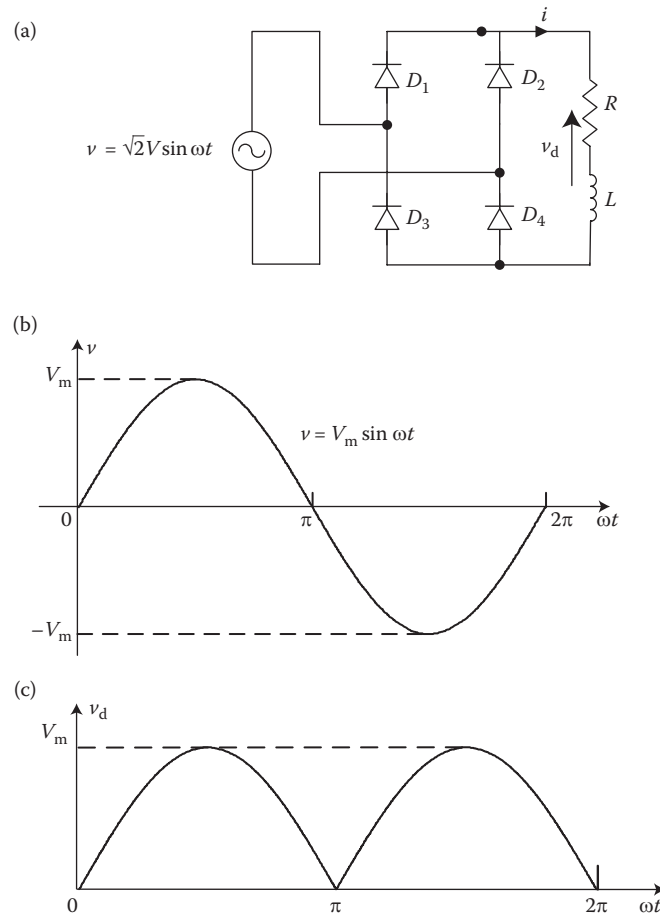


FIGURE 2.15

Three-phase half-wave diode rectifiers: (a) Y/Y circuit, (b) Δ/Y circuit, (c) Y/Y bending circuit, and (d) Δ/Y bending circuit.

