

PreLab10-CharacterizationOfTheMOSFET

Pre-Lab 10: Characterization of the MOSFET

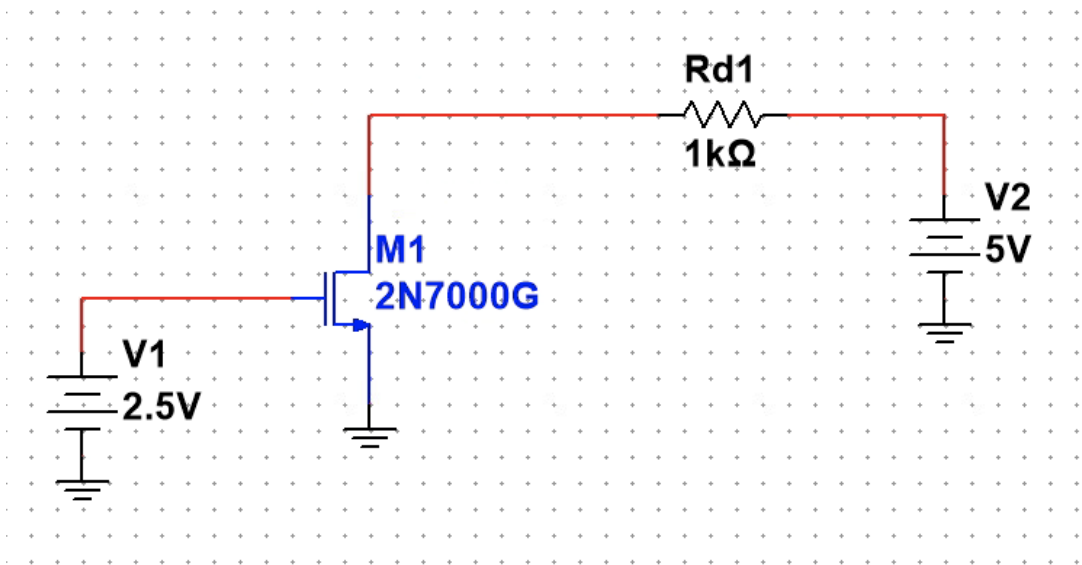
ECEN 325 - 511

TA: Zhiyong Zhang

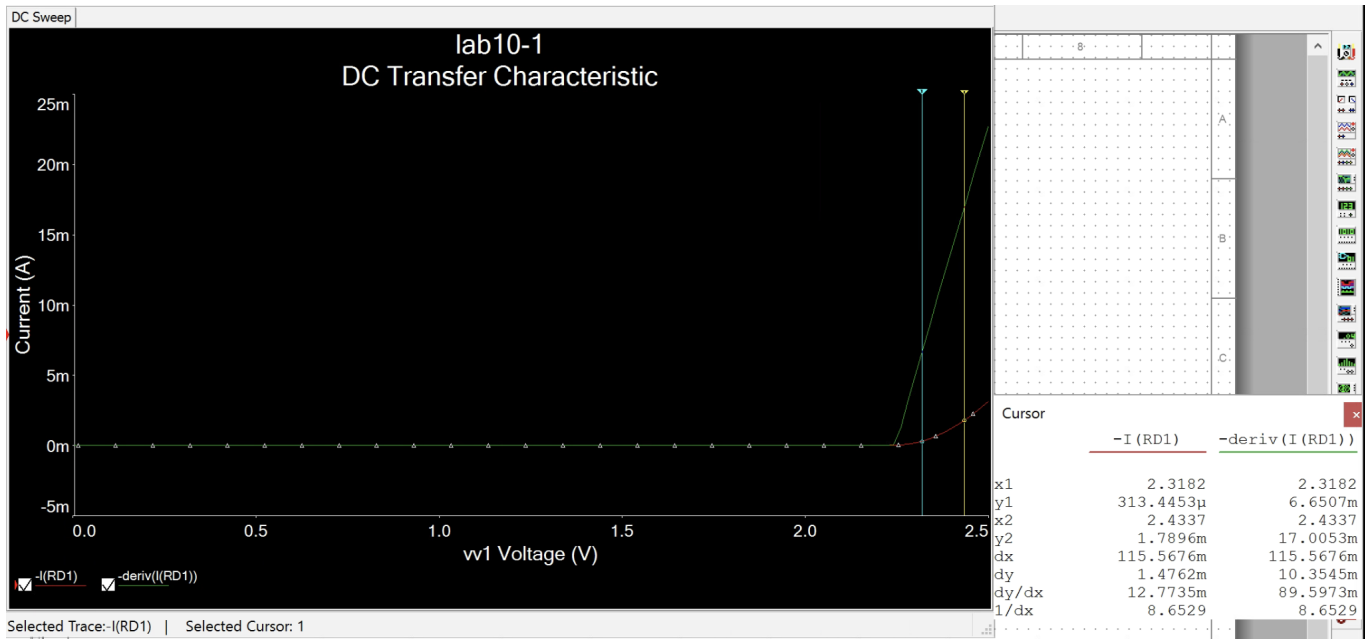
Due Date: November 16, 2021

Simulations (on Multisim)

