Capacitance and Inductance Formulas

$Q = CV$	Capacitance	$v = L\frac{di}{dt}$	Inductance
$C = \frac{\varepsilon_0 \varepsilon_r A}{d}$	Capacitance from Physical Dimension	$L = \frac{N^2 \mu_0 \mu_r A}{l}$	Inductance from Physical Dimension
$i = c\frac{dV}{dt}$	Current-Voltage Relationship (Derivative Form)	$v = L\frac{di}{dt}$	Current-Voltage Relationship (Derivative Form)
$V = v(t_0) + \frac{1}{C}\int_{t_0}^{T} i(t)dt$	Current-Voltage Relationship (Integral Form)	$i = i(t_0) + \frac{1}{L}\int_{t_0}^{T} v(t)dt$	Current-Voltage Relationship (Integral Form)
$P = CV\frac{dV}{dt}$	Power Delivered to the Capacitor	$P = LI\frac{dI}{dt}$	Power Delivered to the Inductor
$W = \frac{1}{2}CV^2$	Energy Stored in a Capacitor	$W = \frac{1}{2}LI^2$	Energy Stored in an Inductor
$C_{eq} = \frac{1}{\frac{1}{C_1} + \frac{1}{C_2} + \cdots + \frac{1}{C_n}}$	Capacitance in Series	$L_{eq} = L_1 + L_2 + \cdots + L_n$	Inductance in Series
$C_{eq} = C_1 + C_2 + \cdots + C_n$	Capacitance in Parallel	$L_{eq} = \frac{1}{\frac{1}{L_1} + \frac{1}{L_2} + \cdots + \frac{1}{L_n}}$	Inductance in Parallel