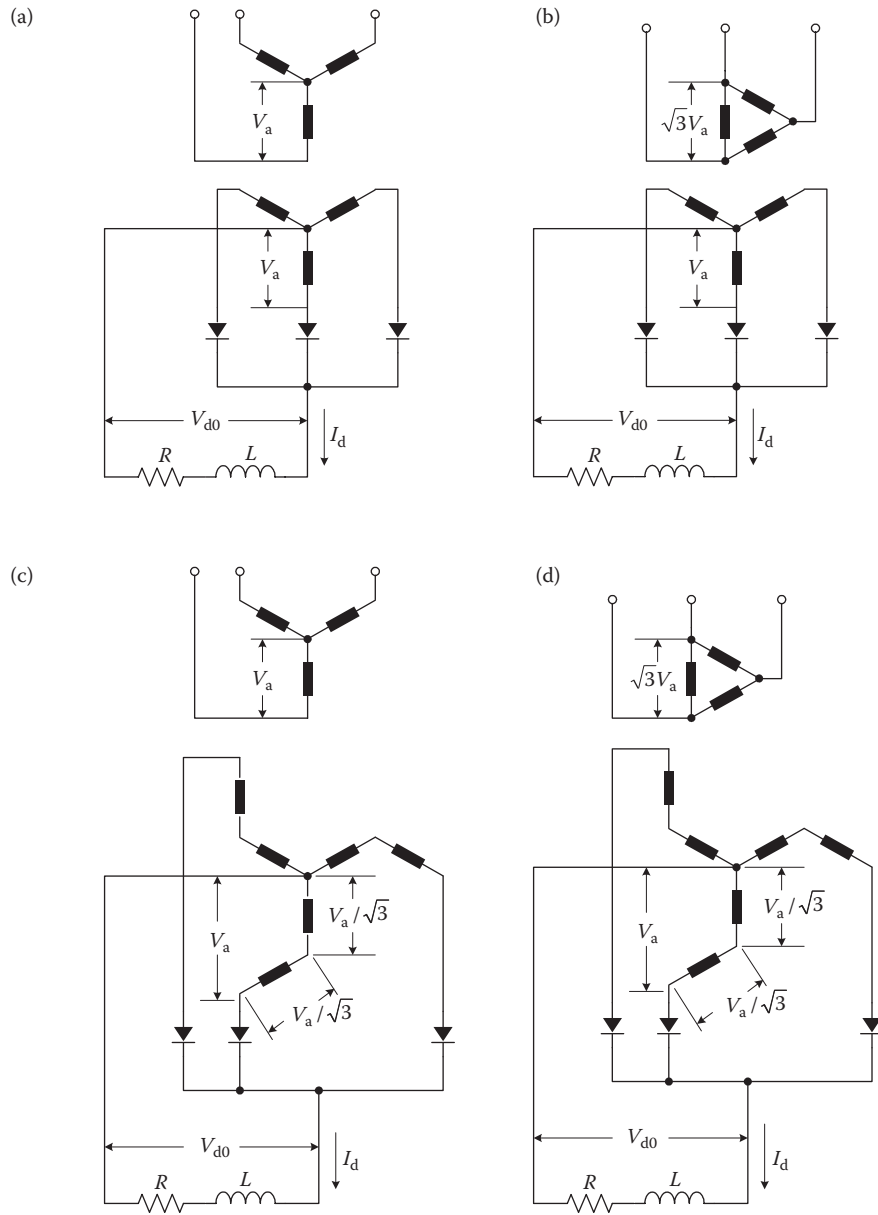


FIGURE 2.16

Waveforms of the three-phase half-wave rectifier.

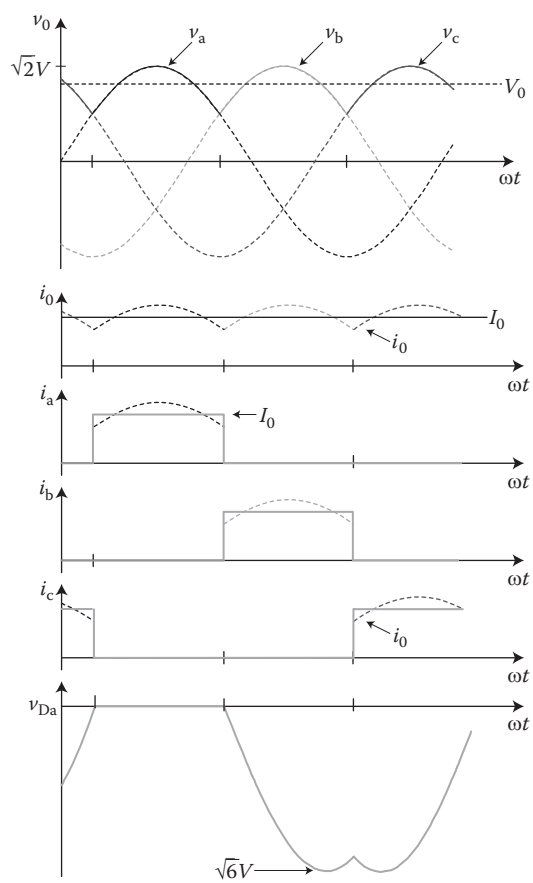


FIGURE 2.17

Six-phase half-wave diode rectifiers: (a) Y/star circuit, (b) Δ /star circuit, (c) Y/star bending circuit, and (d) Δ /star bending circuit.

