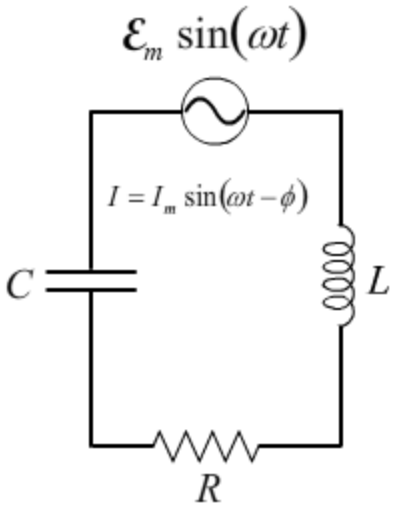
Looks intimidating, but isn't bad!

The Driven LCR Circuit



Frequency Dependence of Maximum Current

$$I_m = \frac{\mathcal{E}_m}{R} \frac{1}{\sqrt{1 + Q^2 \frac{(x^2-1)^2}{x^2}}}$$

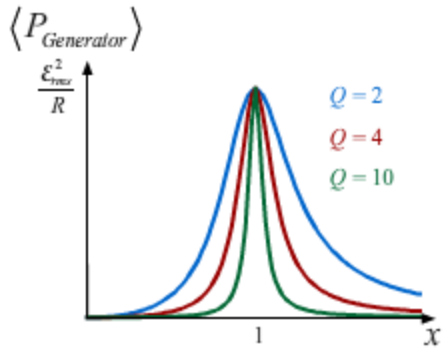
Quality Factor

$$Q \equiv 2\pi \left[\frac{U_{max}}{\Delta U} \right]_{cycle}$$ evaluate at $\omega = \omega_o$

Average Power per Cycle

$$\langle P_{Generator} \rangle = \frac{\mathcal{E}_{rms}^2}{R} \frac{x^2}{x^2 + Q^2(x^2-1)^2}$$

where $x \equiv \frac{\omega}{\omega_o}$ & $Q^2 = \frac{L}{R^2 C}$



Transformers

Voltage Relation

$$\frac{V_S}{V_P} = \frac{N_S}{N_P}$$

Current Relation

$$\frac{I_P}{I_S} = \frac{N_S}{N_P}$$