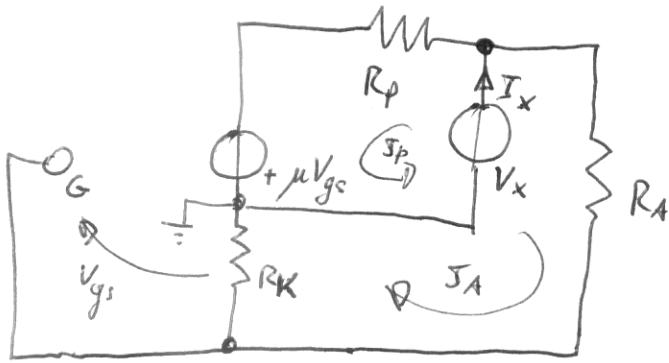


CALCULO RESISTENCIA VISTA DE C ULTRAPATH



$$R_P = R_{P_{ext}} + R_{P_{int}}$$

$$R_x = \frac{V_x}{I_x}$$

$$I_x = I_A + I_P$$

$$I_A = \frac{V_x}{R_A + R_K}$$

$$I_P = \frac{V_x + \mu V_{gs}}{R_P}$$

$$V_{gs} = V_x \frac{R_K}{R_A + R_K}$$

$$I_x = I_A + I_P = \frac{V_x}{R_A + R_K} + \frac{V_x + \mu V_{gs}}{R_P} = V_x \left[\frac{1}{R_A + R_K} + \frac{1}{R_P} + \frac{\mu R_K}{R_P (R_A + R_K)} \right]$$

$$\frac{I_x}{V_x} = \frac{1}{R_x} = \frac{1}{R_A + R_K} + \frac{1}{R_P} + \frac{\mu R_K}{(R_A + R_K) R_P}$$

$$\Rightarrow R_x = (R_A + R_K) \parallel R_P \parallel \frac{(R_A + R_K) R_P}{\mu R_K}$$

$$\mu = 0 \rightarrow (R_A + R_K) \parallel R_P$$

$$\mu \rightarrow \infty \rightarrow \cancel{(R_A + R_K) \parallel R_P} \approx \frac{R_P}{\mu} = \frac{1}{g_m}$$