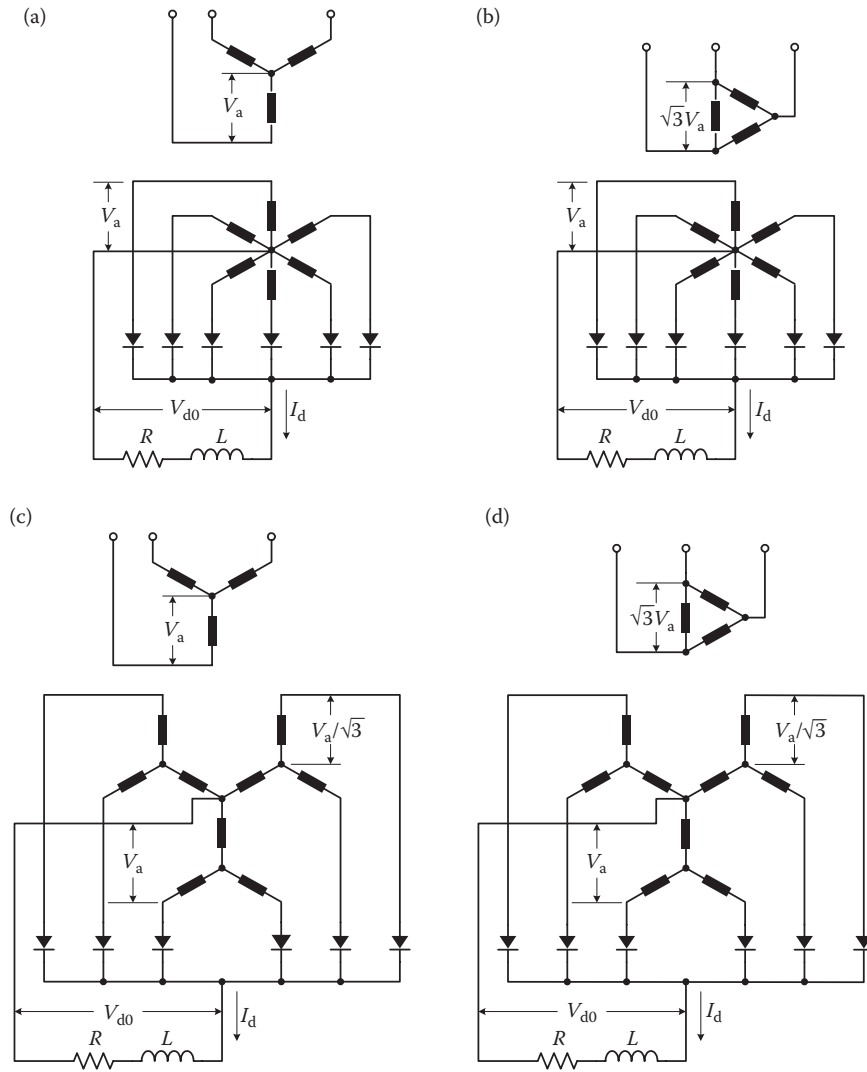


FIGURE 2.18

Three-phase double antistar with balance-choke diode rectifiers: (a) Y/Y-Y circuit and (b) Δ /Y-Y circuit.

