

EXPERIMENT 3

CLAMPING CIRCUITS

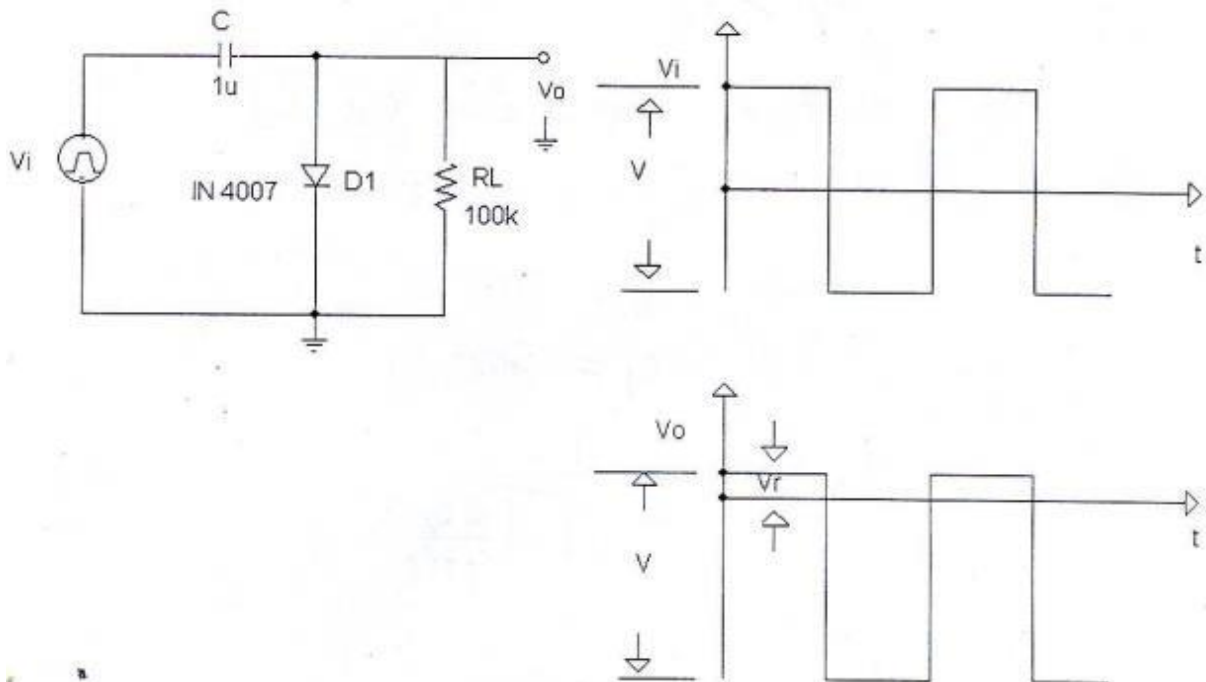
EQUIPMENT REQUIRED:

- Diode-IN4007, capacitors, resistor, power supply, oscilloscope, function generator, multimeter, etc.
- $R_L=100K\Omega$, $C=1\mu F$

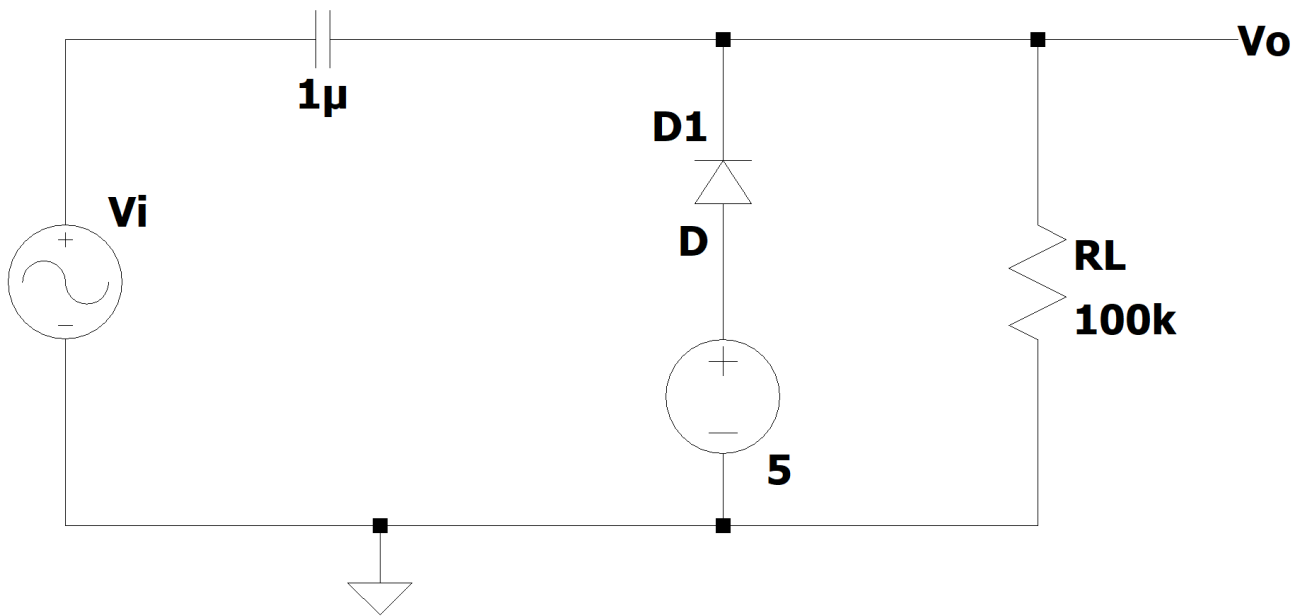
EXPERIMENTAL PROCEDURE:

1. Connections are made as shown in the circuit diagram.
2. A square wave input V_i is applied. Output waveform V_o is observed on the oscilloscope. Keeping the AC/DC switch of the oscilloscope in DC Position.
3. Clamped voltage is measured and verified with the designed values.

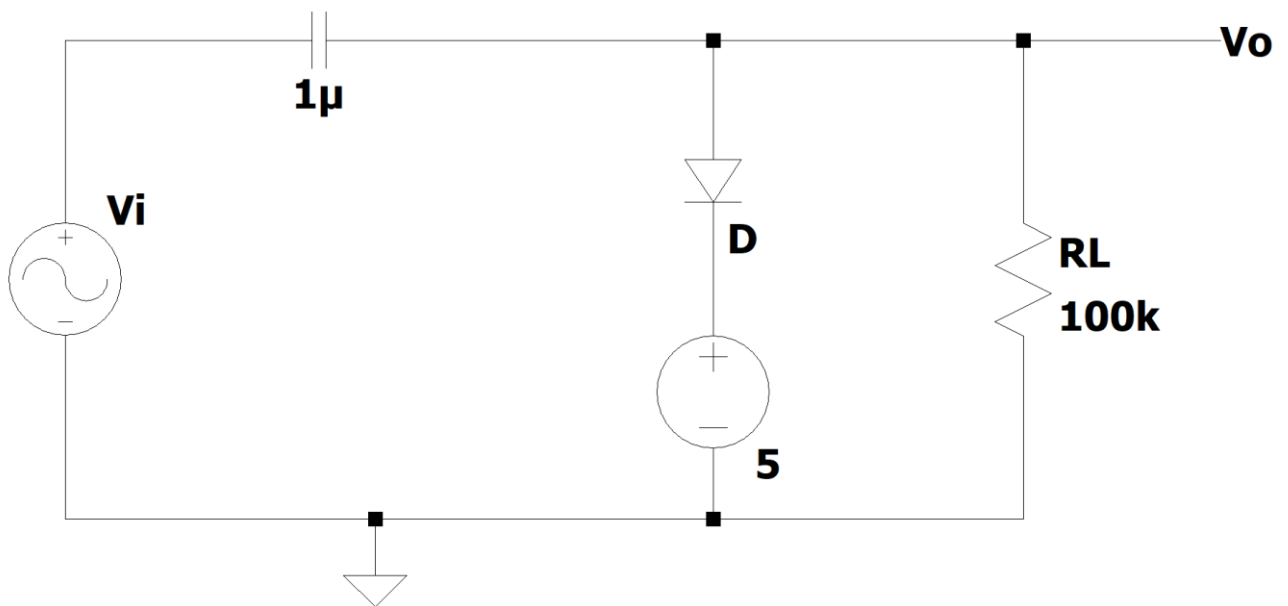
1. Positive peak clamped at V_f level:



2. Adding Extra DC Voltage Source (+5V)



3. Changing The Direction of Diode



	Circuit 1	Circuit 2	Circuit 3
$V_p - V_p$ in			
$V_p - V_p$ out			

QUESTIONS:

1. Why are these versions of diode circuits called clamping circuits? What is the meaning of clamp?
2. What could happen if the capacity of the capacitor increased?
3. Try to explain the logic behind the result of circuits 2 and 3.