

Lab TDR1: Approximate values of complex loads 1/12/2020

The following values are just for a guideline. You may get up to 30% more or less.

Part I

Unknown 1:

Parallel L and R

R can be found from the initial response (E_i is not 1).

L can be found from the time constant

R=220 and L=786nH

Unknown 2:

Series C and R

R can be found from the initial response.

C can be found from the time constant

R=100 and C=0.184nF

Unknown 3:

Series R and L

R can be found from the final response.

L can be found from the time constant.

R=50 and L=29nH

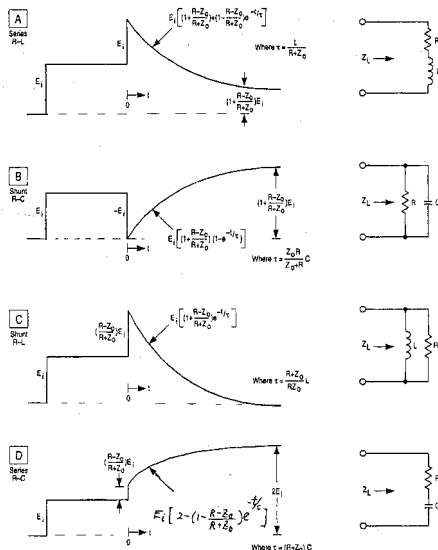


Figure 8. Oscilloscope displays for complex Z_L .

Part II

Based on the integration method, the value of small L is approximately 2.2 nH.

The expected value is 2-3nH.