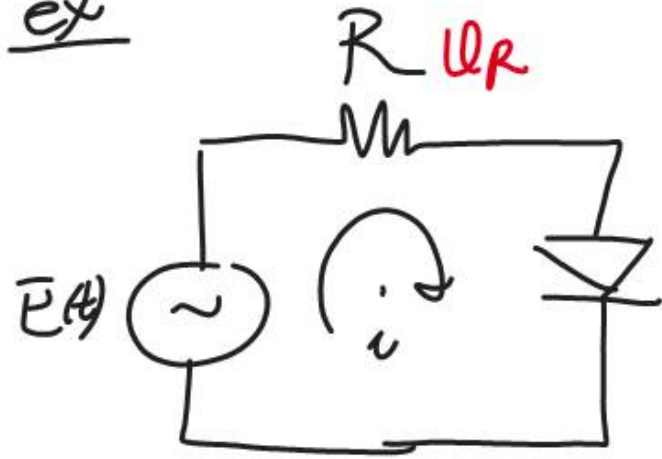
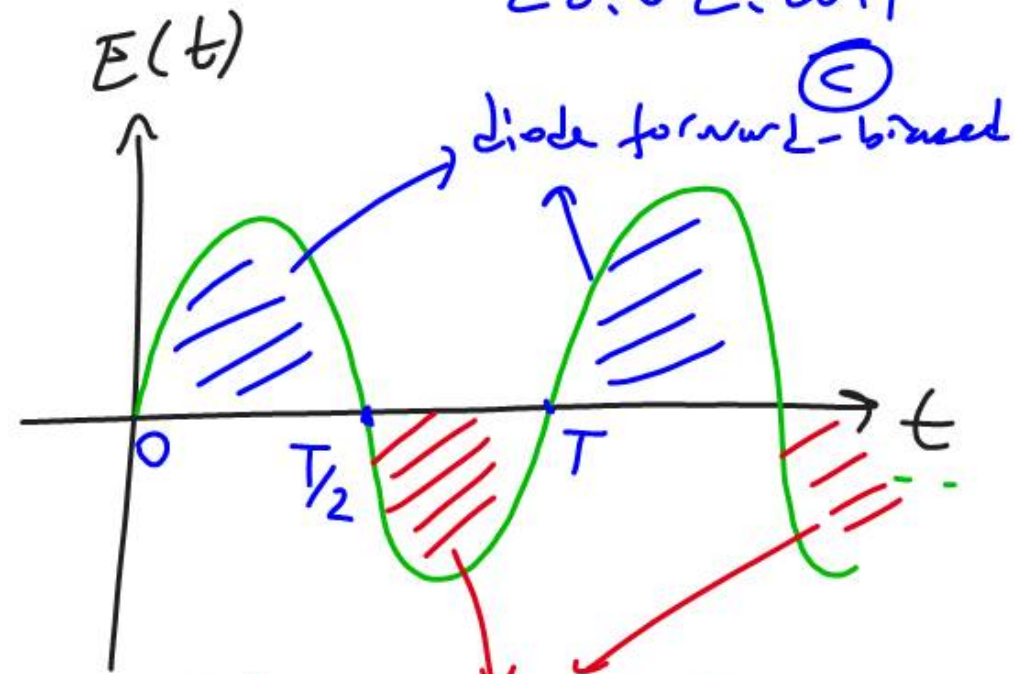


