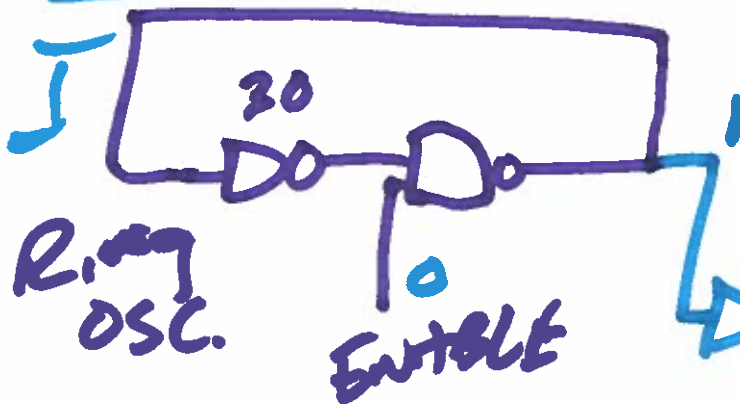


EE421/ECE621

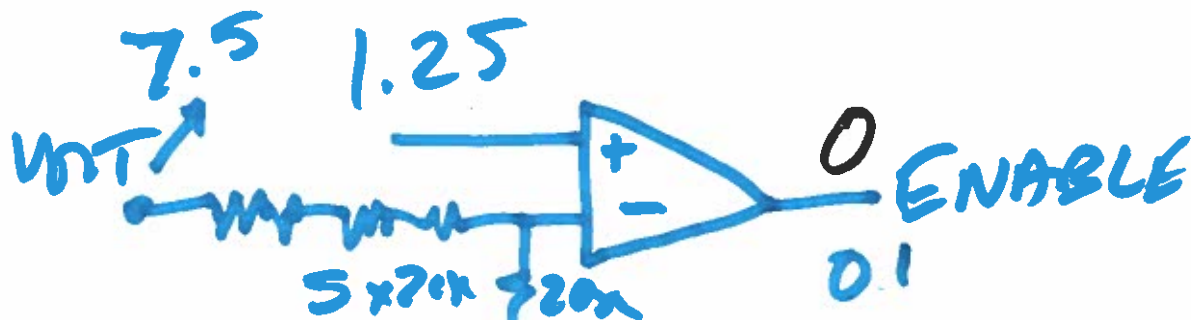
Digital IC Design

NOV. 25, 2019

Lecture 24

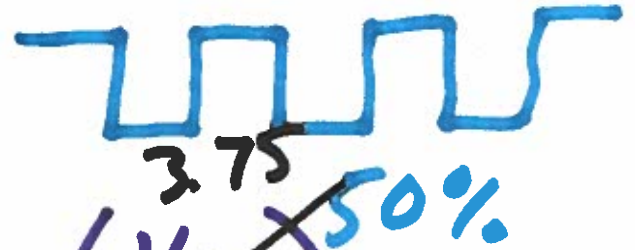
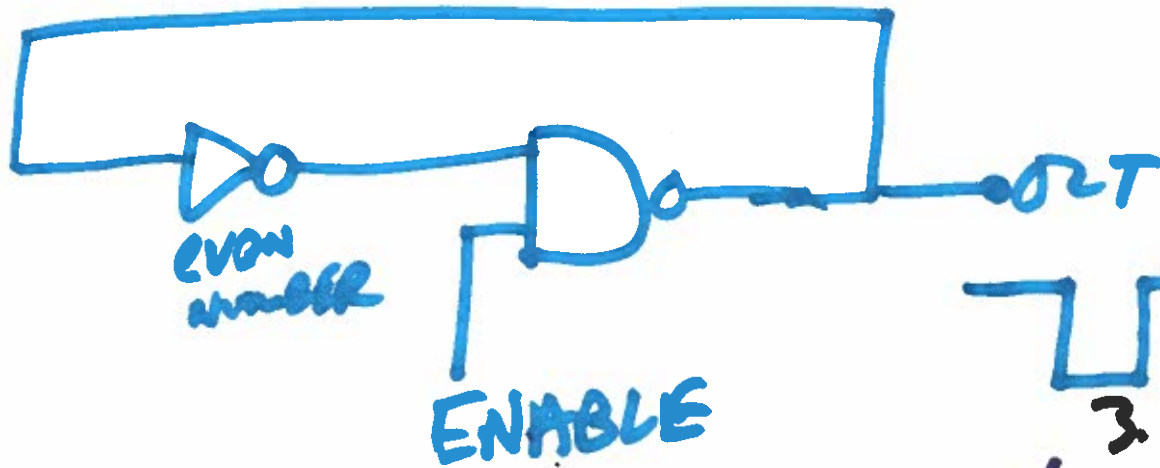


