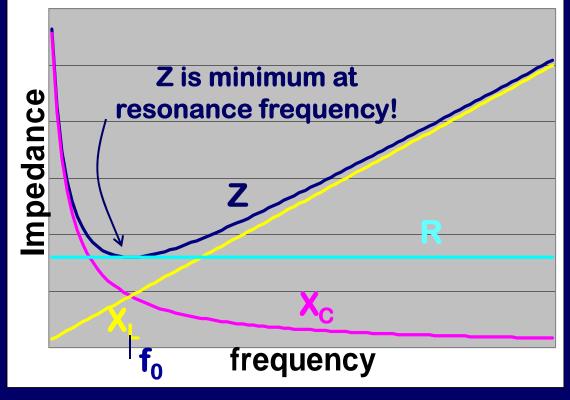
## Resonance



## **R** is independent of f $X_L$ increases with f $X_L = 2\pi f L$ $X_C$ decreases with f $X_C = 1/(2\pi f C)$

**Z:**  $X_L$  and  $X_C$  subtract  $Z = \sqrt{R^2 + (X_L - X_C)^2}$ 

## **Resonance in AC Circuits**



**Resonance:**  $X_L = X_C$ 

$$f_0 = \frac{1}{2\pi\sqrt{LC}}$$