

Device Modeling Report

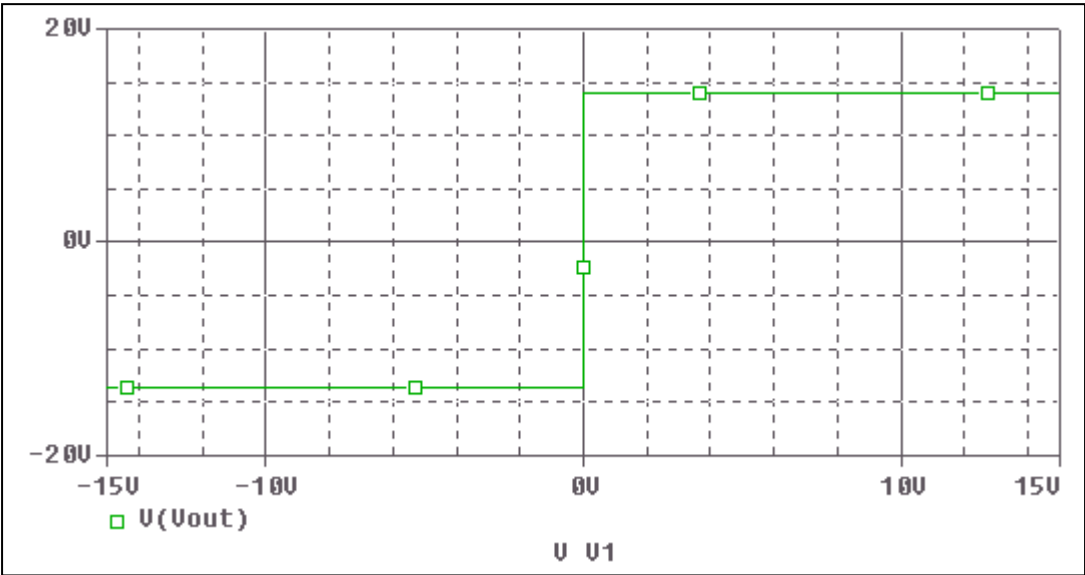
COMPONENTS: OPERATIONAL AMPLIFIER
PART NUMBER: uPC4064C
MANUFACTURER: NEC ELECTRONICS



Bee Technologies Inc.