$$f_{osc} = \frac{1}{N_s(t_{PHLs} + t_{PLHs}) + NF(t_{PHLF} + t_{PLHF}) + (t_{PHHA} + t_{PLHA})}$$

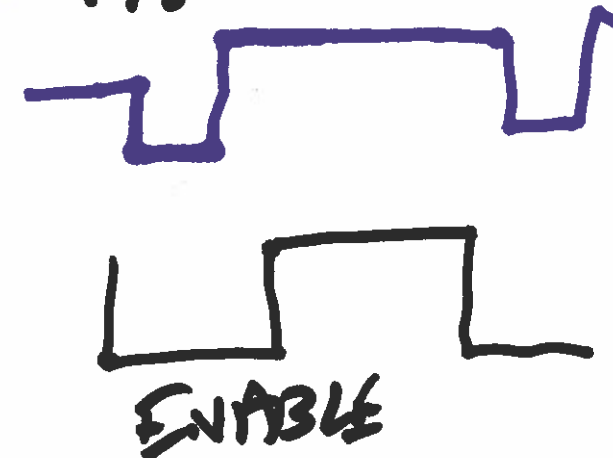
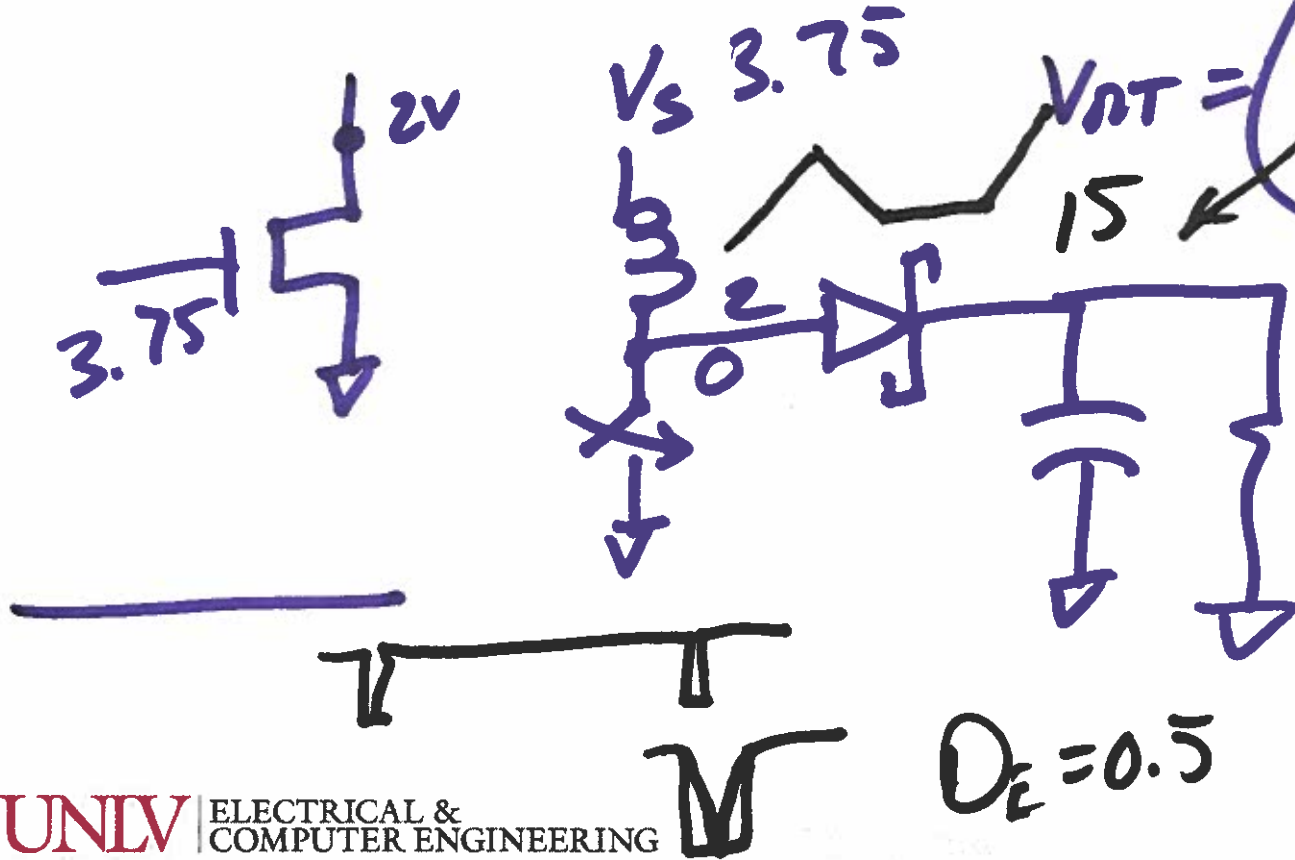


