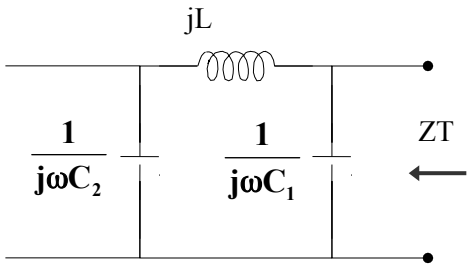
Chapter 10, Solution 93.

As shown below, the impedance of the feedback is



$$Z_T = \frac{1}{j\omega C_1} \| \left(j\omega L + \frac{1}{j\omega C_2} \right)$$

$$Z_T = \frac{\frac{-j}{\omega C_1}\left(j\omega L + \frac{-j}{\omega C_2} \right)}{\frac{-j}{\omega C_1} + j\omega L + \frac{-j}{\omega C_2}} = \frac{\frac{1}{\omega} - \omega L C_2}{j\left(C_1 + C_2 - \omega^2 L C_1 C_2 \right)}$$

In order for Z_T to be real, the imaginary term must be zero; i.e.

$$C_1 + C_2 - \omega_o^2 L C_1 C_2 = 0$$

$$\omega_o^2 = \frac{C_1 + C_2}{L C_1 C_2} = \frac{1}{L C_T}$$

$$f_o = \frac{1}{2\pi\sqrt{L C_T}}$$