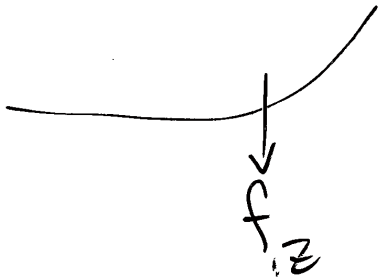
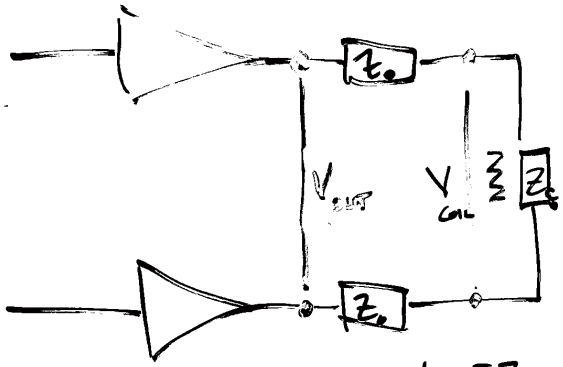


$$f_q = \left(R / 2\pi R/L\right)$$

$$L = 2\pi R / f_q$$

$$2Z_o + Z_c = (2 * 2.2e3 + 20) + i\,\omega(4e{-}3)$$

$$i(1e6)(4e{-}3)$$



$$V = IZ$$

$$I = V_{coil} / Z_c$$

$$I = V / (2Z_o + Z_c) = \frac{V_{coil}\,(Z_o + Z_c/2)}{Z_c/2} \Big/ (2Z_o + Z_c)$$

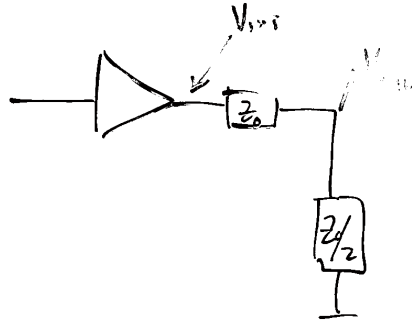
$$V_o = \frac{Z_o + Z_c/2}{Z_c/2} V_{coil}$$

$Z_c \ll Z_o$

$$I \simeq V / (2Z_o)$$

$$= V_{coil} \frac{(2Z_o + Z_c)}{Z_c} \Big/ (2Z_o + Z_c)$$

$$I = V_{coil} / Z_{coil}$$



$$\frac{V_{coil}}{V_{in}} = \frac{Z_c/2}{Z_o + Z_c/2}$$