

$$W = \sqrt{2 I_F D_n} = \sqrt{2 \frac{C_b D_n}{g_m}}$$

$$i = V_i \cdot g_m \quad I_s = \frac{q \cdot A \cdot D_p \cdot p_{n0}}{W}$$

$$\gamma = \frac{1}{1 - \frac{W_B \mu_n N_0}{L \mu_p N_A}} \quad \gamma_{Fa} = \frac{0}{0}$$

$$\frac{\alpha}{\delta} = 1 - \frac{T_F}{T_h}$$

$$g_m = \mu_n C_{ox} \frac{W}{L} v_{ov} \quad r_o = \frac{V_A}{I_D}$$

$$I_D = \frac{\mu_n C_{ox}}{2} \frac{W}{L} v_{ov}^2$$

$$Q = C_{ox} \frac{W}{L} v_{ov}$$

$$\underline{Kop.} \quad C_{gs} = \frac{2}{3} W L C_{ox}$$

$$\underline{Tr_{eff.}} \quad C_{gs} = \frac{1}{2} W L C_{ox} \quad \text{Cgd}$$

$$k'_n = \mu_n C_{ox} \quad \epsilon_{ox} = 4 \epsilon_0$$

$$k_n = k'_n \frac{W}{L}$$

$$C_{ox} = \frac{\epsilon_{ox}}{t_{ox}}$$

$$G = \frac{R_{in}}{R_{in} + R_{sig}} A_v$$

$$A_v = \frac{R_L}{R_{out} + R_L} A_{vo}$$