

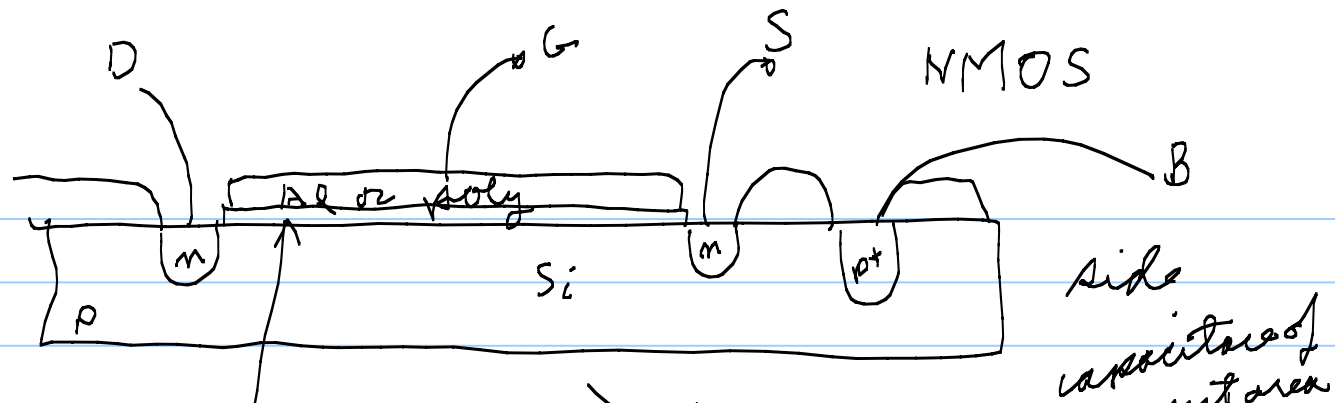
if $V_{DS} \geq 0$

$$I_D = \begin{cases} 0 & V_{GS} < V_{th} \\ \frac{K_P}{2} \frac{W}{L} (V_{GS} - V_{th})^2 & \text{for } V_{DS} \geq V_{GS} - V_{th} \geq 0 \end{cases}$$

if $V_{GS} - V_{th} \geq V_{DS} \geq 0$

agree when $V_{DS} = V_{GS} - V_{th}$

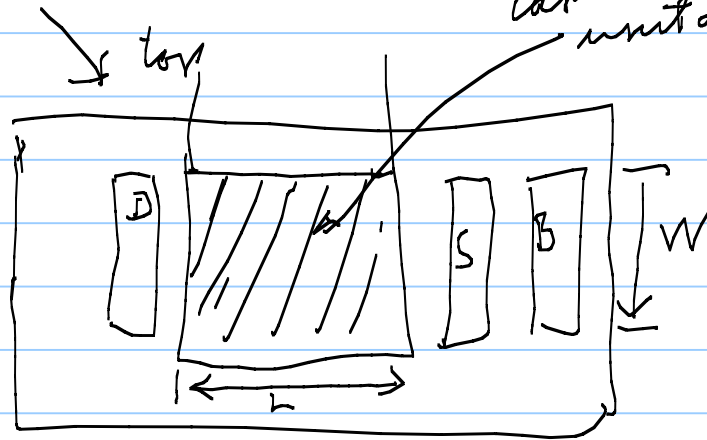
$$I_D = \frac{K_P}{2} \frac{W}{L} \left\{ 2(V_{GS} - V_{th})V_{DS} - V_{DS}^2 \right\}$$



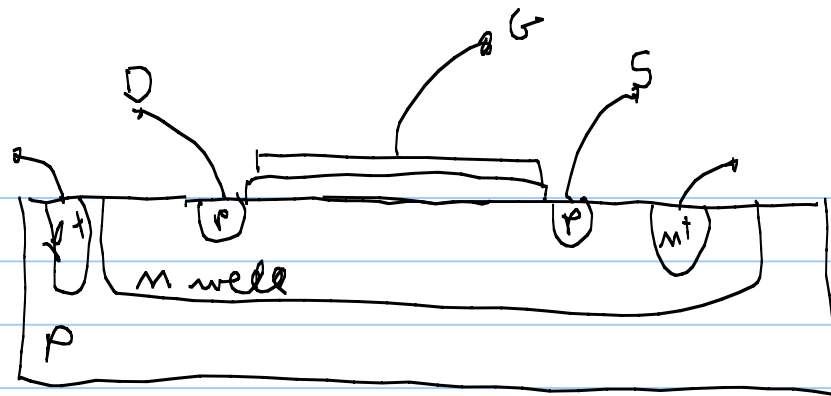
thin oxide
thickness = t_{ox}

$$k'_{n} = \mu C_{ox}$$

$$= \mu \frac{\epsilon}{t_{ox}}$$



PMOS



put p at most negative and n well at most positive potential