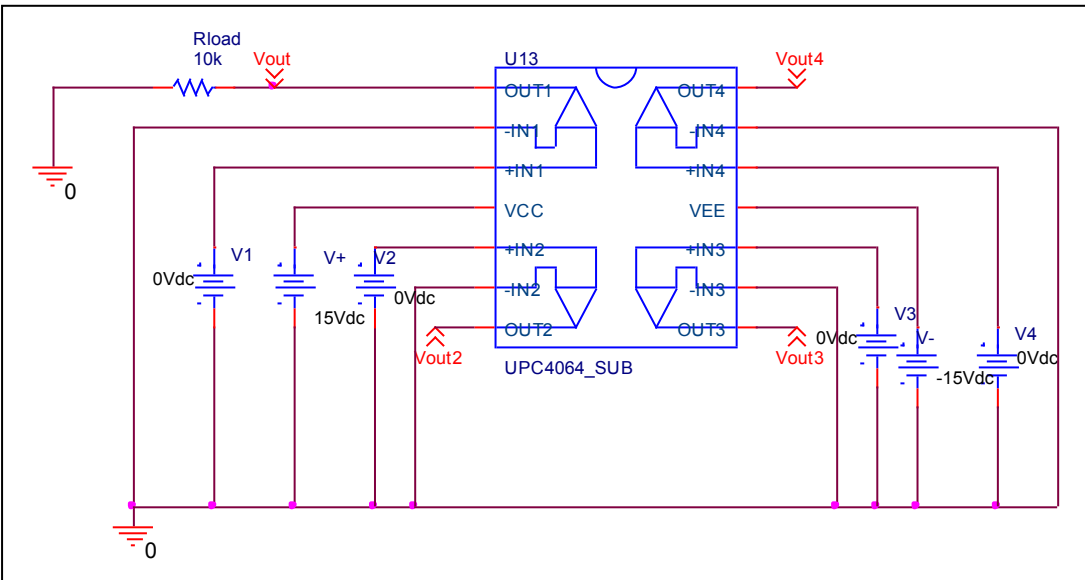
Output Voltage Swing, +Vout and -Vout

Simulation result



These simulation results are compared with $\pm V_{out}$

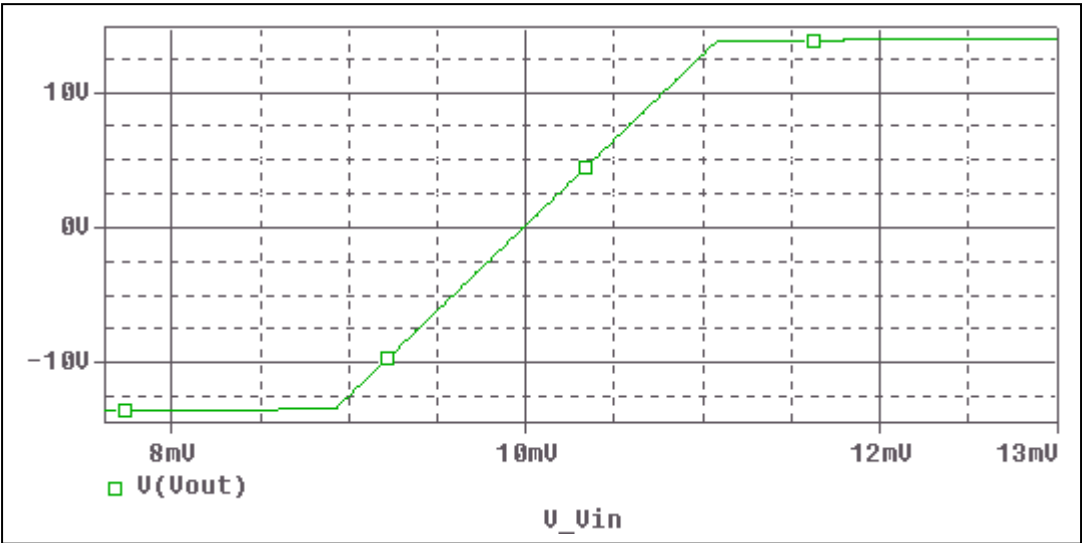
Evaluation circuit



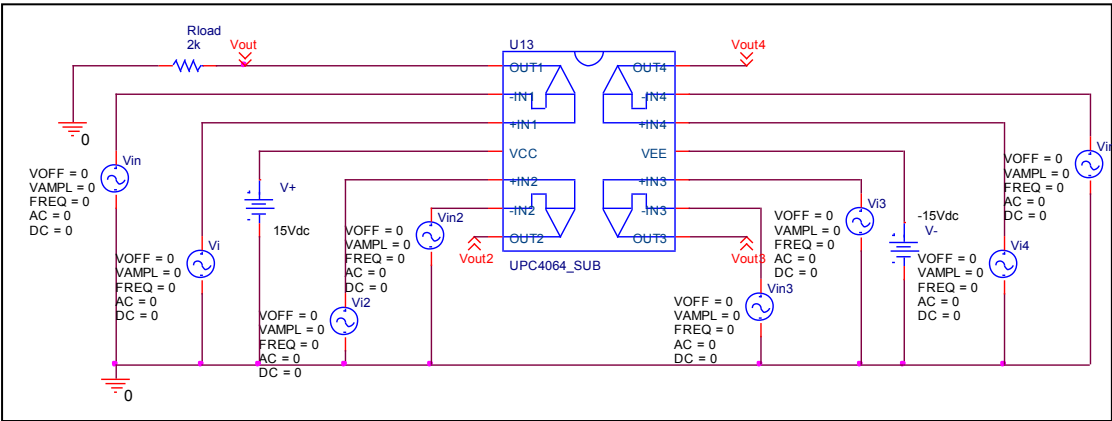
Output Voltage Swing	Data sheet	Simulation	%Error
+Vout(V)	+14	+13.96	0.285
-Vout(V)	-13.6	-13.56	0.294