$$H = \frac{1}{6}$$

1)

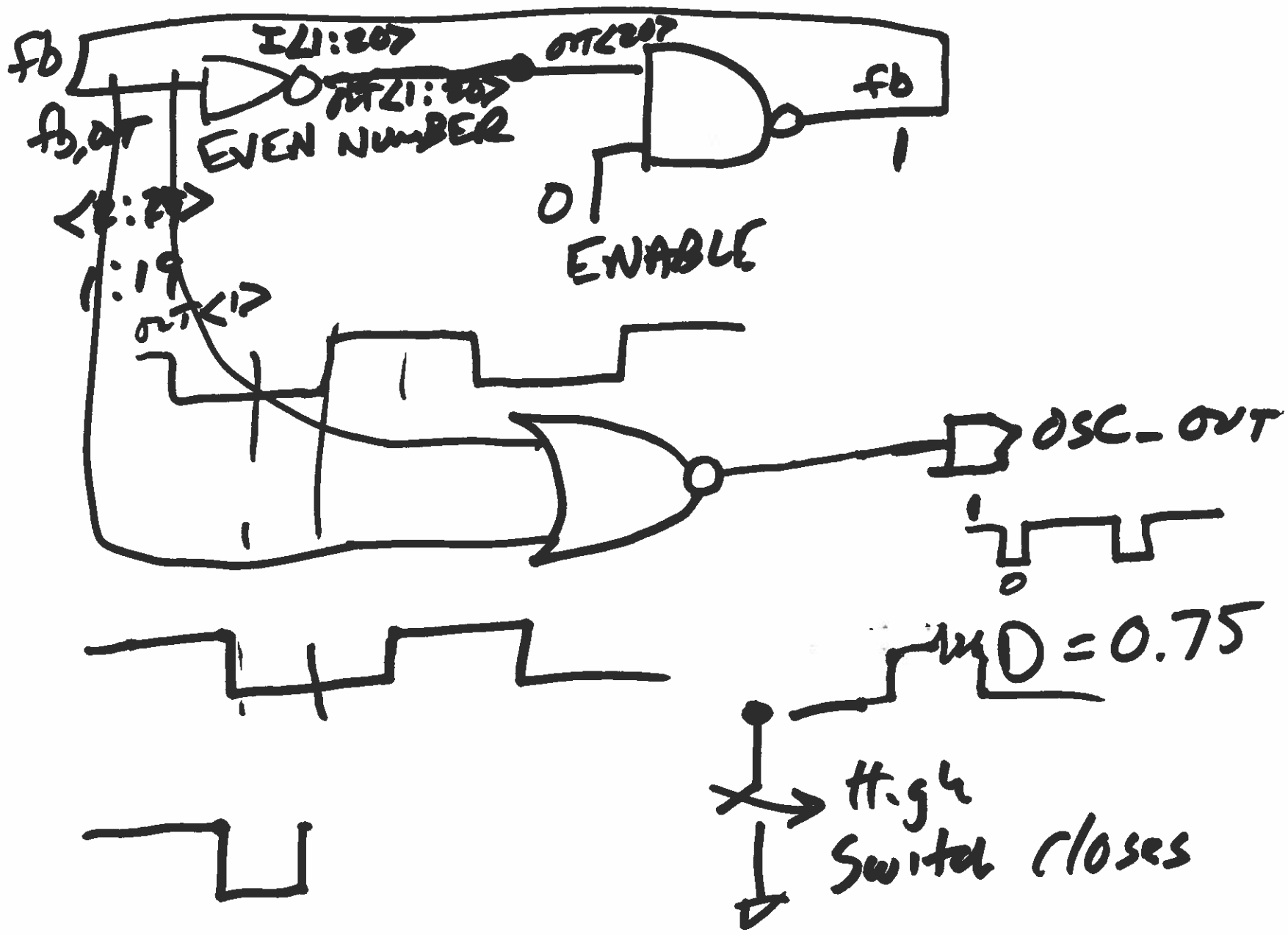


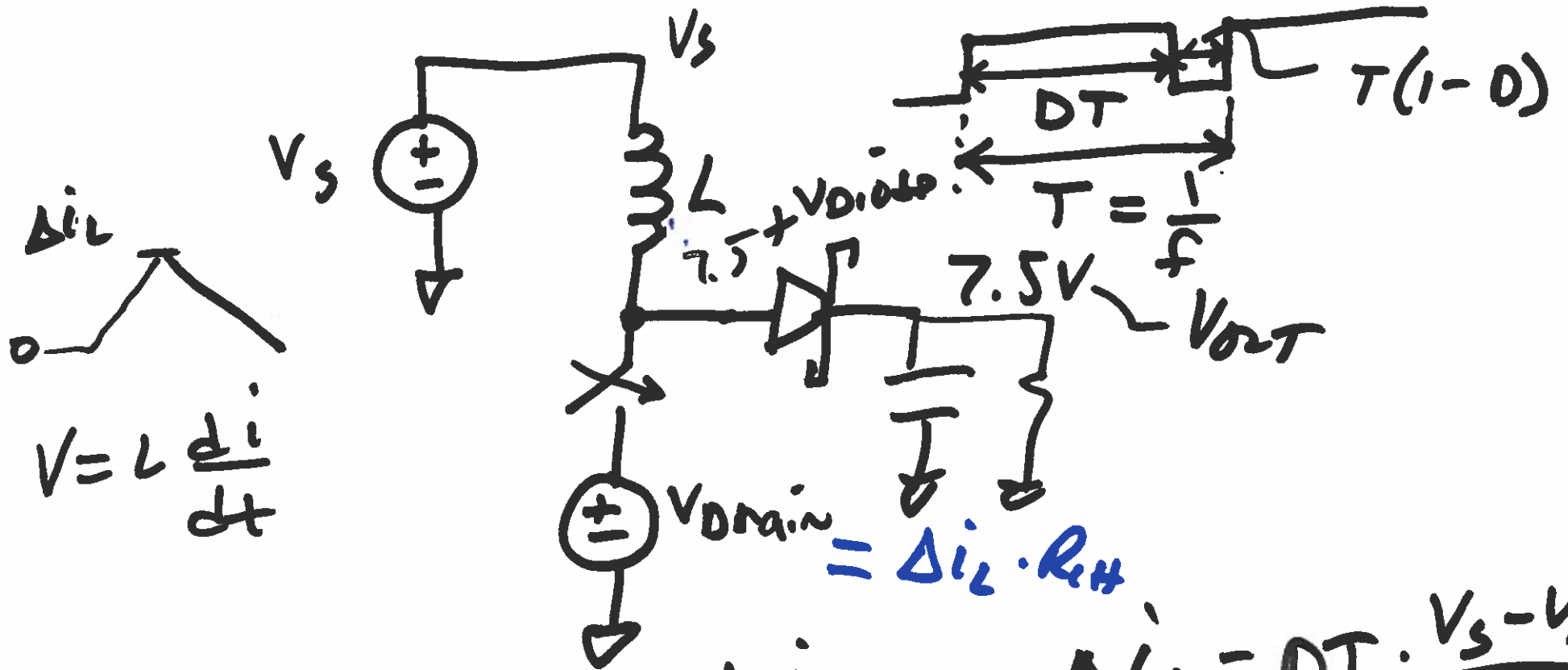
$$V_{OVT} = \left(\frac{V_s}{1-D} \right) D_E$$



$$D_E = 0.5 \quad \frac{1}{2}$$

2)