ex



28.02.2011



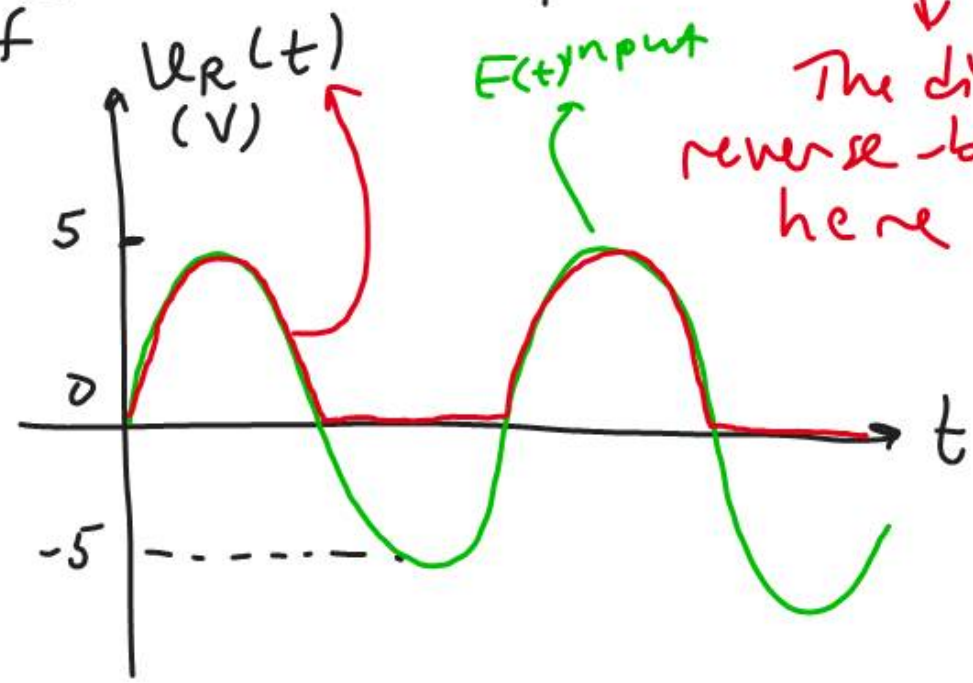
$$E = 5 \sin 2\pi \times 10^3 \times t$$