Input Offset Voltage

Simulation result



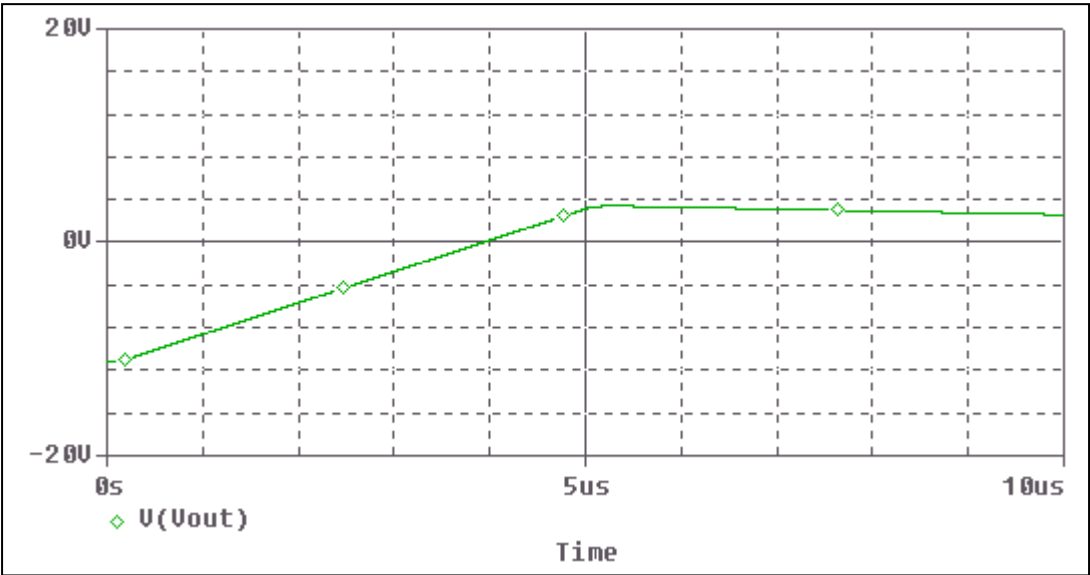
Evaluation circuit



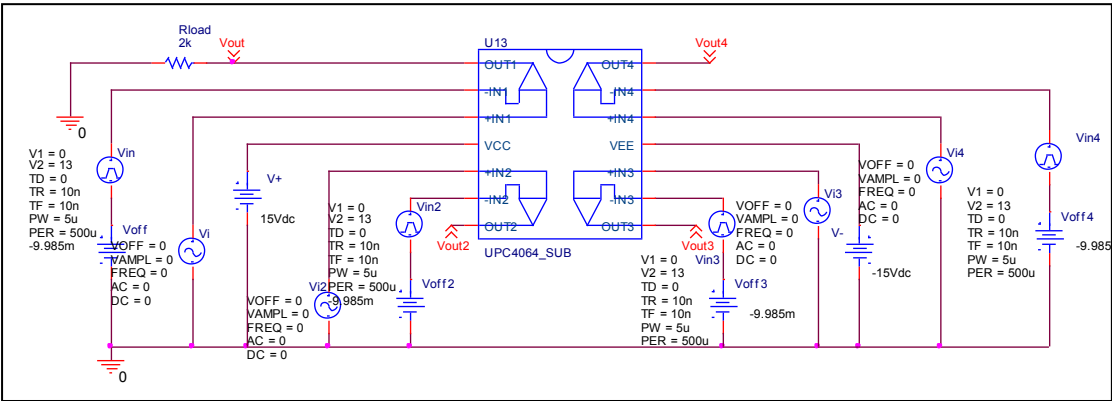
Vos	Measurement		Simulation		Error	
	10	mV	9.985	mV	0.15	%

