

1 Integrated Matching

[scale=0.46]fig/Lim.png

Figure 1:

$$L_E = \frac{R_s - r_{bb'}}{\omega_T} \simeq \frac{R_s}{\omega_T}$$

$$L_B = \frac{1}{\omega_0^2 \cdot C_\pi} - L_E$$

where

$$\omega_T = \frac{g_m}{C_\pi} \Rightarrow C_\pi = \frac{g_m}{\omega_T}$$

and

$$g_m := \frac{\partial i_C}{\partial v_{be}} = \frac{I_C}{V_T}$$