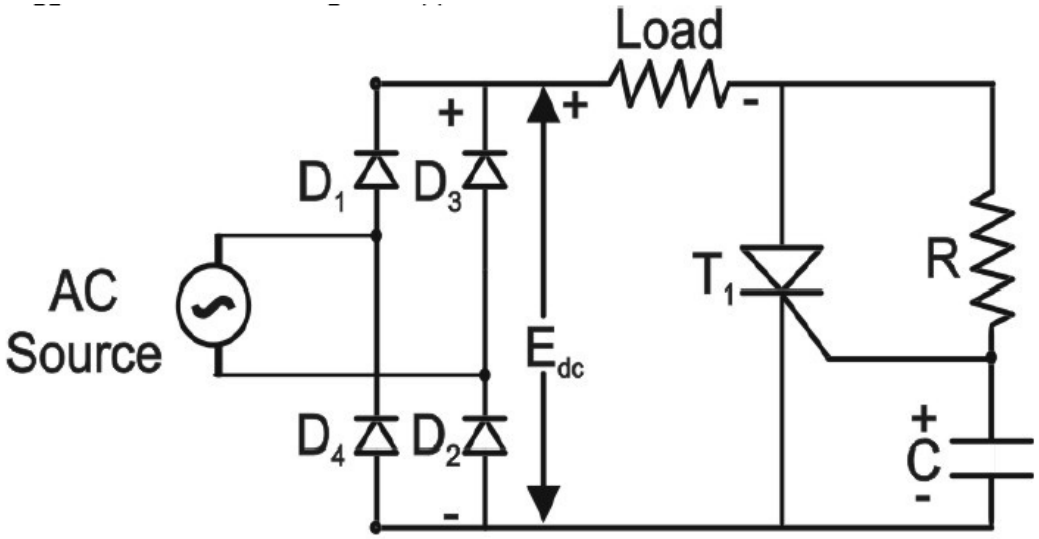
Resistance capacitance firing circuit

Resistance capacitance firing circuit methods are two types

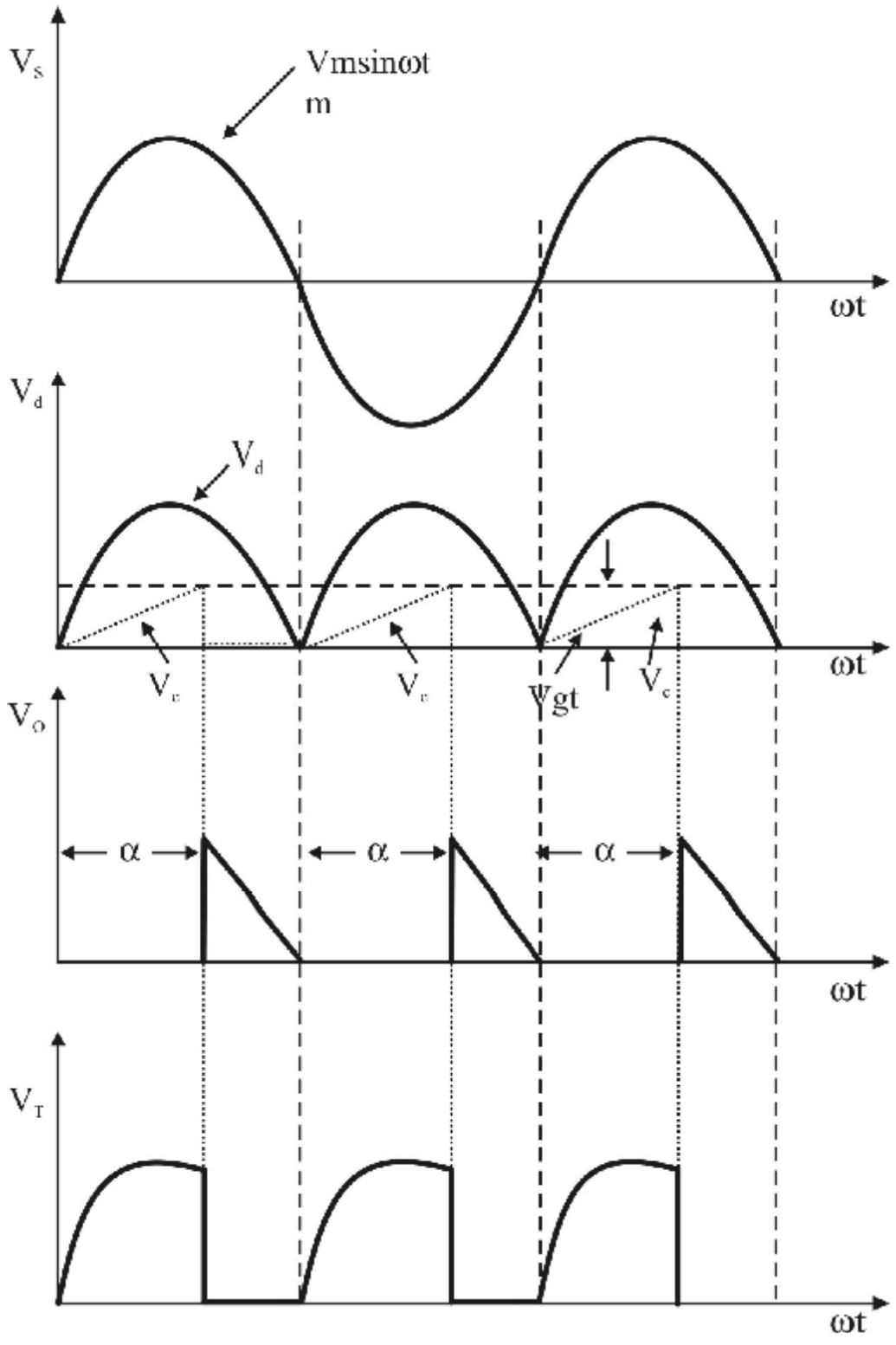
a. Resistance capacitance half wave firing circuit.
b. Resistance capacitance full wave firing circuit.

