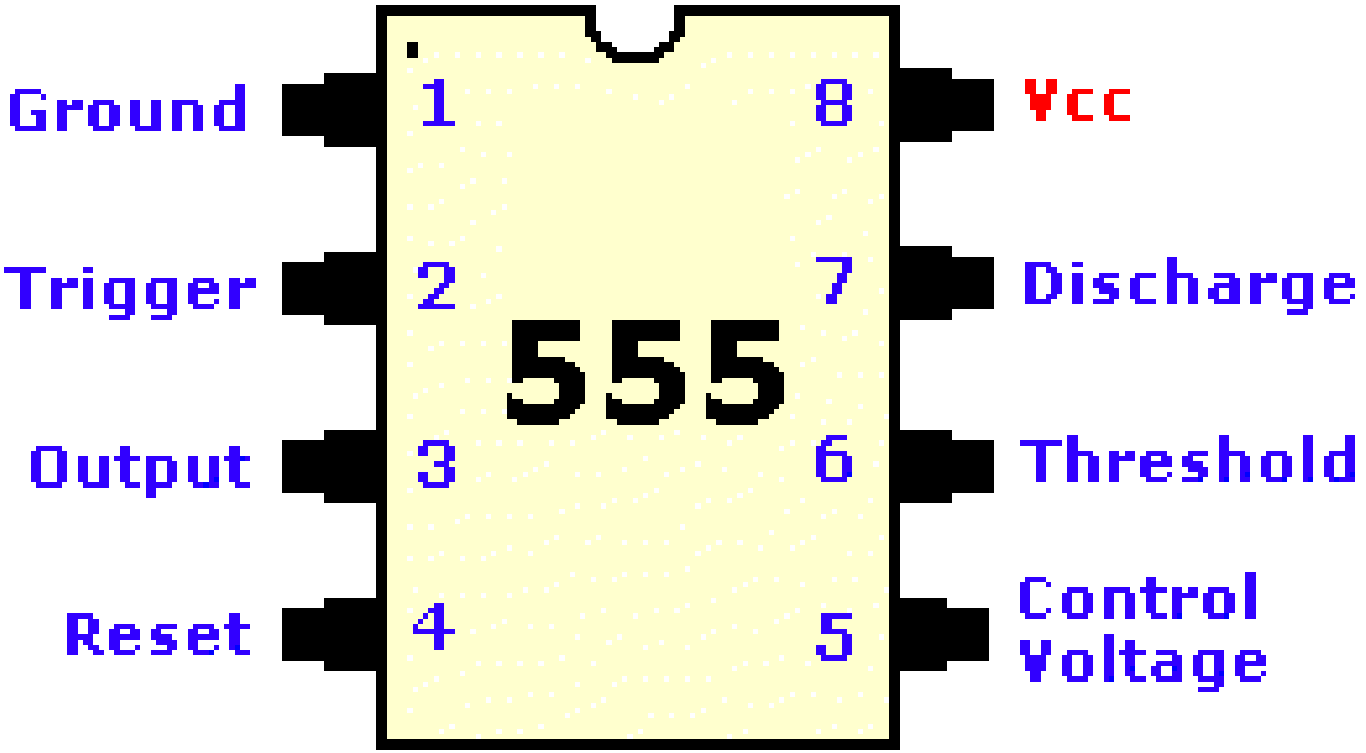
Unit-5

Lecture -2

555 Timer, astable Multiviberator

Pin Configurations



Astable Mode

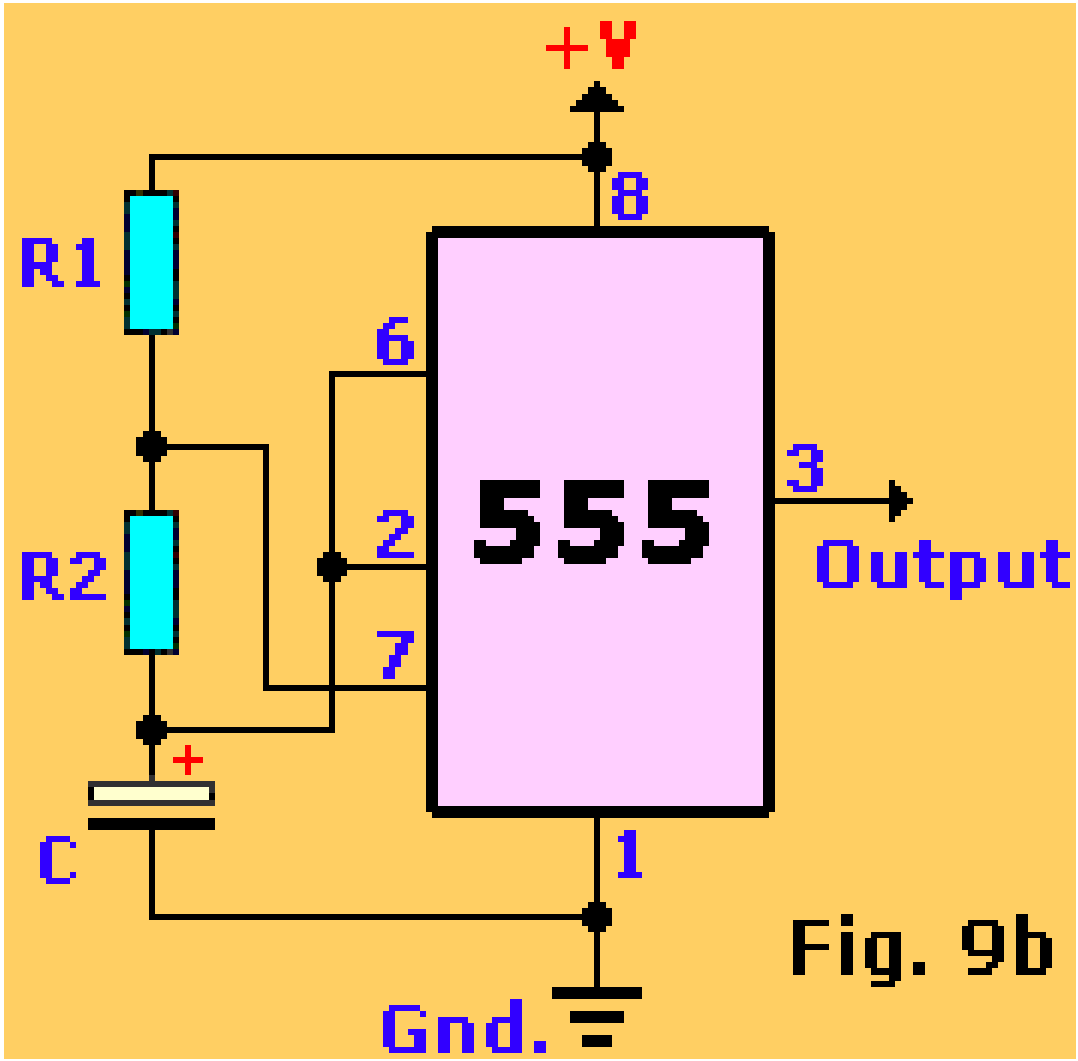
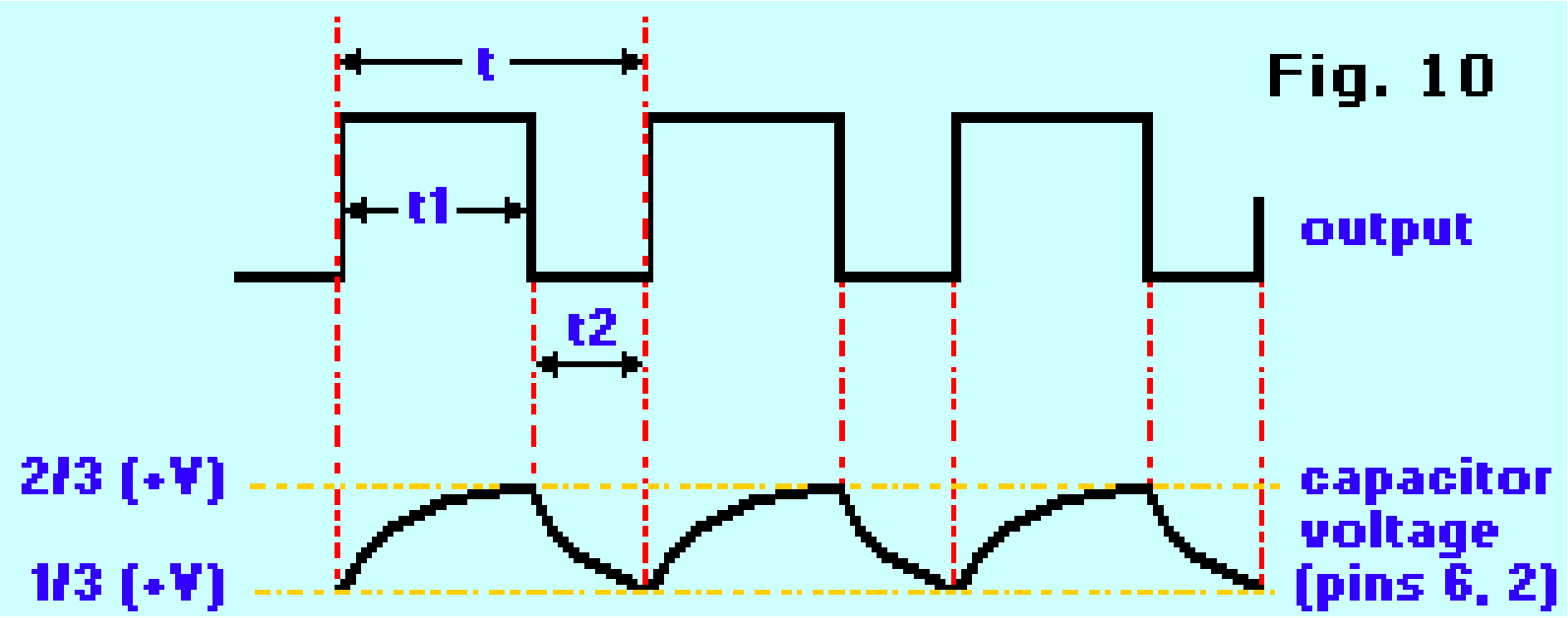


Fig. 9b

Astable Output Voltage



Astable Characteristics

- Outputs continuous stream of pulses
- Triggers from previous output pulse
- Frequency of series of pulses

$$f = \frac{1}{t_h + t_l}$$

t_h = duration the output pin stays high

$$= 0.693\, C\left(R_1 + R_2\right)$$

$$t_l = 0.693\, C\, R_2$$

Astable Applications

- Create an accurate clock signal
- Modulate transmitters such as ultrasonic and IR transmitters
- Turn on / off actuator at set intervals for a fixed duration