ELEC-313
Lab 7: MOSFET Amplifier Circuits

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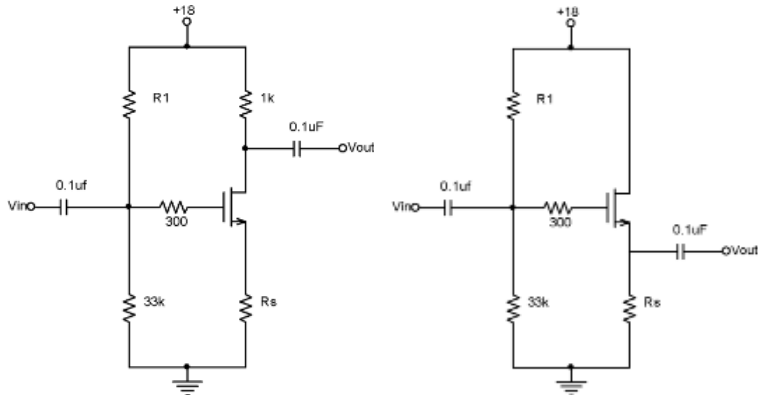
1 Objective

2 Equipment

Transistor: 2N7000
Function Generator: HP 33120
Oscilloscope: Agilent 54622D
Resistors: 100 Ω, 300 Ω, 470 Ω, 1 kΩ (x2)
33 kΩ, 100 kΩ (x2)

Power supply: HP E3631A
Multimeter: HP 34401A
Capacitors: 0.1 µF

3 Schematics



(a) Common-source circuit (b) Source-follower circuit

Figure 1: Circuits used in this lab.

4 Procedure

4.1 Common-Source Amplifier

4.2 Source-Follower Amplifier

5 Results

6 Conclusion

7 Equations

$$V_{o,L} = V_{o,NL}\frac{R_L}{R_o + R_L} \tag{1}$$

V_{in} (mV)	V_{out} (V)
200	0.382
300	0.566
400	0.760
500	0.939
600	1.140
700	1.340
800	1.530
900	1.721
1000	1.90

Table 1: Common-source amplifier

V_{in} (mV)	V_{out} (mV)
200	182
300	268
400	360
500	451
600	541
700	634
800	725
900	813
1000	906

Table 2: Source-follower amplifier