$$U_R = ?$$

$$U_R = \bar{U} \cdot R$$

$$T = \frac{1}{f} = \frac{1}{10^3} = 10^{-3}$$

$$T = 1 \text{ ms}$$

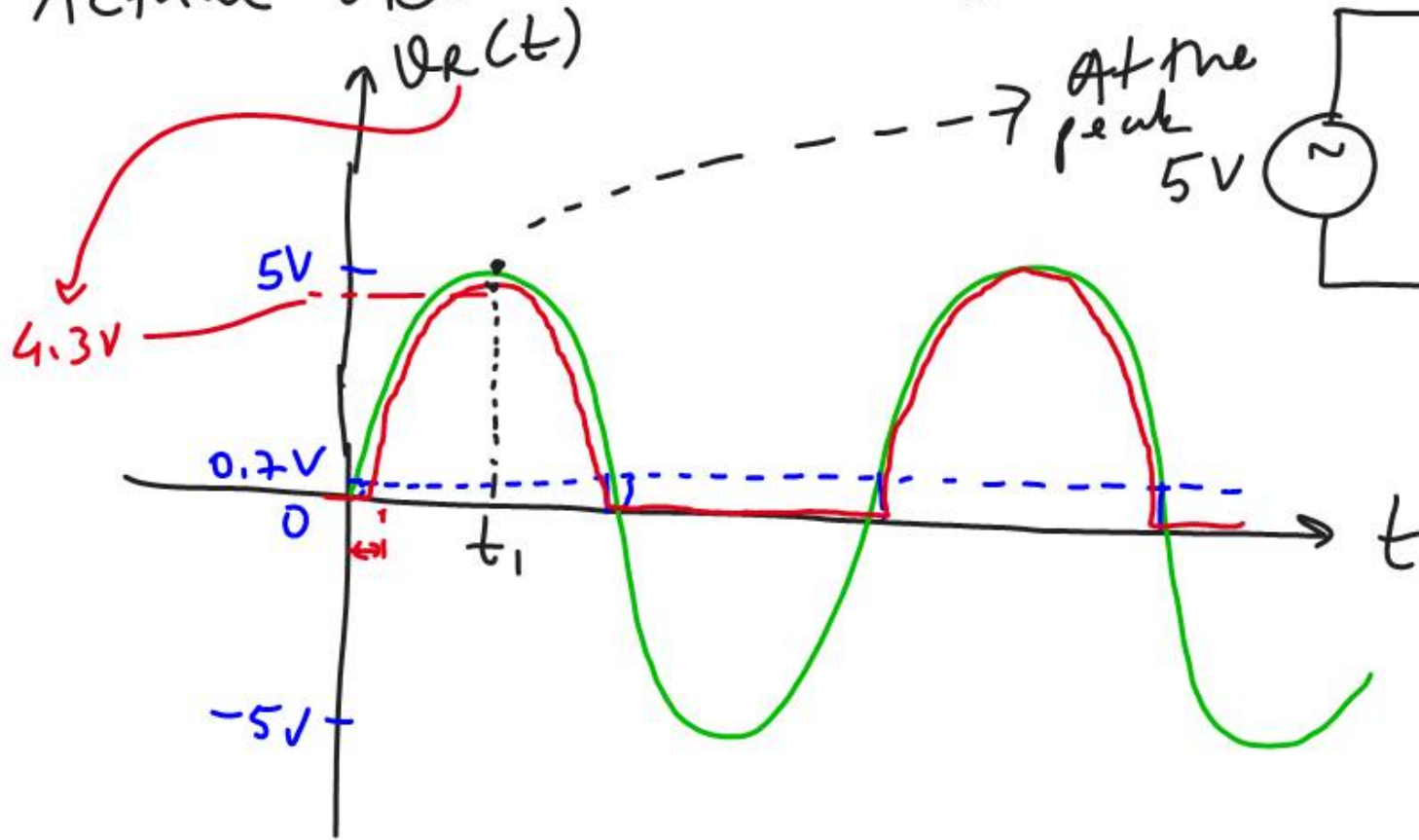


The diode is reverse-biased here

We ignored the $V_D \approx 0.7V$

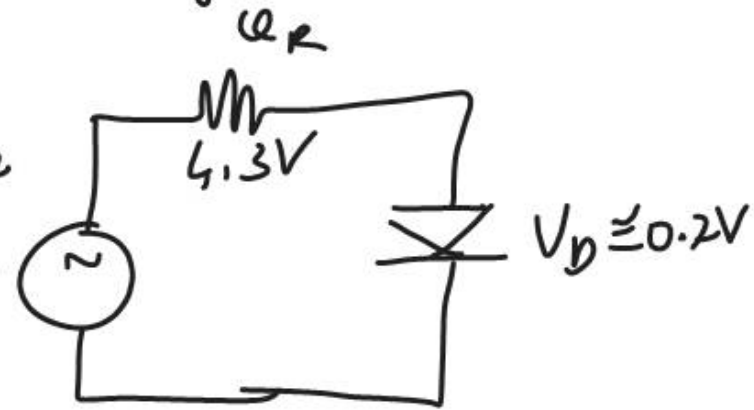
$E(t) > V_D$ here for the diode to be forward biased.

Actual V_R :

