

Boost Topology:

$$\Delta i_L = 2A$$

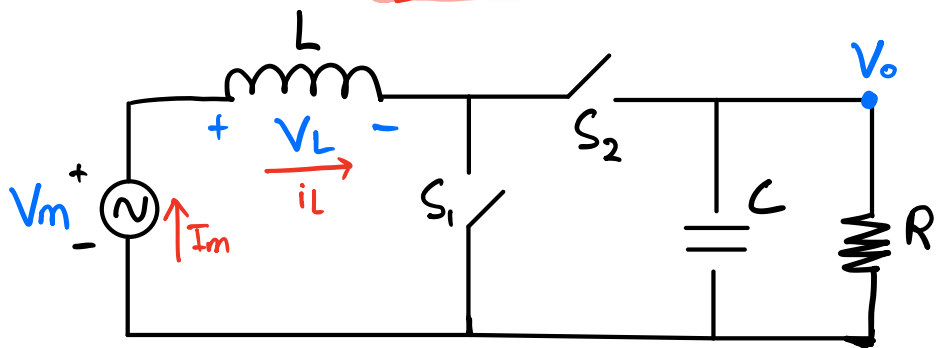
$$V_m = 5V$$

$$V_o = 12V$$

$$P_o = 11W$$

$$f_s = 200kHz$$

BOOST



$$V_o = V_m \frac{1}{1-D} \therefore D = 0.583$$

$$T_s = \frac{1}{200kHz} = 5\mu s$$

$$\text{Area A} = \text{Area B}$$

$$t_{on} \cdot V_m = t_{off} \cdot (V_o - V_m)$$

$$P_m = P_o = 11W$$

$$V_o I_m = V_o I_o$$

$$I_m = \frac{11W}{5V}$$