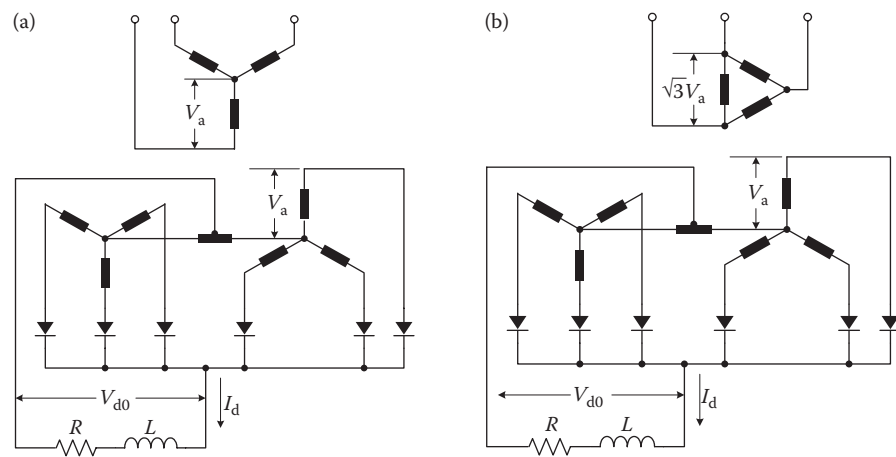


FIGURE 2.19

Three-phase full-wave diode rectifiers: (a) Y/Y circuit, (b) Δ /Y circuit, (c) Y/ Δ circuit, and (d) Δ / Δ circuit.

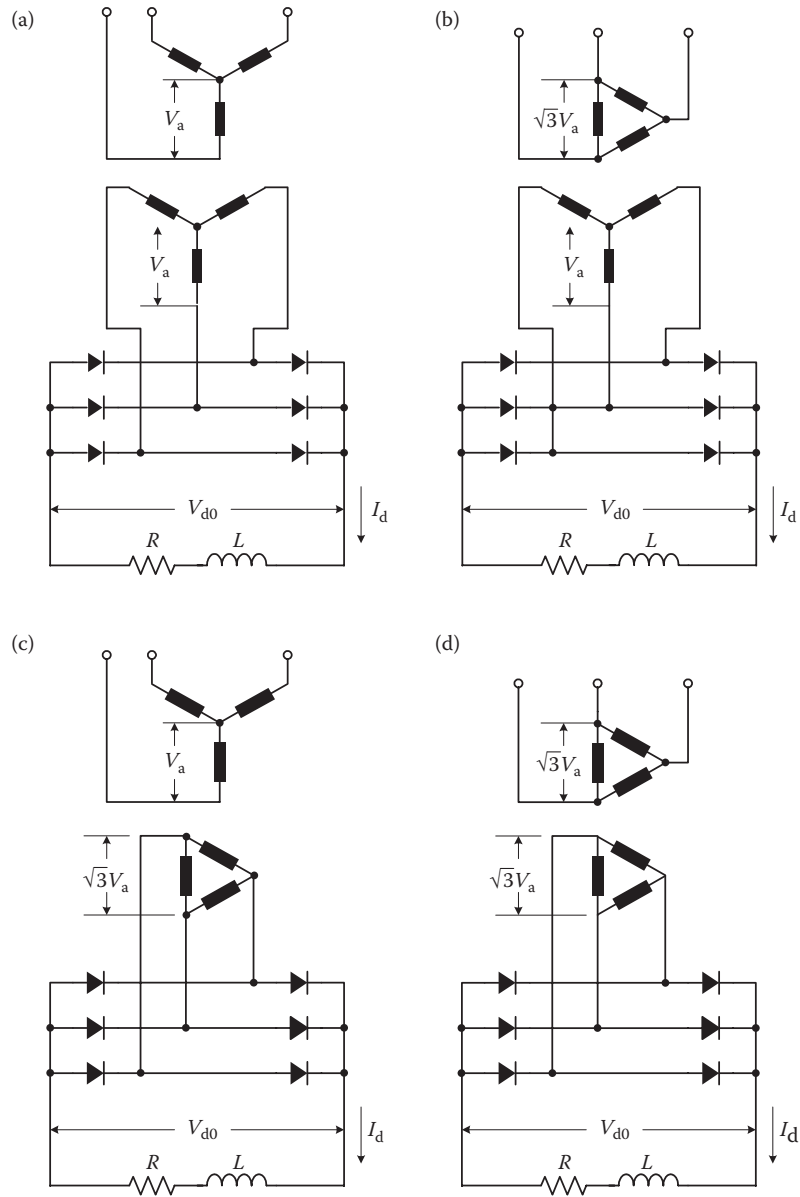


FIGURE 2.20

Waveforms of a three-phase full-wave bridge rectifier.