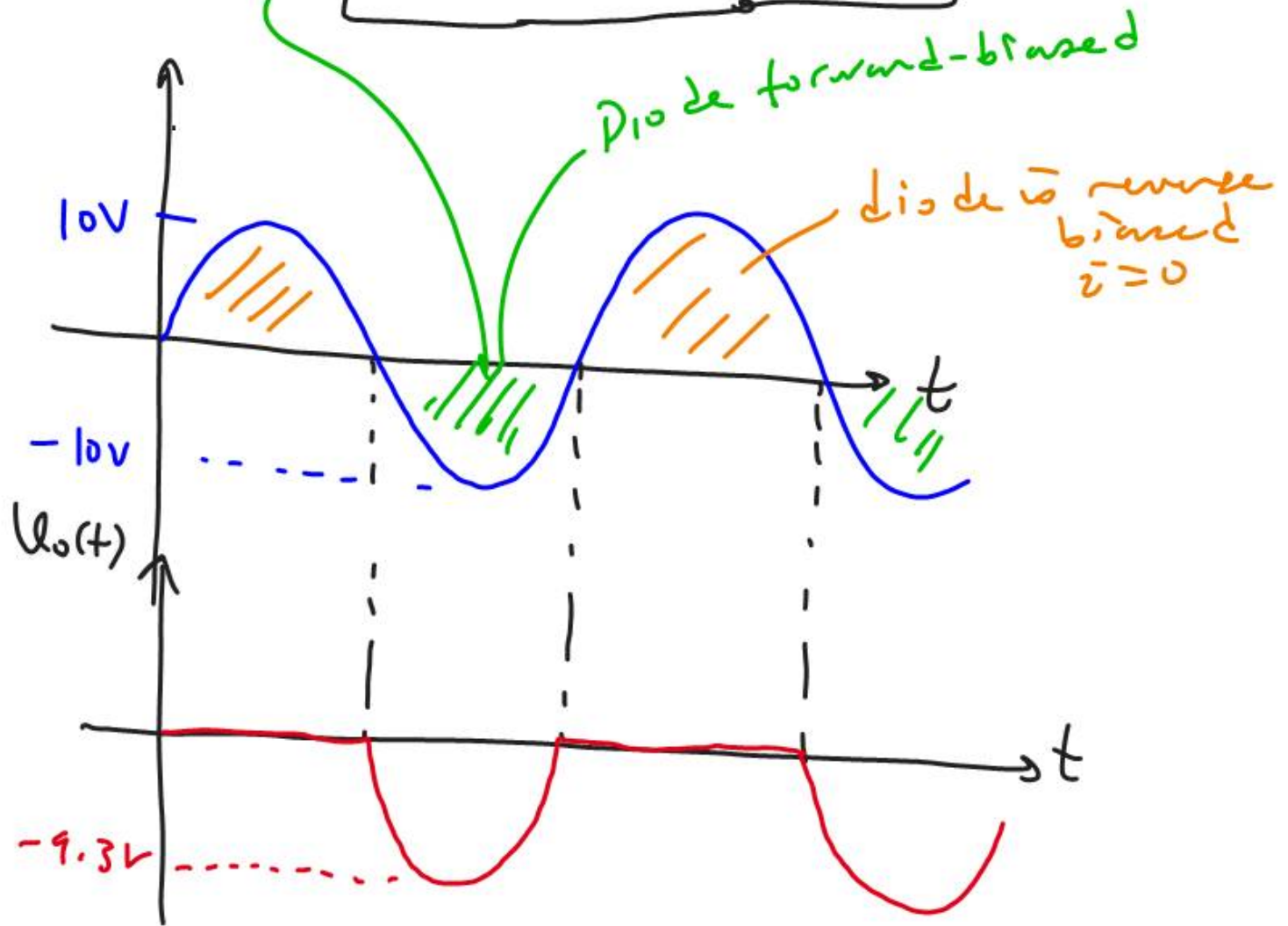
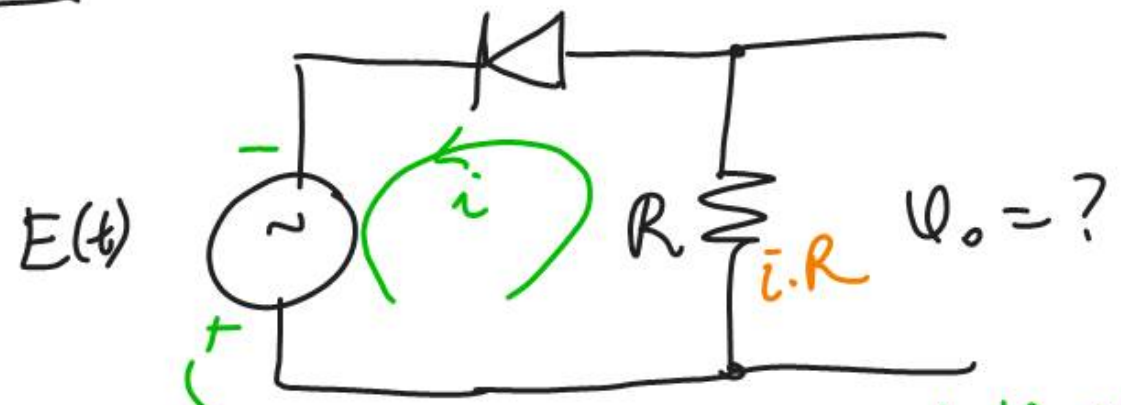


