

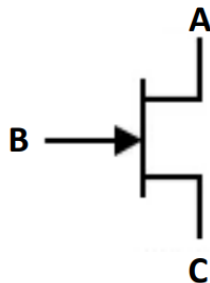
## ECE101-1L – FUNDAMENTALS OF ELECTRONIC CIRCUITS (LAB)

### Activity #8: JFET Amplifier

#### A. Multisim

##### DC Characteristics of JFET

##### 1. Identify the PIN Name of the JFET

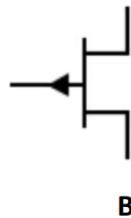
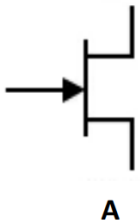


A- Drain

B- Ground

C- Source

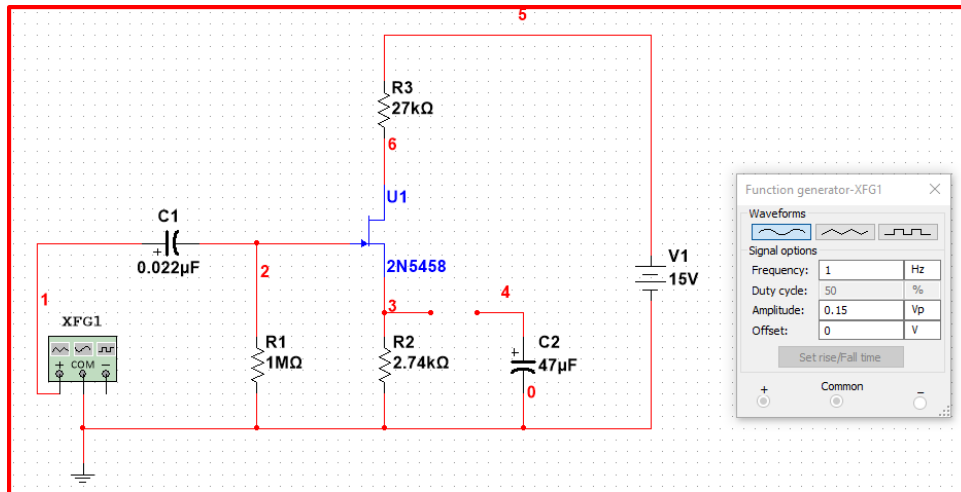
##### 2. Identify the Type of JFET shown below



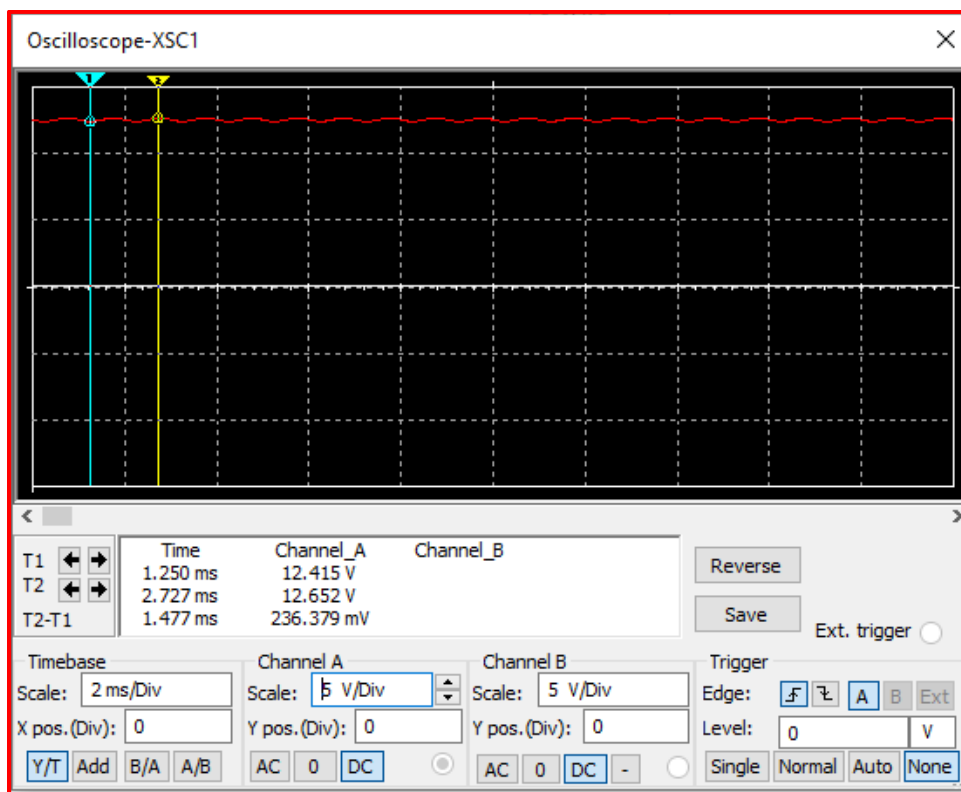
A- N-Channel JFET

B- P-Channel JFET

##### 3. Using Multisim create the schematic shown below and change the function generator settings as shown below.



4. Using Oscilloscope measure and record the drain voltage (Note: reading should be about 0.24 Volts peak-to-peak) Screenshot the final oscilloscope output:



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LIAN YZABELLE MANALO

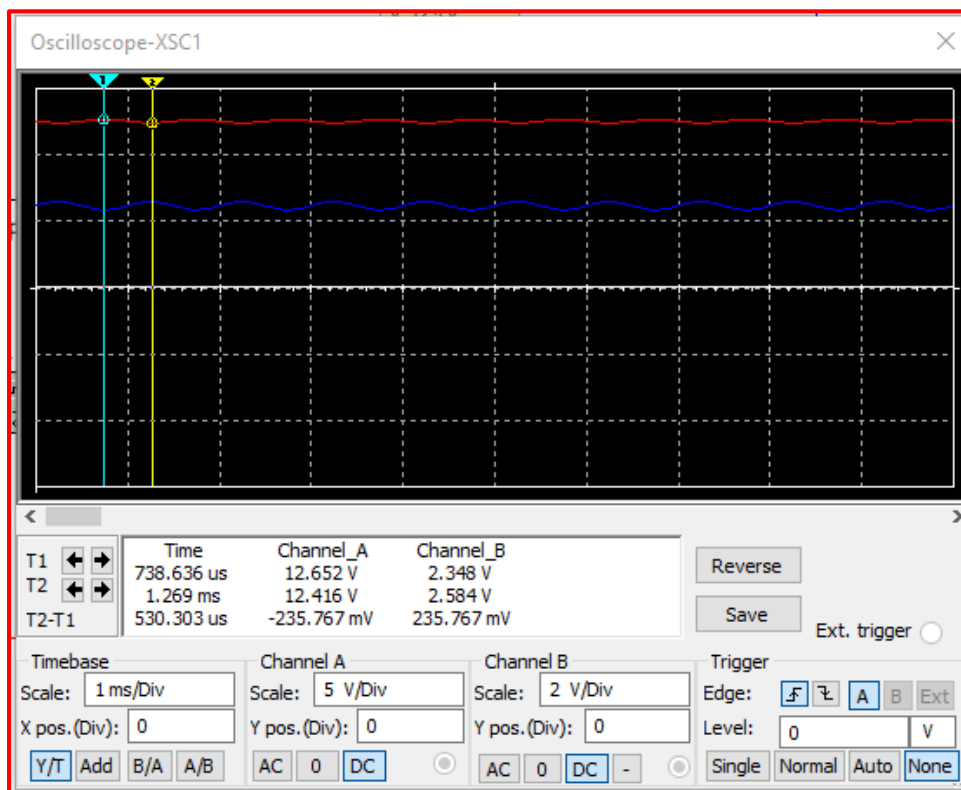
MARHU ANDRE MAAÑO

ZIAN OLIVER SALVADOR

5. Comparing input and output signals, does your circuit with Un bypassed source resistor provide voltage gain?

**We can see from the graph that there is an increase in voltage when it is in the Un bypassed source resistor.**

6. Calculate and record the ac circuit voltage gain ( $A_v = V_o/V_i$ ).



$$A_v = 2.584/12.652 = \underline{0.20423648 \text{ V}}$$

7. Connect the bypassed capacitor and run the simulation

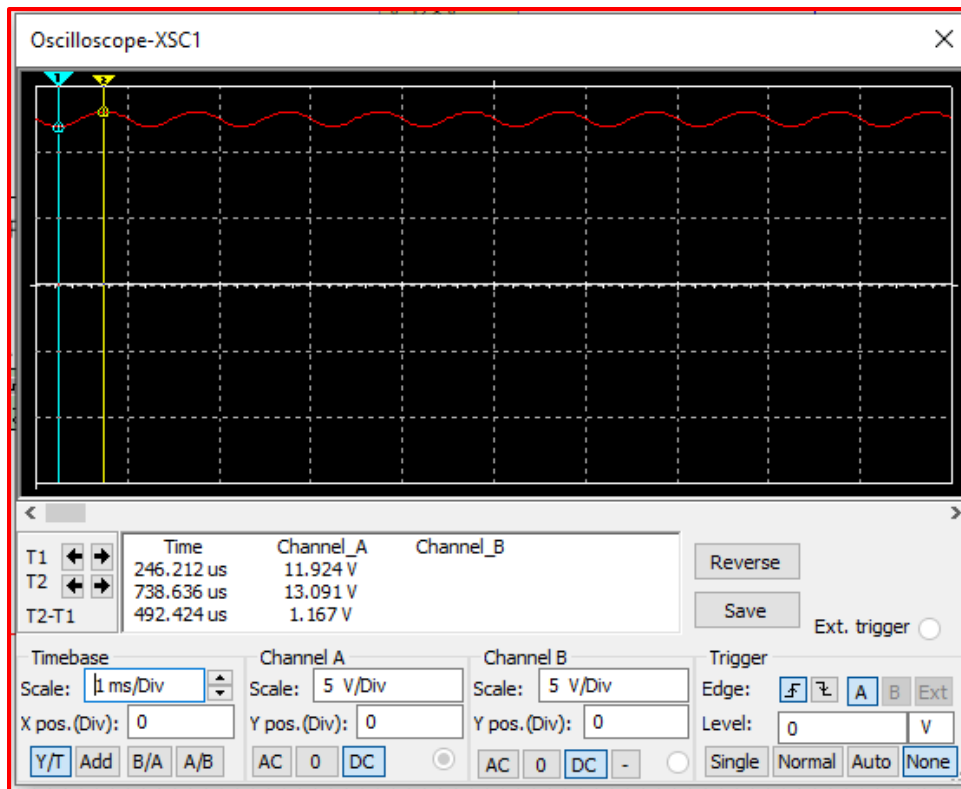
