

Transient Analysis of a Second Order Circuit

Purpose: To graph the capacitor voltage until it reaches steady state

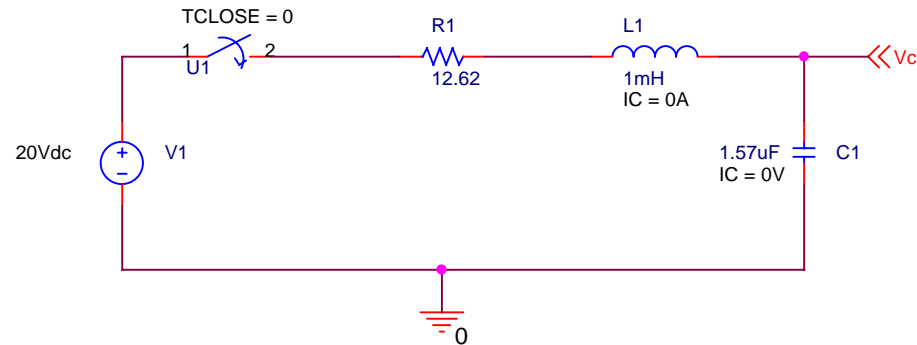
Analysis type: Transient. In order to determine the length of the transient analysis, it is necessary to study the response.

Underdamped Series RLC Circuit

$S1, S2 = -\text{Alpha} \pm j\text{Beta}$

$\text{Alpha} = R/(2L) = -12.62/(2*1e-3) = -6310$

$5\text{Tau} = 5/\text{Alpha} = 0.792 \text{ ms}$, so final time for transient analysis = 0.8ms



An opening switch (Sw_tOpen) and a closing switch (Sw_tCclose) can be found in the EVAL library.

Note that initial conditions (IC) can be added to a capacitor or an inductor. See instructions below for displaying the IC attributes.

Edit attributes of parts as follows:

- 1) If the attribute appears next to the part, double click it and then change its value
- 2) If the attribute does not appear next to the part, double click on the part, find the desired attribute, right click on it and select DISPLAY. Then indicate what Display Format is desired. Once the attribute has been displayed, double-click on it and change the value.

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