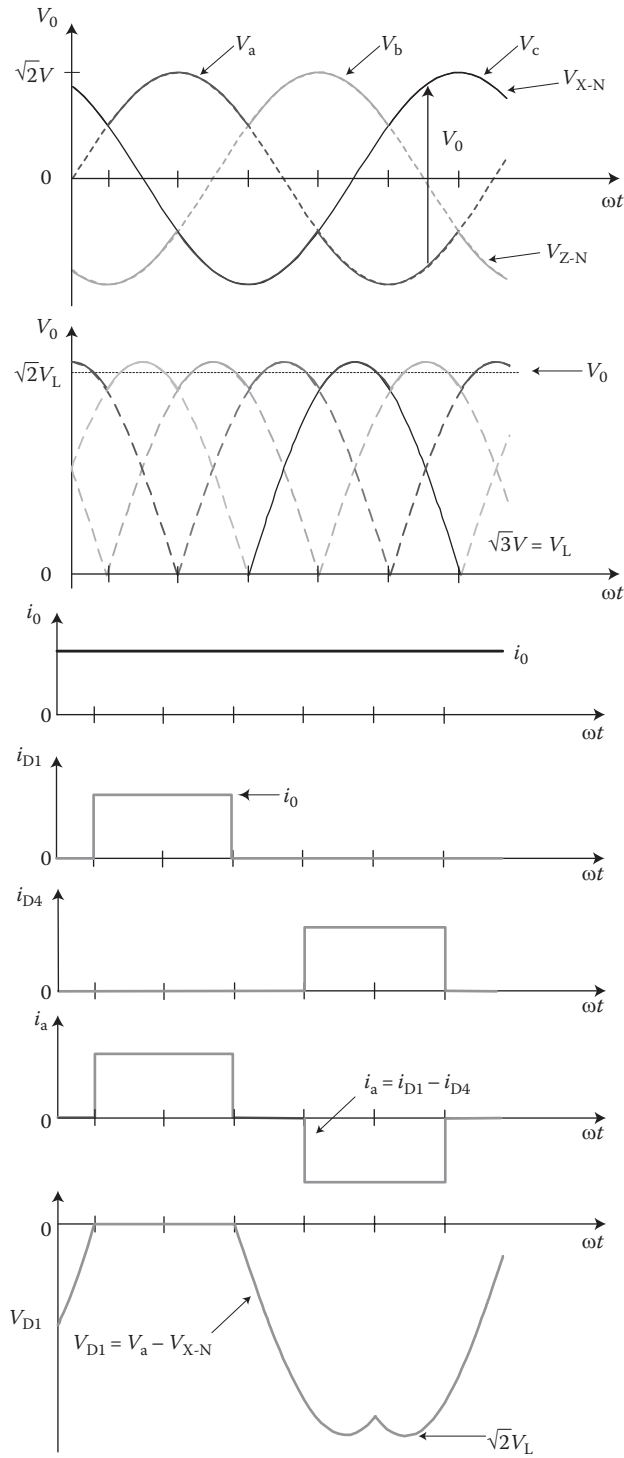


FIGURE 2.21

Six-phase full-wave diode rectifiers: (a) six-phase bridge circuit and (b) hexagon bridge circuit.