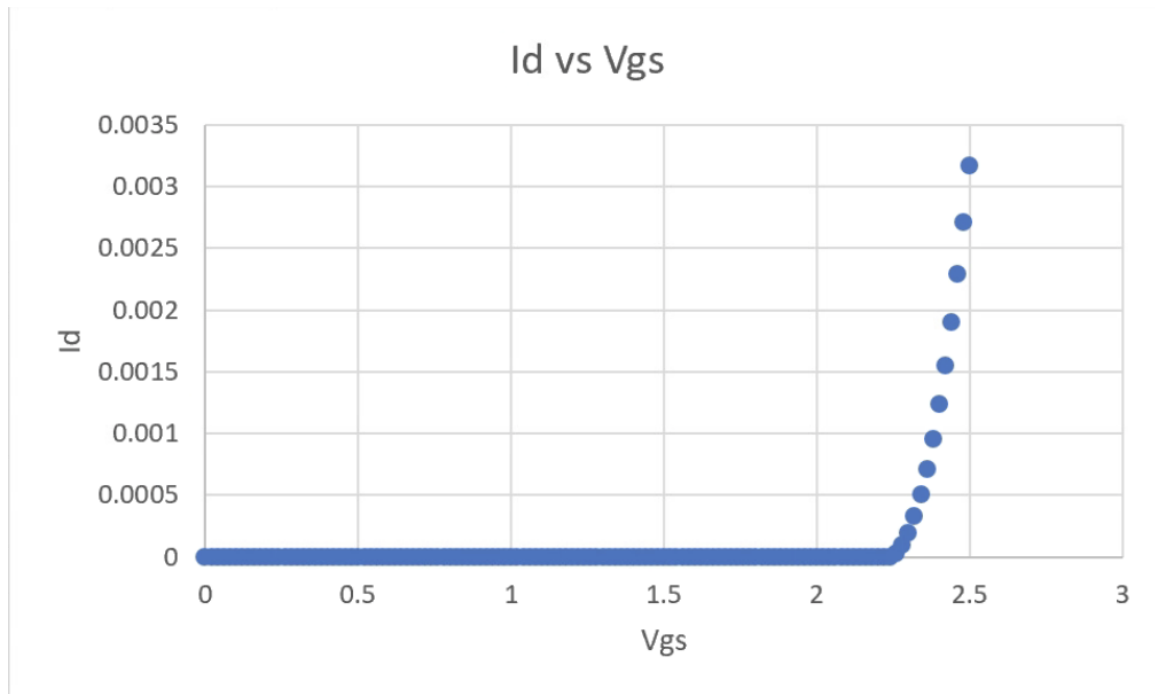
2N7000G Schematic



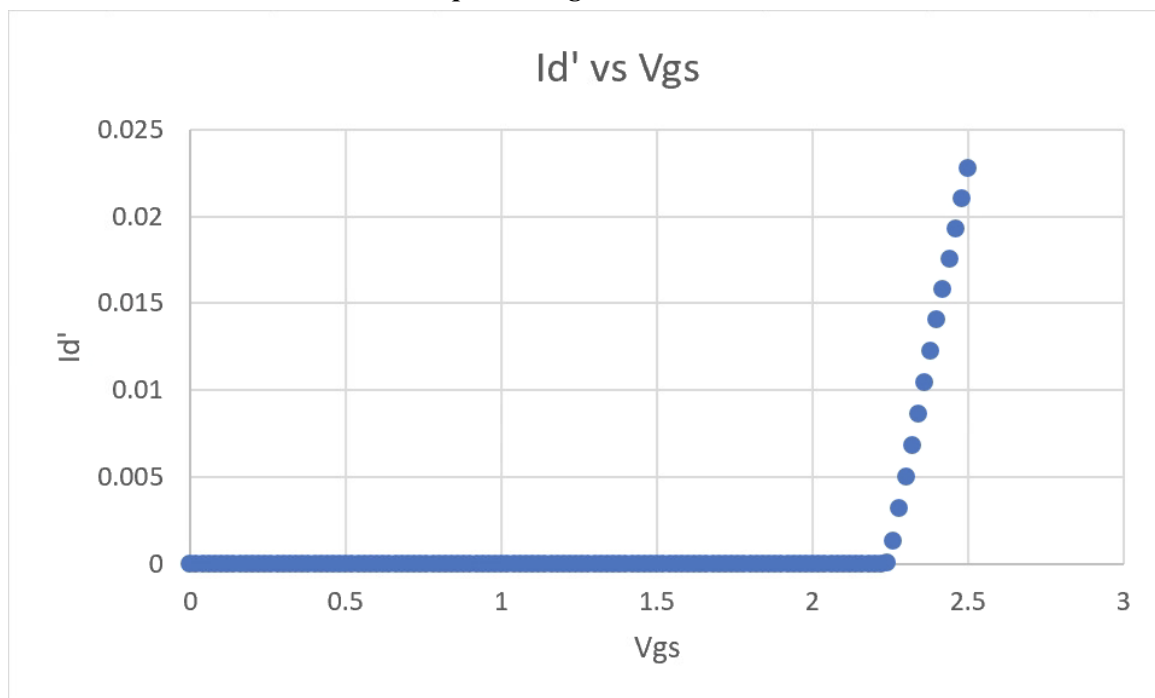
2N7000G transistor DC Sweep



