

$$E_{ni}^2(\text{flicker}) = \frac{I_{no}^2}{g_m^2} = \frac{I_f^2}{g_m^2} = \frac{\frac{K_F I_{DS}^{AF}}{f^{EF} \text{Cox} L_{eff}^2}}{\mu_0^2 \text{Cox}^2 (W/L)^2 (V_{GS} - V_T)^2 (1 + \lambda V_{DS})^2} =$$

$$\frac{K_F \left[ \frac{\mu_0 \text{Cox} W}{2 L} (V_{GS} - V_T)^2 (1 + \lambda V_{DS}) \right]^{AF}}{\mu_0^2 \text{Cox}^3 (W/L)^2 (V_{GS} - V_T)^2 (1 + \lambda V_{DS})^2 L_{eff}^2 f^{EF}} = \frac{K_F}{\mu_0 \text{Cox}^2 W L_{eff} (1 + \lambda V_{DS}) f} =$$

$$\frac{K_F}{2 K_p \text{Cox} W L_{eff} (1 + \lambda V_{DS})}$$

$$K_p = \frac{\mu_0 \text{Cox}}{2}$$

$$EF = 1$$

$$AF = 1$$

$$L = L_{eff}$$

$$(1 + \lambda V_{DS} \approx 1)$$