8. Using Oscilloscope measure and record the new drain voltage Screenshot the final oscilloscope output:

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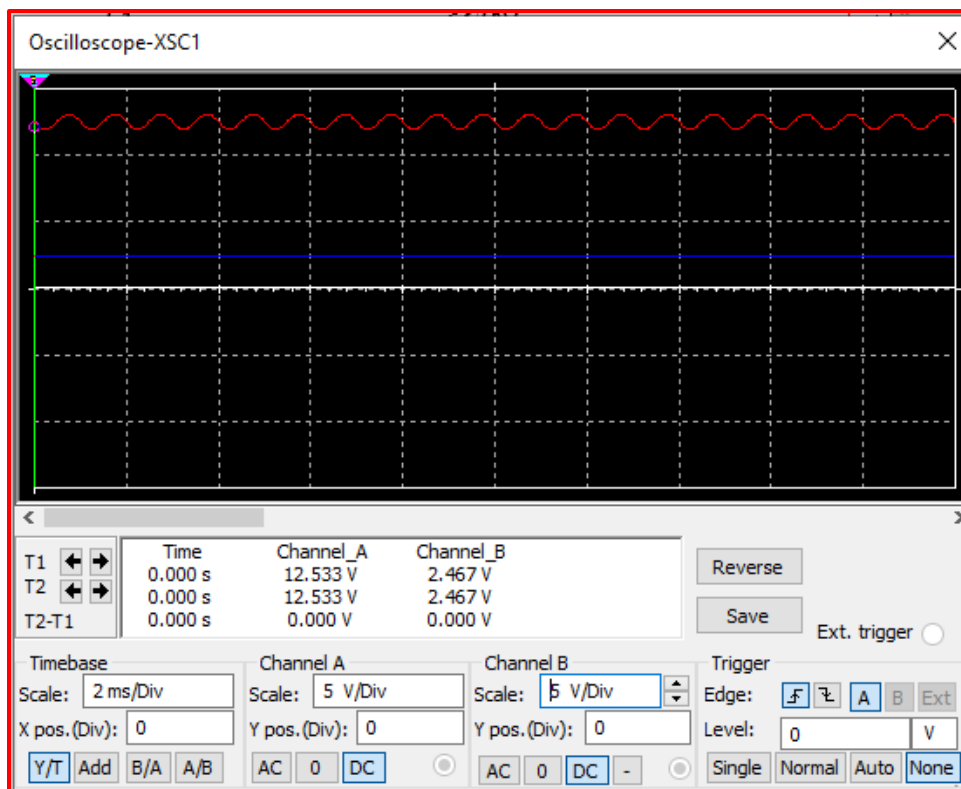
9. Calculate and record the ac circuit voltage gain ( $A_v = V_o/V_i$ ).

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$$A_v = 2.467 / 13.091 = \underline{0.18845008 \text{ V}}$$

10. Does the Gain increase or decrease when bypassed capacitor is connected? As the bypassed capacitor is connected and became parallel to R2, the Voltage decreased.

**The voltage gain decreased when the bypassed capacitor is connected.**