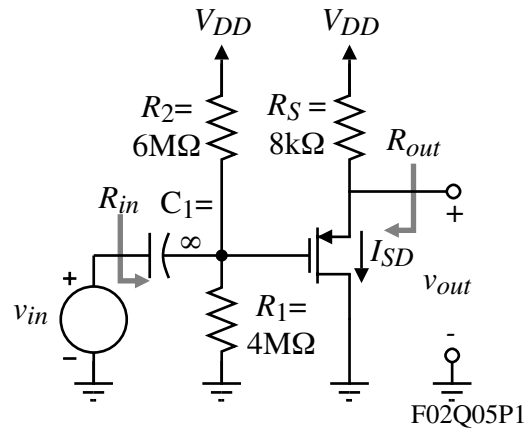


Homework Assignment No. 6Due on Wednesday, February 19, 2003

1.) A PMOS common-drain amplifier is shown. Assume the parameters of the transistor are $k_F = 0.5\text{mA/V}^2$, $V_{TP} = -1\text{V}$, and $\lambda = 0$. (a.) If $I_{SD} = 0.5\text{mA}$, find the small signal model parameter values for g_m and r_o . (b.) Find an algebraic expression for the small signal input resistance, R_{in} , the output resistance, R_{out} , and the voltage gain, v_{out}/v_{in} . (c.) Numerically evaluate the small signal input resistance, R_{in} , the output resistance, R_{out} , and the voltage gain, v_{out}/v_{in} .



- 2.) Problem 14.13 of the text.
- 3.) Problem 14.15 of the text.
- 4.) Problem 14.21 of the text.
- 5.) Problem 14.23 of the text