Slew Rate, +SR, -SR

Simulation result



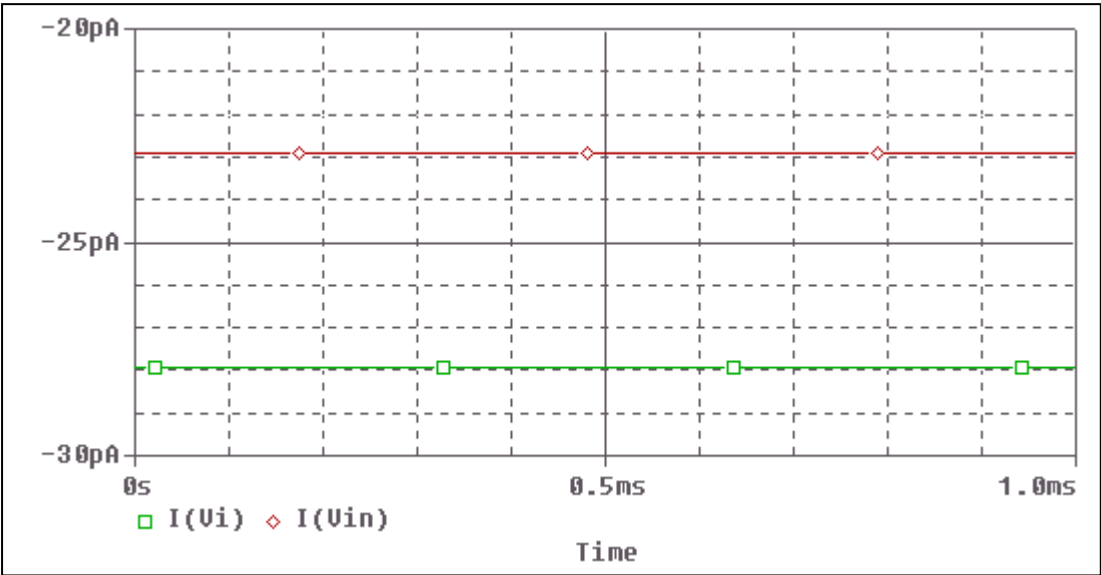
Evaluation circuit



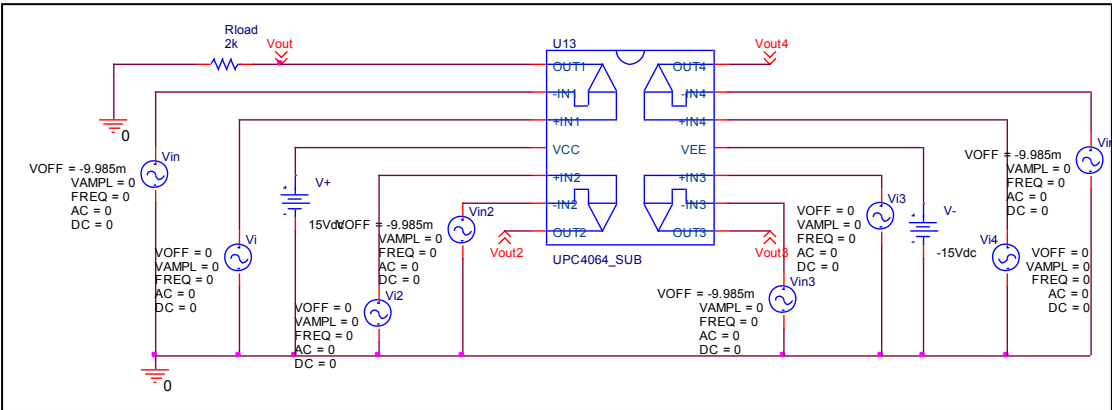
Slew Rate(v/us)	Data sheet	Simulation	%Error
	3V/us	2.936V/us	2.13