Resistance Capacitance Full Wave Firing Circuit: In the RC-half wave trigger circuit power can be delivered to the load only during the positive half cycle of e_s because the SCR conducts only when it is forward biased. In the RC-full wave triggering circuit power can be delivered to the load during both positive and negative cycle because we give the rectified input. In this method firstly the ac line voltage is converted to pulsating dc by the full-wave diode bridge. This allows the SCR to be triggered on for both half cycle of the line voltage, which doubles the available power to the load. The initial voltage, from which the capacitor C charges is almost zero. Capacitor C is set to this low positive voltage (upper plate positive) by the clamping action of the SCR gate. When the capacitor charges to a voltage equal to V_{gt}, SCR triggers and rectified voltage E_{dc} appears across load as e_L.

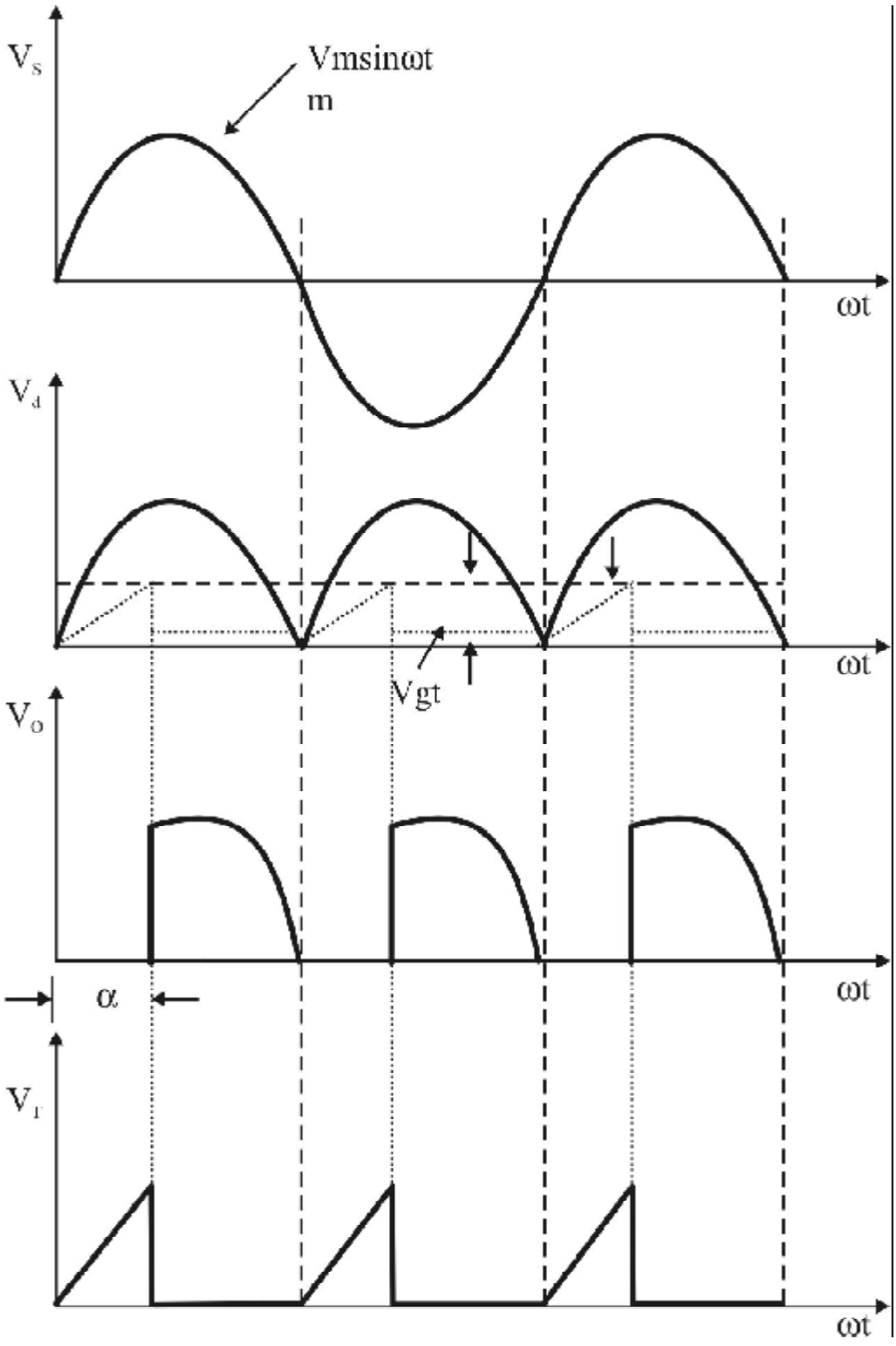


Resistance Capacitance Full Wave Firing Circuit

Waveform of RC full wave firing circuit



Waveform for high value of variable resistance R_V



Waveform for low value of variable resistance R_V