

$$I_{D,sat} = \mu C_{ox} \frac{W}{L} \frac{(V_{GS} - V_T)^2}{2}, \quad \text{for } V_{DS} > V_{GS} - V_T \text{ and } V_S > V_T$$

$$I_{D,sat} = 0, \quad \text{for } V_{GS} < V_T$$