Input current Ib, Ibos

Simulation result



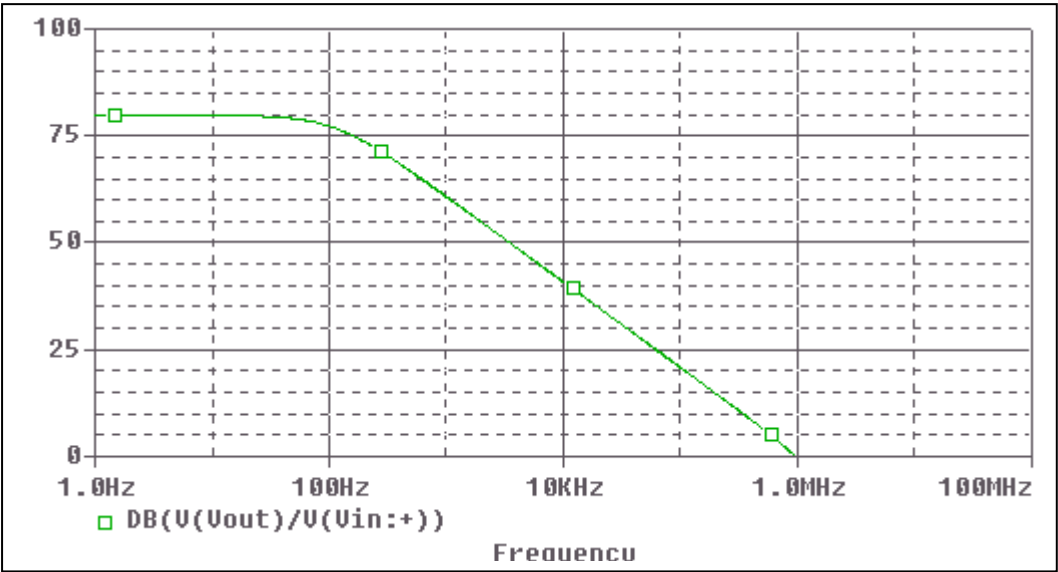
Evaluation circuit



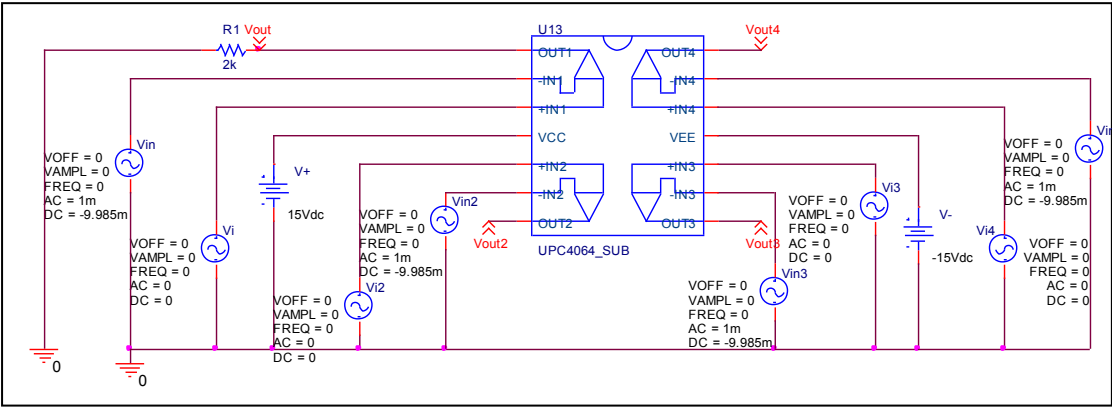
	Data sheet	Simulation	%Error
Ib(pA)	100(Max)	25.35	-
Ibos(pA)	5	5.04	0.8

