Project 1
Test Bench

Circuit

Put your circuit in a file name ‘

5. Operating point and differential mode gain for V_{DD} = 1.2*0.9 V and V_{IC} = midpoint.
• Purpose: check gain variation with supply variation
• A_{dm} must meet specs.

6. Common mode gain for = midpoint.
• Purpose: check A_{cm}.

7. AC analysis (differential mode gain) at 1 Hz for V_{out} = 0 V.

8. AC analysis (differential mode gain) at 1 Hz for V_{out} = +0.4 V.
• Purpose: check output range
• A_{dm} must meet specs

9. AC analysis (differential mode gain) at 1 Hz for V_{out} = -0.4 V.
• Purpose: check output range
• A_{dm} must meet specs

Tests 7-9 use a simple feedback network to set the output voltage. An AC analysis at low frequency is used instead of a TF analysis, because the feedback network is active for DC analyses (include OP,TF), but not for AC analyses.

Test benches

• testbench1.sp: runs tests 1-6
• testbench2.sp: runs tests 7-9

Usage: put