at $t = t_1$

At the peak
5V



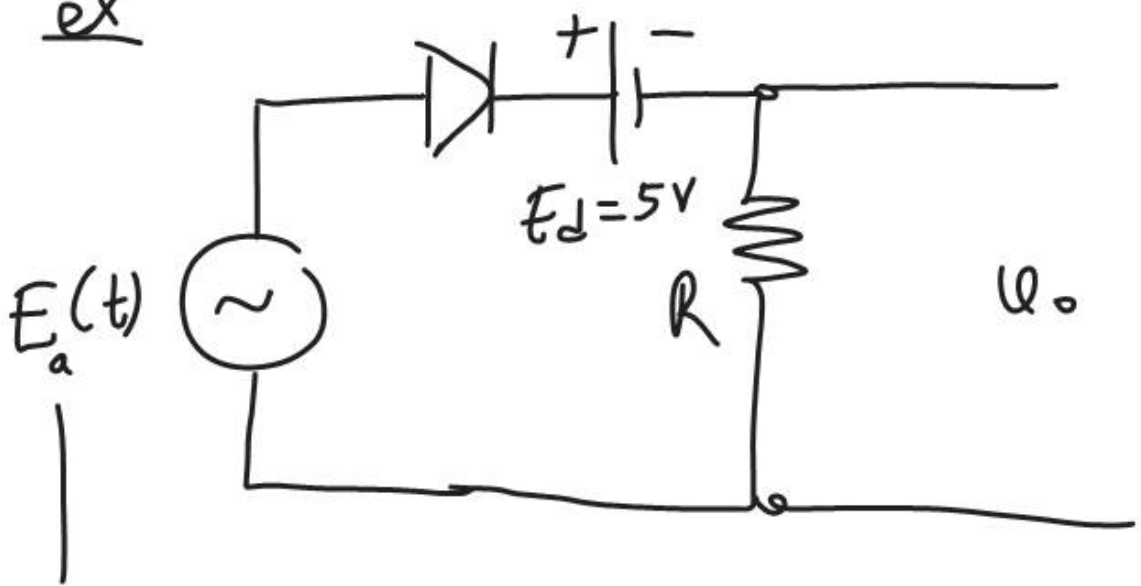
ex



CLIPPERS WITH AC and DC voltage sources:

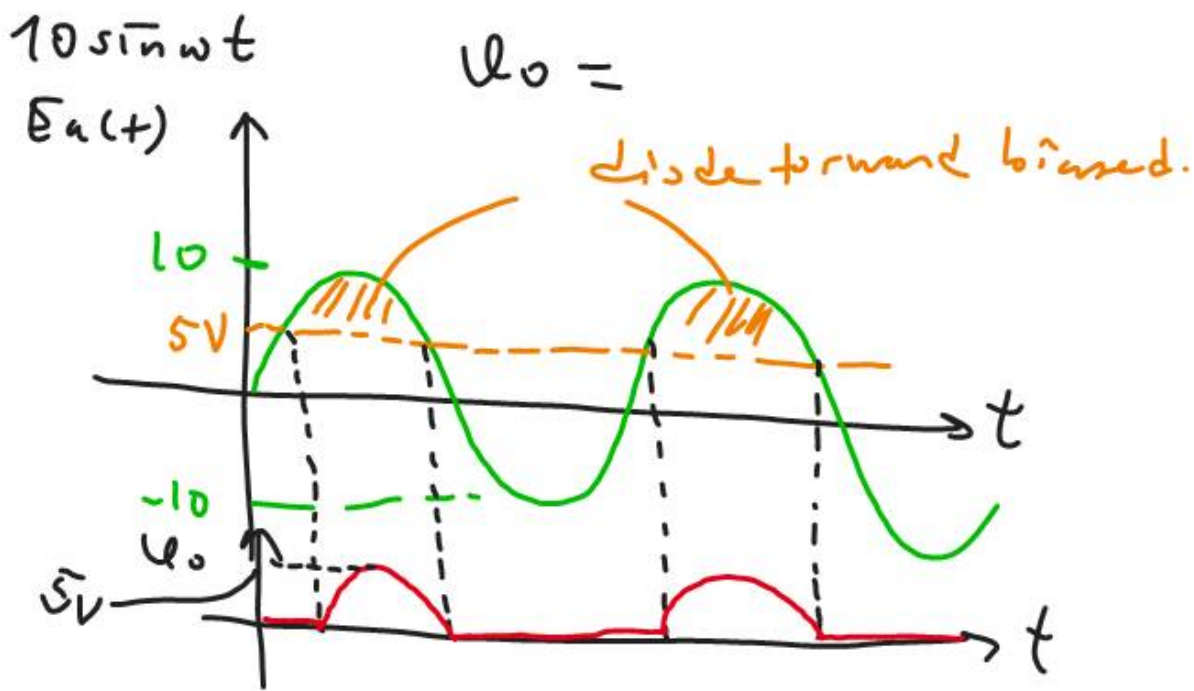
(assume $V_D \approx 0V$)

