

Diode Transients

Read the lab handout given and the supporting document first before performing the pre-lab simulation exercises.

The aim of this simulation exercise is to do the following-

1. Write NGSPICE netlist to implement the diode circuit shown in Figure 1. This is used to obtain the reverse recovery time of the diodes.
2. Apply 2 V_p-p square wave of different frequencies (say 1 kHz, 10 kHz and 100 kHz) and plot the voltage across diode and current through diode with respect to time.
3. Measure the reverse recovery time of both regular PN junction diode (1N4007) and Schottky diode (BAT85) at each of the mentioned frequencies.

The model files required for the exercise as given in the following link:
Experiment 2 Model Files

You are required to submit the NGSPICE netlist, the necessary transient plots and tabular column consisting of measured reverse recovery times for both diodes.

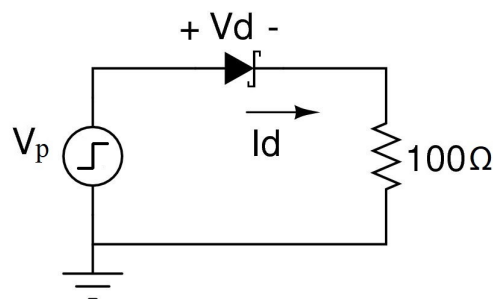


Figure 1: Diode RRT circuit