Open Loop Voltage Gain vs. Frequency , Av-dc, f-0dB

Simulation result



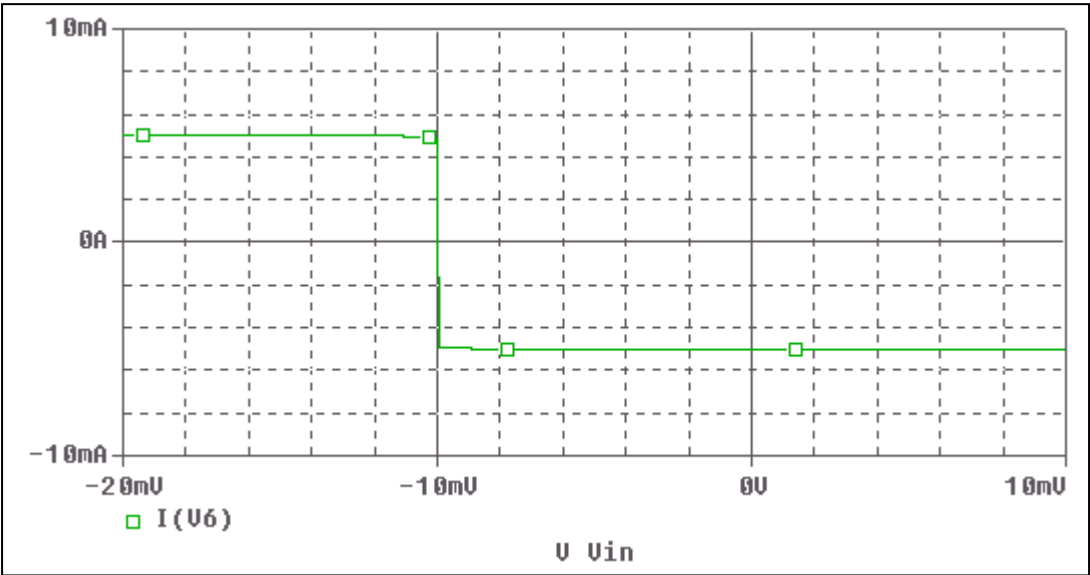
Evaluation circuit



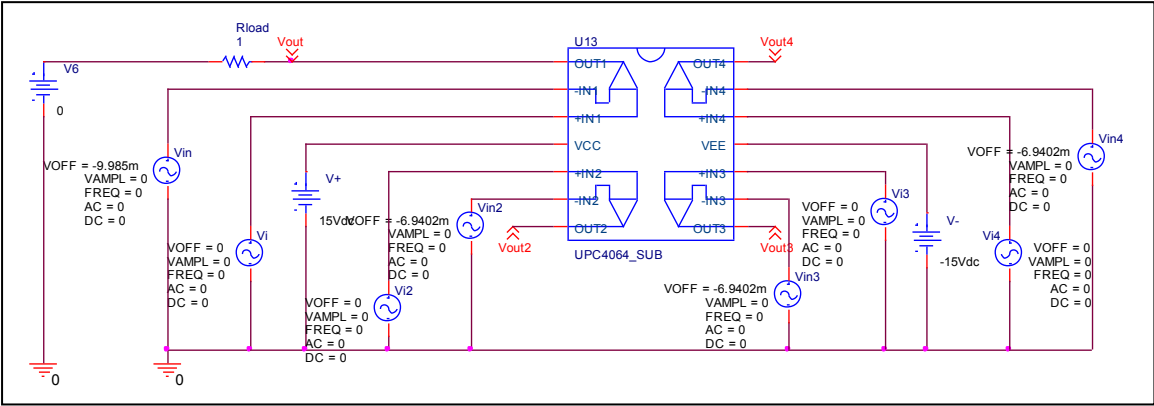
	Data sheet	Simulation	%Error
f-0dB(MHz)	1	0.981	1.9
Av-dc(dB)	9000	8709	3.23