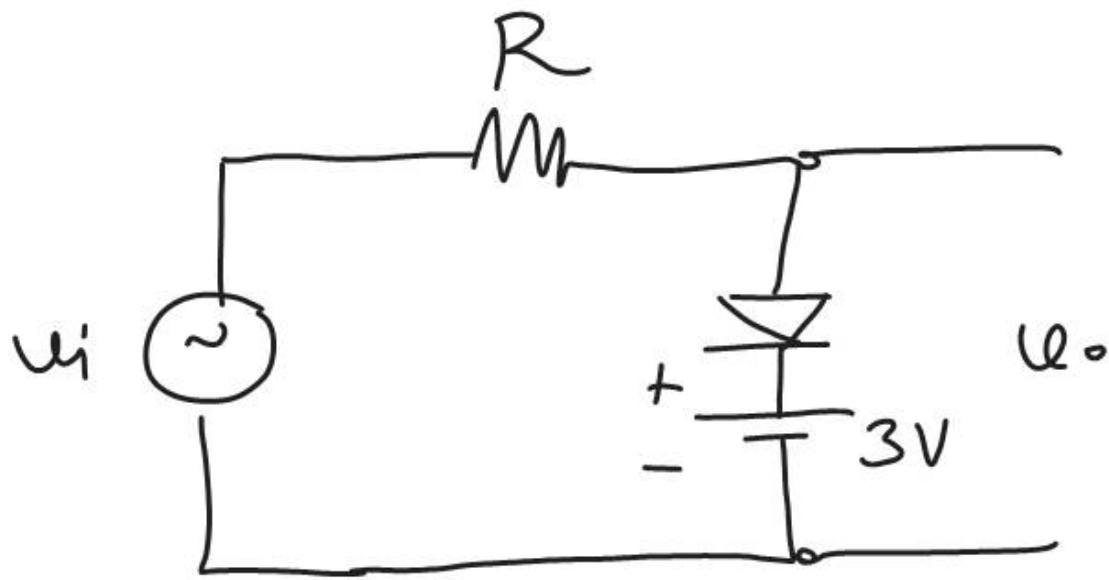
ex



The diode is forward biased when $E_a(t) > 5V$.

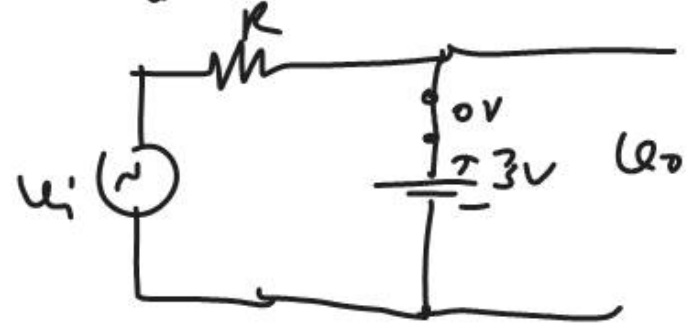
SERIES CLIPPER
(There is no parallel resistor to the diode)





$u_i > 3V$ then the diode is forward biased.

$$u_o = 3V$$



When $u_i < 3V$ diode is reverse biased.

