

Device Modeling Report

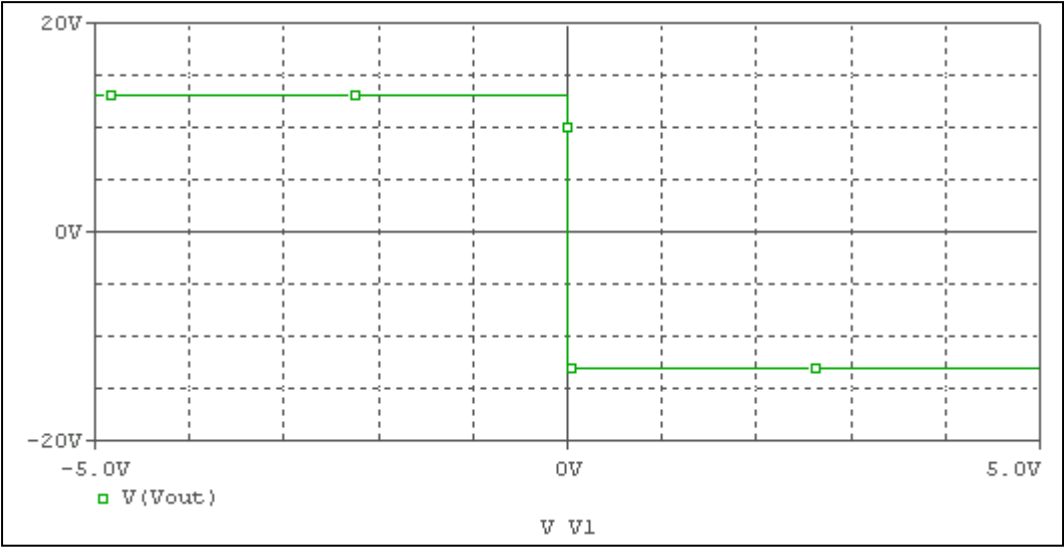
COMPONENTS: OPERATIONAL AMPLIFIER
PART NUMBER: NJM5532
MANUFACTURER: NEW JAPAN RADIO CO.,LTD



Bee Technologies Inc.

