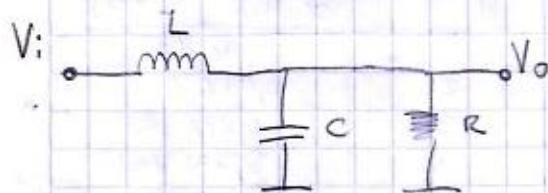


Ejercicio 1

$$Y_1 = \frac{1}{sL}$$

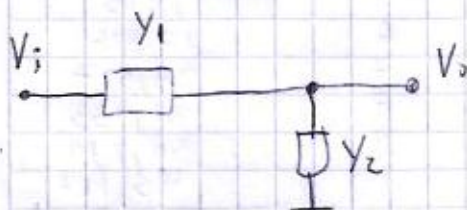
$$Y_2 = \frac{1}{R} + sC = \frac{1 + sCR}{R}$$

Según la topología



$$V_o = V_i \quad \frac{Y_1}{Y_1 + Y_2} = \frac{\frac{1}{sL}}{\frac{1}{sL} + \frac{1 + sCR}{R}}$$

$$T(s) = \frac{R}{R + sL + s^2LCR}$$



$$\left[T(s) = \frac{1}{LC} \cdot \frac{1}{s^2 + s\frac{1}{CR} + \frac{1}{LC}} \right]$$

$m = 2$ y $E_g = 1$ Por BUTTER

$$T(s) = \frac{\omega_0^2}{s^2 + s\frac{\omega_0}{Q} + \omega_0^2}$$

$$\omega_0 = 1$$

$$L = \frac{1}{C}$$

$$P = \frac{C}{L}$$

Normas

$$R_w = 1k\Omega \cdot 2\pi \rightarrow \omega_0 = 1$$

$$R_z = 1k\Omega \rightarrow R = 1$$

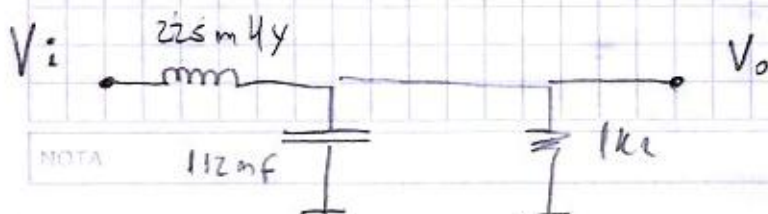
$$P_0 = \frac{\sqrt{2}}{2} ; C = \frac{\sqrt{2}}{2} ; L = \sqrt{2} ; R = 1$$

Desnormalizo

$$R = 1 \cdot R_z = 1 \cdot 1k\Omega = 1k\Omega$$

$$C = \frac{\sqrt{2}}{2} \cdot \frac{1}{R_z \cdot \omega_0} = \frac{\sqrt{2}}{2} \cdot \frac{1}{2\pi \cdot 1kHz \cdot 1k\Omega} = 112,54 nF$$

$$L = \sqrt{2} \cdot \frac{R_z}{R_w} = \sqrt{2} \cdot \frac{1k\Omega}{2\pi \cdot 1kHz} = 225 mH$$



NOTA