

When the supply power is first turned on,  $V_{cap}$  is 0 V, so  $V_{out}$  will be HIGH ● The capacitor will start charging toward the 5 V at  $V_{out}$ . ● When  $V_{cap}$  reaches the positive-going threshold ( $V_{T+}$ ) of the Schmitt trigger, the output of the Schmitt will change to a LOW ( $\sim 0V$ ) ● Now, with ( $V_{out} \sim 0$ ) the capacitor will start discharging toward 0 V. ● When  $V_{cap}$  drops below the negative-going threshold ( $V_{T-}$ ) the output of the Schmitt will change back to a HIGH. ● The cycle repeats now, with the capacitor charging back up ( $V_{T+}$ ) to then down to ( $V_{T-}$ ) then up to ( $V_{T+}$ ) and so on. ● The waveform at  $V_{out}$  will be a square wave oscillating between  $V_{OH}$  and  $V_{OL}$ , as shown