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Electronics

In this section we'll discuss the three basic electronic components:

Name	Property	Unit	Symbol
Resistor (R)	Resistance	Ohm (Ω)	
Inductor (L)	Inductance	Henry (H)	
Capacitor (C)	Capacitance	Farad (F)	

Resistor

The easiest component to start with is the resistor.

RLC Impedance



Impedance (Ω)	Low Frequency	Medium Frequency	High Frequency
Resistance, R	Doesn't depend on frequency		
Inductive Reactance $X_L = 2\pi f L$	Low	Medium	High
Capacitive Reactance $X_C = \frac{1}{2\pi f C}$	High	Medium	Low

RLC Addition

	Series	Parallel
Resistor, R [Ω]		
	$R = R_1 + R_2$	$\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2}$
Inductor, L [H]		
	$L = L_1 + L_2$	$\frac{1}{L} = \frac{1}{L_1} + \frac{1}{L_2}$
Capacitor, C [F]		
	$\frac{1}{C} = \frac{1}{C_1} + \frac{1}{C_2}$	$C = C_1 + C_2$

Questions

