

3) Inductivo

$$|Z| = \frac{E_{rms}}{I_{rms}} = \frac{50}{0,1} = 500$$

$$P = R \cdot I_{rms}^2$$

$$R = \frac{P}{I_{rms}^2} = \frac{3}{0,1^2} = 300 \Omega$$

$$V_L = X_L \cdot I$$

$$L = \frac{X_L}{\omega} = \frac{600 \Omega}{1000} = 0,6 \text{ H}$$

$$\frac{1}{C} < \omega^2 L \Rightarrow \frac{1}{\omega^2 L} > C$$

$$C < 1,6 \times 10^{-6}$$

$$Z = \sqrt{R^2 + \left(\omega L - \frac{1}{\omega C}\right)^2}$$

Resistencia

$$B) X_L = X_C$$
$$\omega L = \frac{1}{\omega C}$$

$$V_{R0} = E_0$$

RE

$$|Z| = R$$

$$I = E/Z$$

$$E = Z \cdot I$$

$$\omega = \sqrt{\frac{1}{LC}} = \sqrt{\frac{1}{0,6 \cdot 1,6 \times 10^{-6}}} = 1020 \quad I = \frac{50}{300} = 0,17 \text{ A}$$

$$X_L = 1020 \cdot 0,6 = 612$$

$$P = R \cdot I^2$$

$$R = 300 \cdot 0,17^2 = 8,7 \Omega$$