

Quiz for Lesson 33

Dec. 3, 2015

Electronic Circuits 1

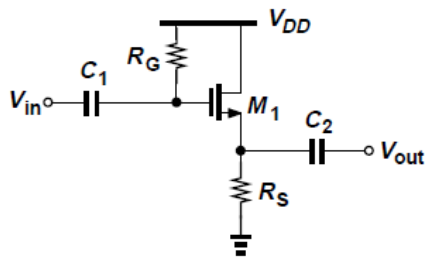
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Prob. 1

Determine R_S so that the following source follower has the drain current of 1mA.

$V_{DD}=1.8V$ and $R_G=50k\Omega$. M_1 has $\mu_n C_{ox} = 100\mu A/V^2$, $W/L=80$, $V_{TH} = 0.5V$, $\lambda = 0$.



Prob. 2

Determine numerical values for the small-signal voltage gain, input resistance, and output resistance of the circuit shown in Prob. 1.

Prob. 3

Determine the small-signal voltage gain of the following cascaded amplifier.

Assume both transistors are in saturation, do not suffer from channel-length modulation, their transconductances are g_{m1} , g_{m2} , and the current source is ideal.

