R_F

i_s

C_D

v_o

$V_1(f)$

$V_2(f)$

$I_1(f)$

$I_2(f)$

$G_v(f) = \dfrac{V_2}{V_1}$

$G_i(f) = \dfrac{I_2}{I_1}$

$Z(f) = \dfrac{V_2}{I_1}$

$G(f) = \dfrac{I_2}{V_1}$

$+$
$v_1(t)$
$-$

$i_1(t)$

$+$
$v_2(t)$
$-$

$i_2(t)$

$v_C(t)$

$i_C(t)$

$v_L(t)$

$i_L(t)$

$+$
$v_C(t)$
$-$

$+$
$v_L(t)$
$-$

$$v_s(t)$$

$$R$$

$$C$$

$$v_o(t)$$

$$V_s$$

$$V_o$$

$$Z_R$$

$$Z_C$$

$$R_1$$

$$C_1$$

$$0.1/\tau$$

$$1/\tau$$

$$10/\tau$$

$$\omega = 1/\tau$$

$$|j\omega\tau|_{\text{dB}} + \left|\frac{1}{1+j\omega\tau}\right|_{\text{dB}}$$

$$\omega \ll \frac{1}{\tau}$$

$$\omega \gg \frac{1}{\tau}$$