Output Short Circuit Current - Ios

Simulation result



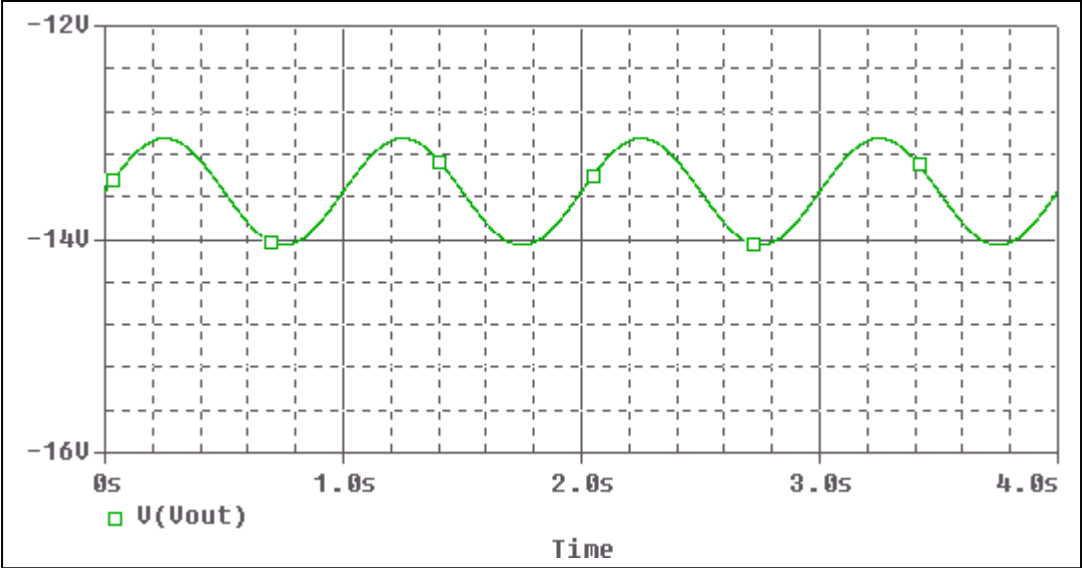
Evaluation circuit



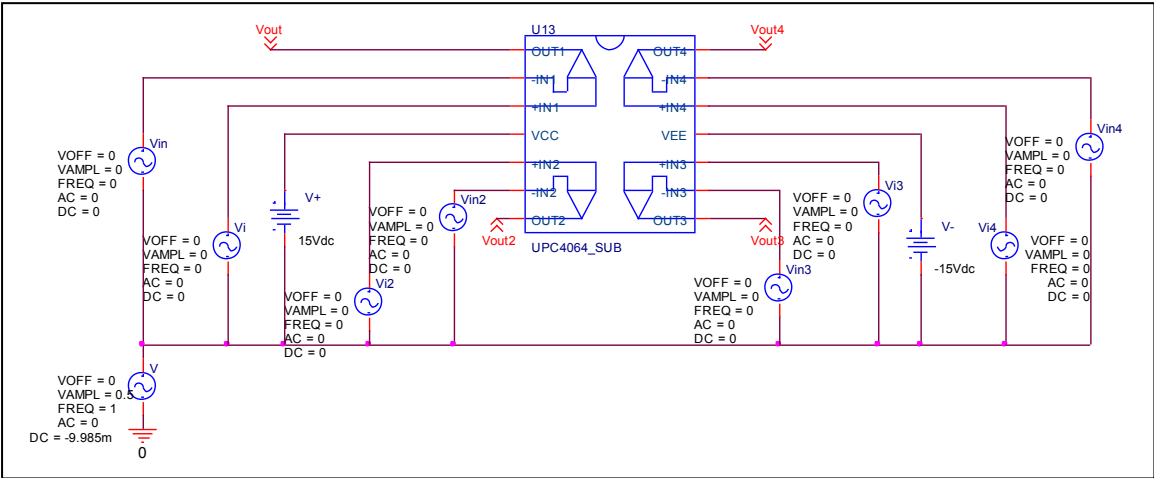
Short Circuit Current	Data sheet	Simulation	%Error
	5mA	5.034mA	0.68

Common-Mode Rejection Voltage gain

Simulation result



Evaluation circuit



Common mode gain=1/3.51
Common Mode Reject Ratio=8709/0.284=30665

CMRR	Data sheet	Simulation	%Error
	31622	30665	3.02