FPB Butterworth orden 2 : $T_2(s) = \dfrac{1}{s^2 + s\sqrt{2} + 1}$

Para que la red cumpla con $T_2(s)$:

$$T(s) = -\frac{R_3}{R_1} \frac{1}{s^2 + s\frac{1}{q} + 1} = T_2(s) = \frac{1}{s^2 + s\sqrt{2} + 1}$$

→ Si desestimo el (−) que solo afecta a la fase: $R_1 = R_3$

→ $\dfrac{1}{q} = \sqrt{2}$; $q = \dfrac{1}{\sqrt{2}} = \dfrac{\sqrt{2}}{2} = \dfrac{R_2}{R_3}$; $R_2 = \dfrac{\sqrt{2}}{2} R_3$

→ Además como $\omega_0 = 1$; $\omega_0 = \dfrac{1}{R_3 C}$; $C = \dfrac{1}{R_3}$

→ Tomando $\Omega_Z = R_3$; $R_{1-n} = \dfrac{R_1}{\Omega_Z} = \dfrac{R_1}{R_3} = \dfrac{R_3}{R_3} = 1$

$$R_{2-n} = \frac{\sqrt{2}}{2}\frac{R_3}{\Omega_Z} = \frac{\sqrt{2}}{2}\frac{\cancel{R_3}}{\cancel{R_3}} = \frac{\sqrt{2}}{2}$$

$$R_{3-n} = \frac{R_3}{\Omega_Z} = \frac{\cancel{R_3}}{\cancel{R_3}} = 1$$

Por simplicidad adopto que $R_4 = R_3$ → $R_{4-n} = \dfrac{R_4}{\Omega_Z} = \dfrac{R_4}{R_3} = \dfrac{\cancel{R_3}}{\cancel{R_3}} = 1$

$$C_{-n} = C.\Omega_Z = C.R_3 = \frac{1}{\cancel{R_3}}.\cancel{R_3} = 1$$