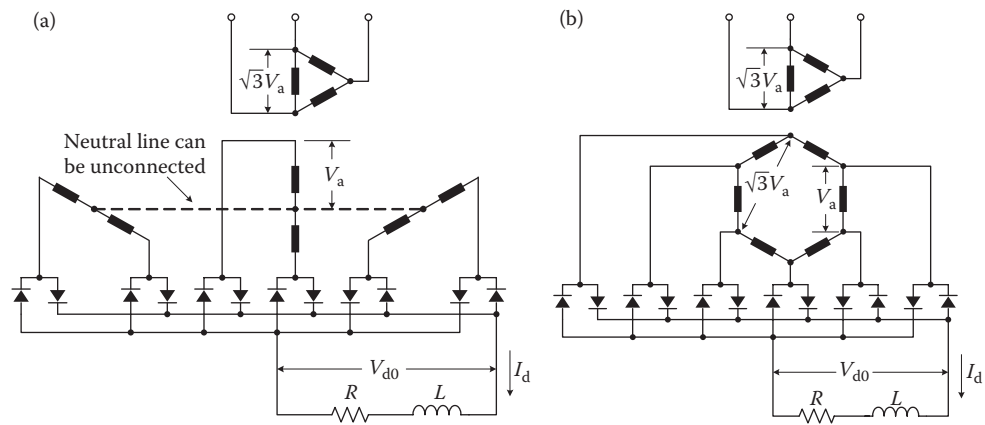


FIGURE 2.22

Six-phase double-bridge full-wave diode rectifiers: (a) Y/Y- Δ circuit and (b) Δ /Y- Δ circuit.

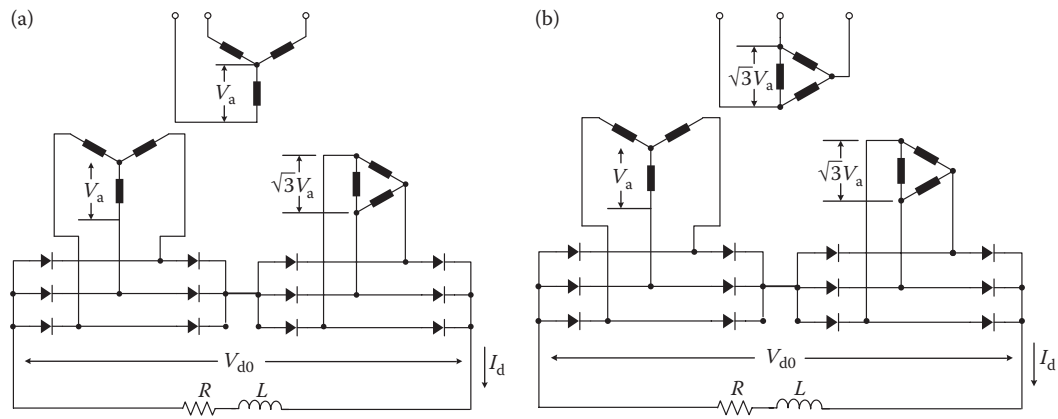


FIGURE 2.23

Six-phase double-transformer double-bridge full-wave diode rectifier.

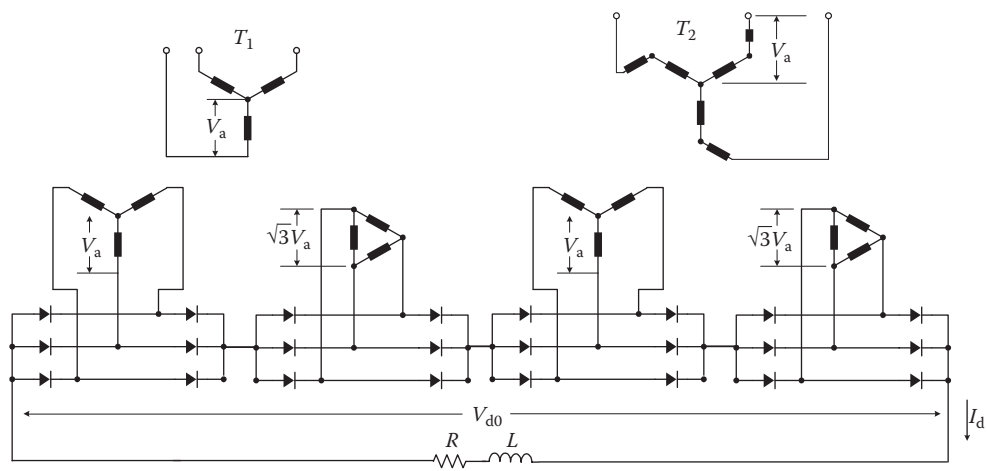


FIGURE 2.24

Six-phase triple-transformer double-bridge full-wave diode rectifier.