2N7000G transistor DC Sweep I_d vs V_{gs}



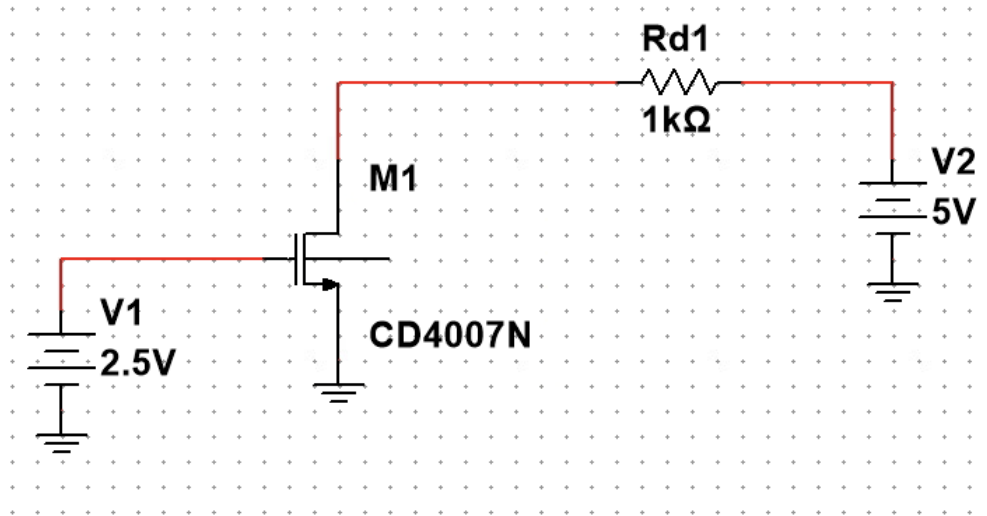
2N7000G transistor DC Sweep I_d' vs V_{gs}



