Faculty of Engineering and Technology

Electrical and Computer Engineering Department

Simulation Lab (ENEE4104)

Power Electronic Converters in Orcad

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Sec#: 1

1. Abstract:

The aims of this prelab is to learn concept with Orcad.

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1. Series RLC Circuit:

The Circuit:

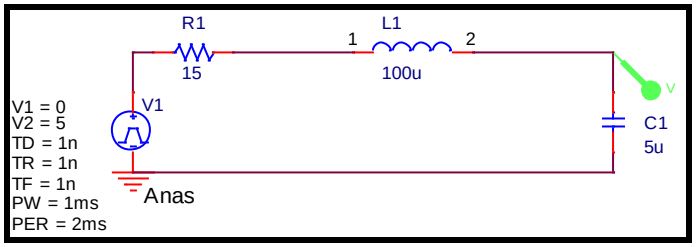

Figure 1: The Series RLC Circuit

1.1 The output voltage at the Capacitor:

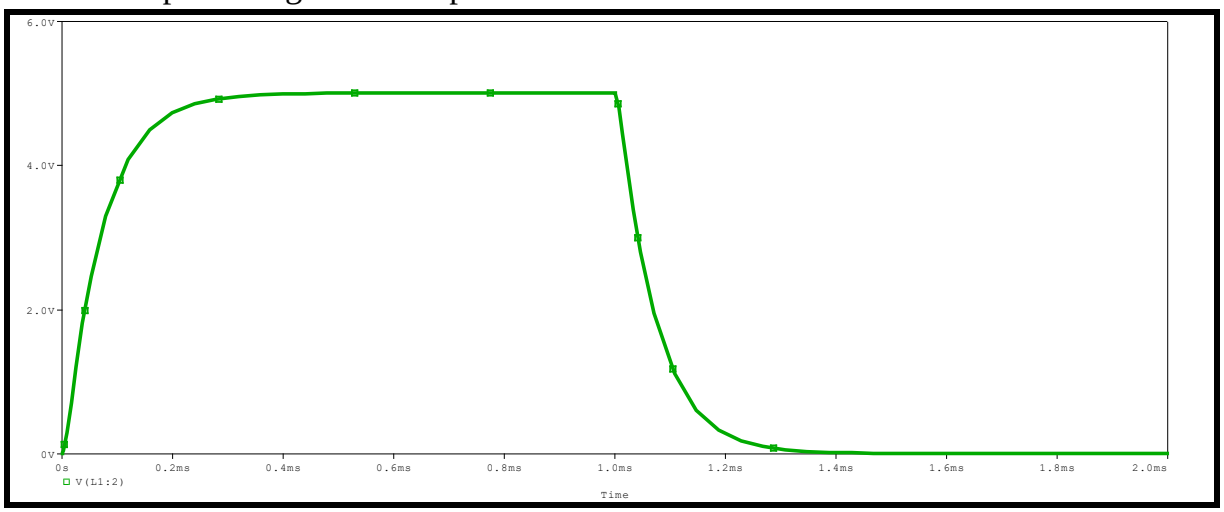

Figure 2: The output voltage at the Capacitor

2. Series RLC Circuit at Different value of R.

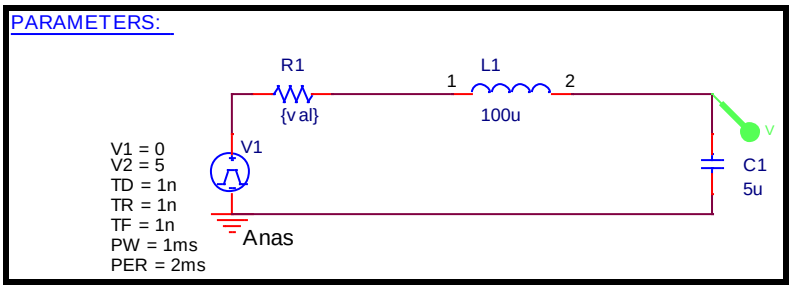

Figure 3: Parametric Analysis

The Value of resistor make the circuit critically damped oscillator:

$$\left(\frac{R}{2l}\right)^2 = \frac{1}{LC}$$

R= 8.944 Ω

The simulation result:

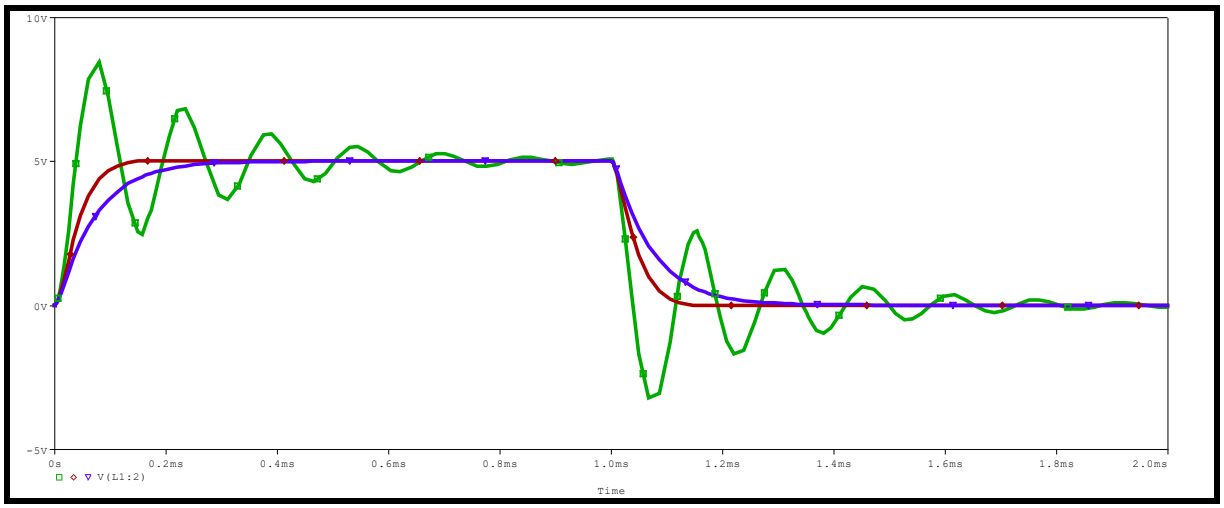

Figure 4: The Output Voltage at Capacitor when the value of resistor variable