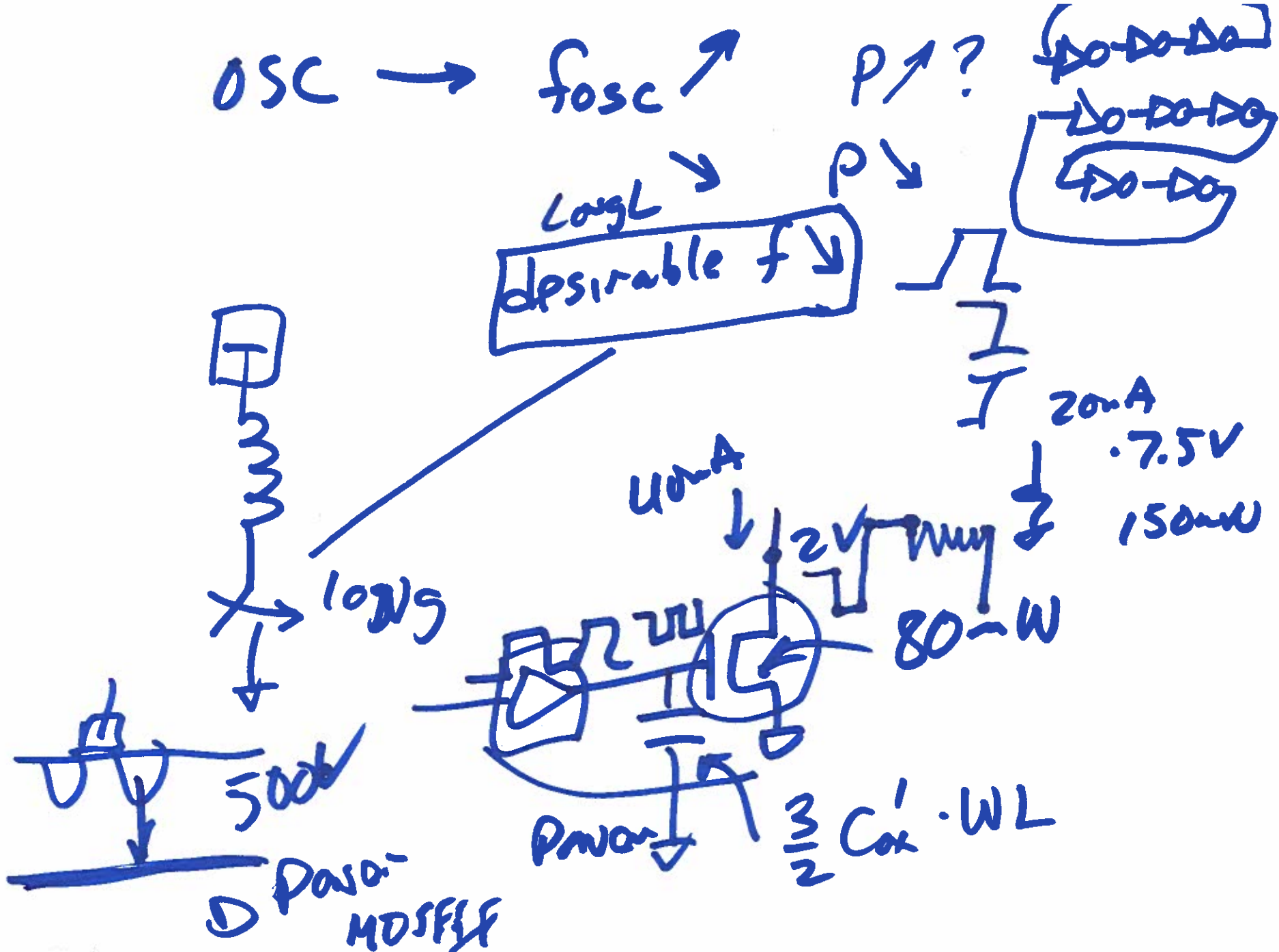




$$\frac{V_s - V_{orain}}{L} = \frac{di}{dt} = \frac{\Delta i_L}{DT} \Rightarrow \Delta i_L = DT \cdot \frac{V_s - V_{orain}}{L}$$

$$\Delta i_L \Big|_{Down} = (1-D)T \cdot \frac{V_{orain}}{L}$$





5)