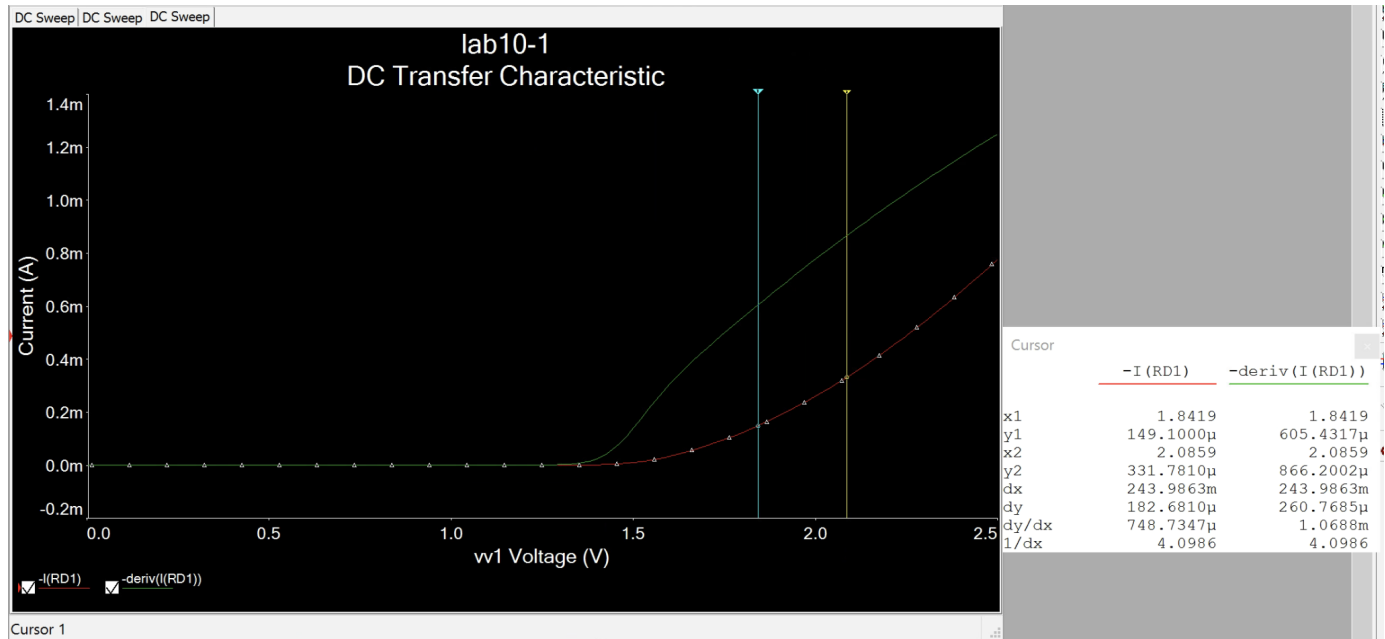
Threshold Voltage - 2.24 V

Transconductance- 89.5973 mA

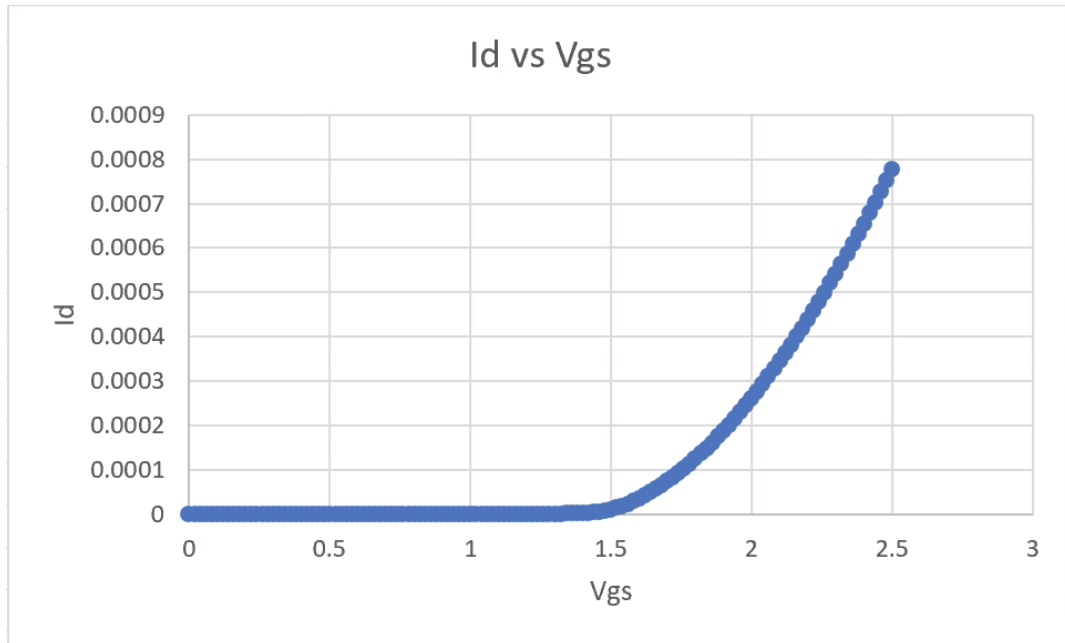
CD4007N Schematic



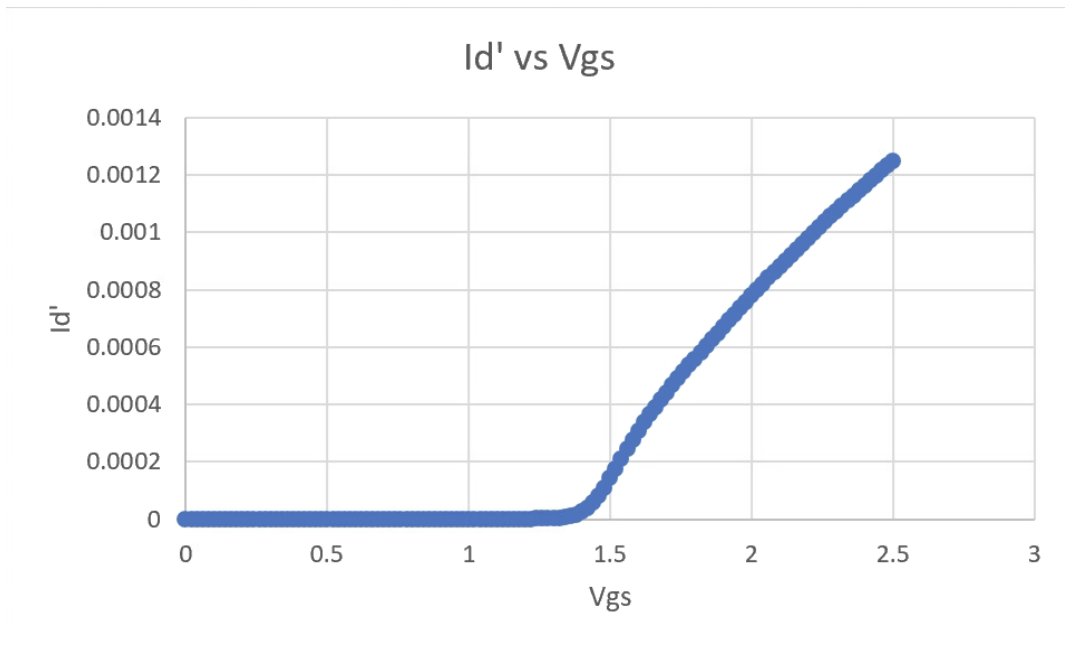
CD4007N transistor DC Sweep



CD4007N transistor DC Sweep I_d vs V_{gs}



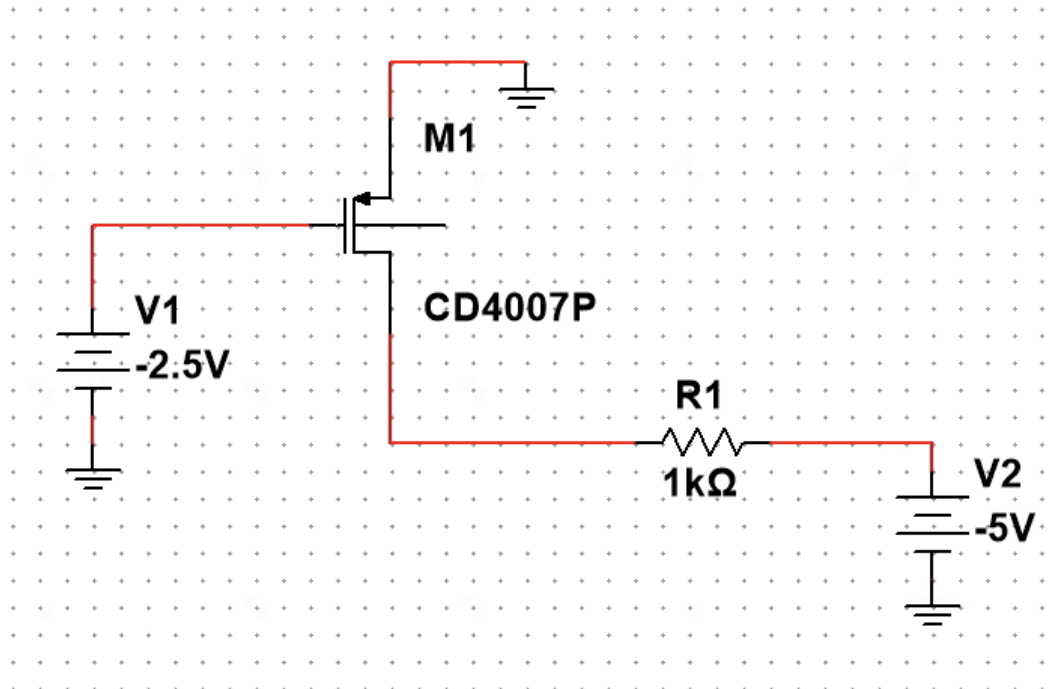
CD4007N transistor DC Sweep I_d' vs V_{gs}



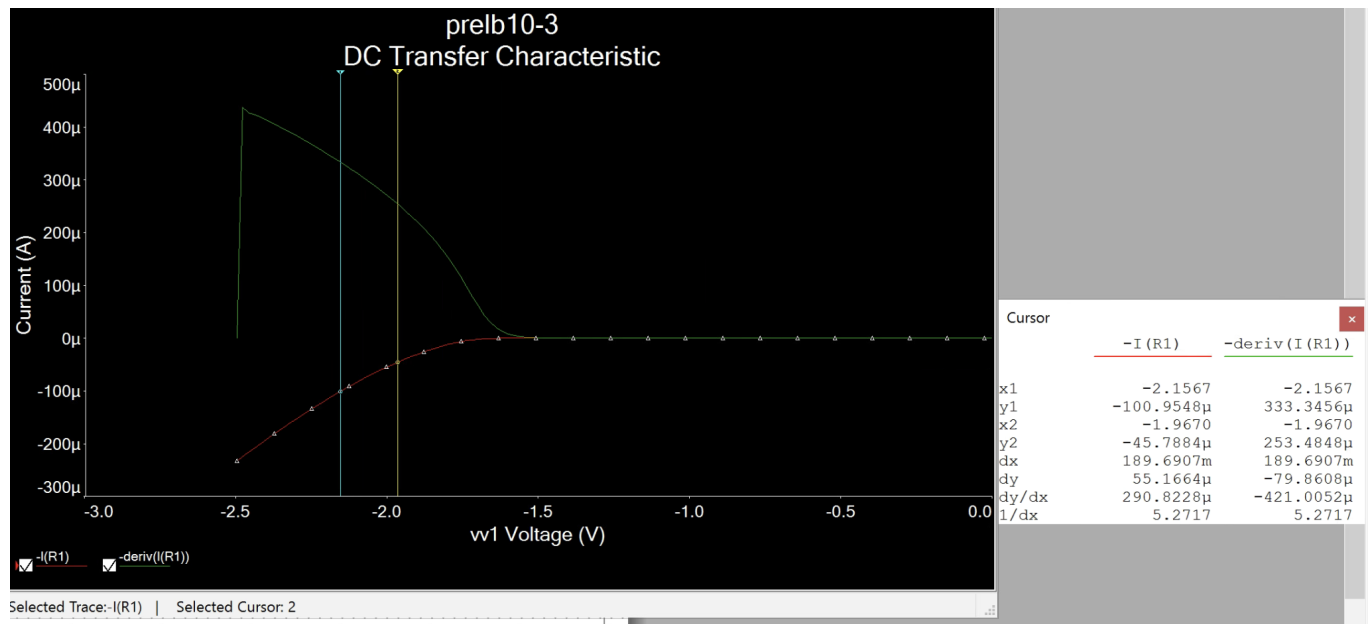
Threshold Voltage - 1.354 V

Transconductance - 1.0688 mA

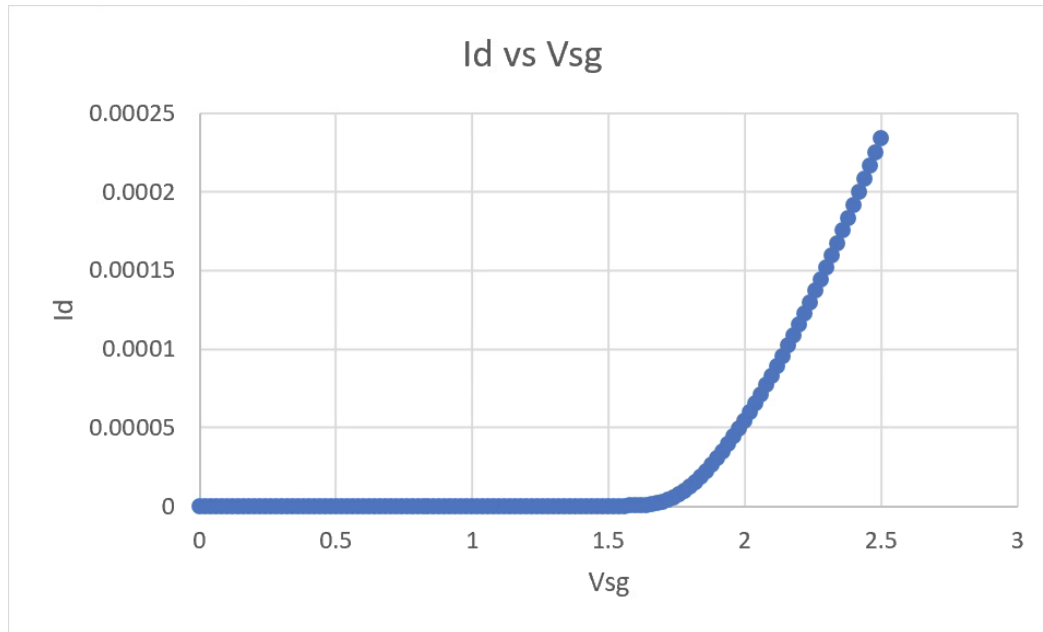
CD4007P Schematic



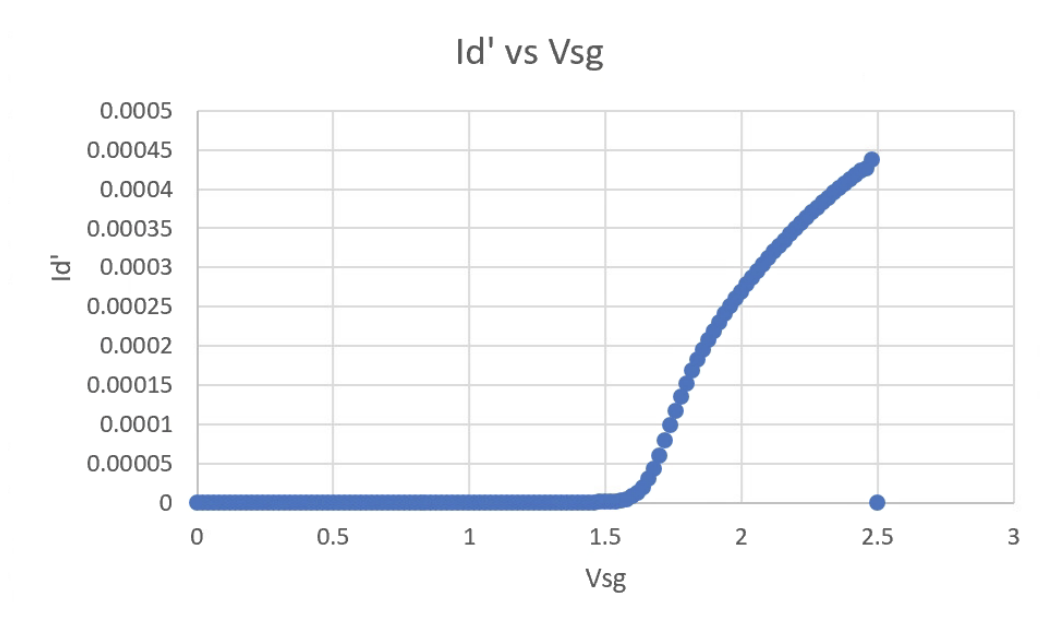
CD4007P transistor DC Sweep



CD4007P transistor DC Sweep Id vs Vsg



CD4007P transistor DC Sweep Id' vs Vsg



Threshold Voltage - 1.567 V

Transconductance - -421.0052 μA