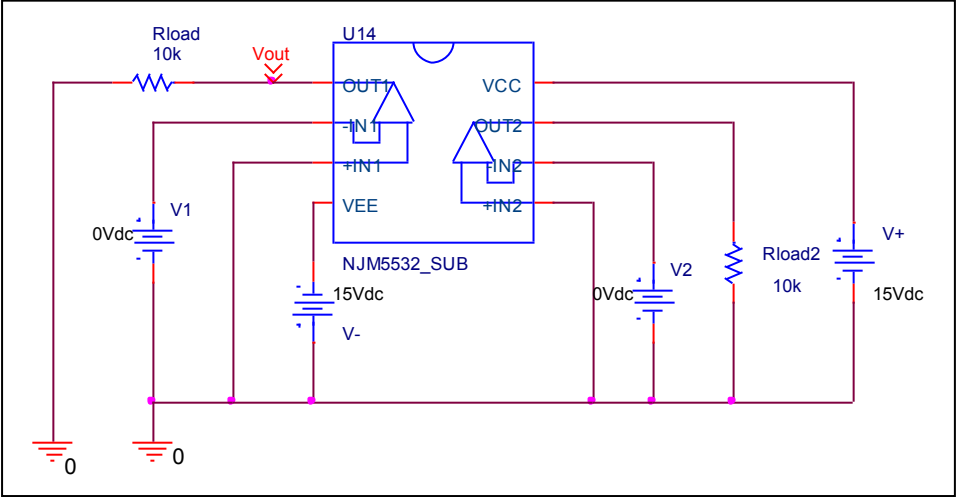
Output Voltage Swing, +Vout and –Vout

Simulation result



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

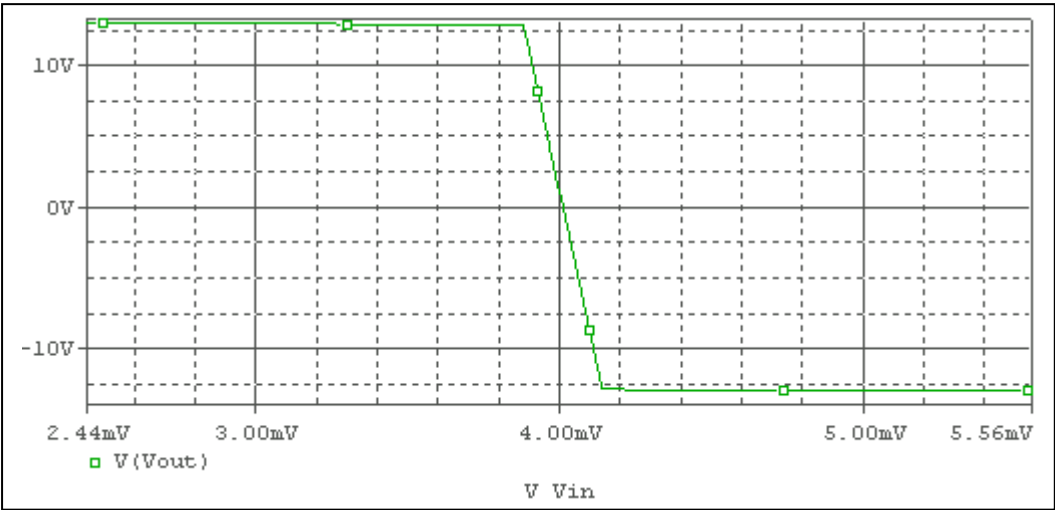
Evaluation circuit



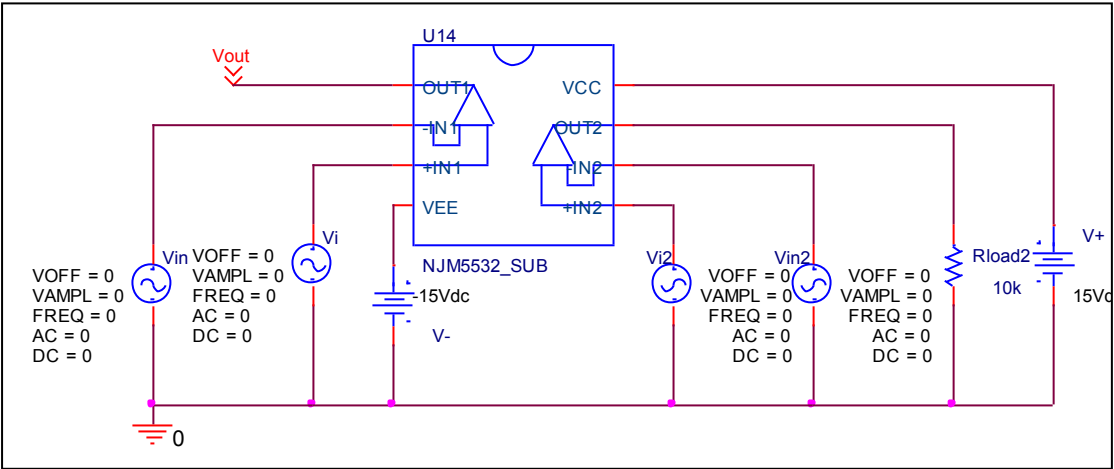
Output Voltage Swing	Data sheet	Simulation	%Error
+Vout(V)	+13	+13.016	0.123
-Vout(V)	-13	-13.016	0.123

Input Offset Voltage

Simulation result



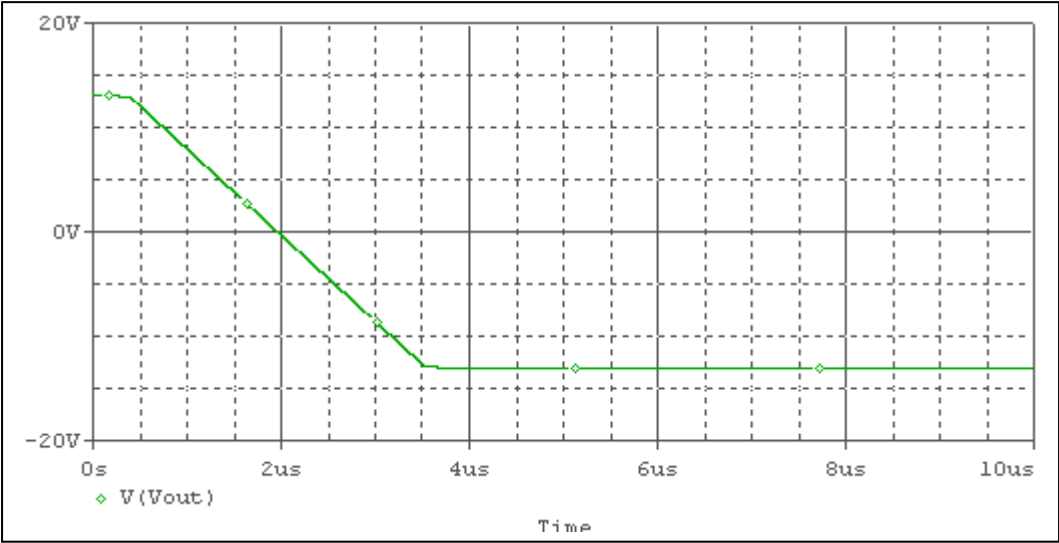
Evaluation circuit



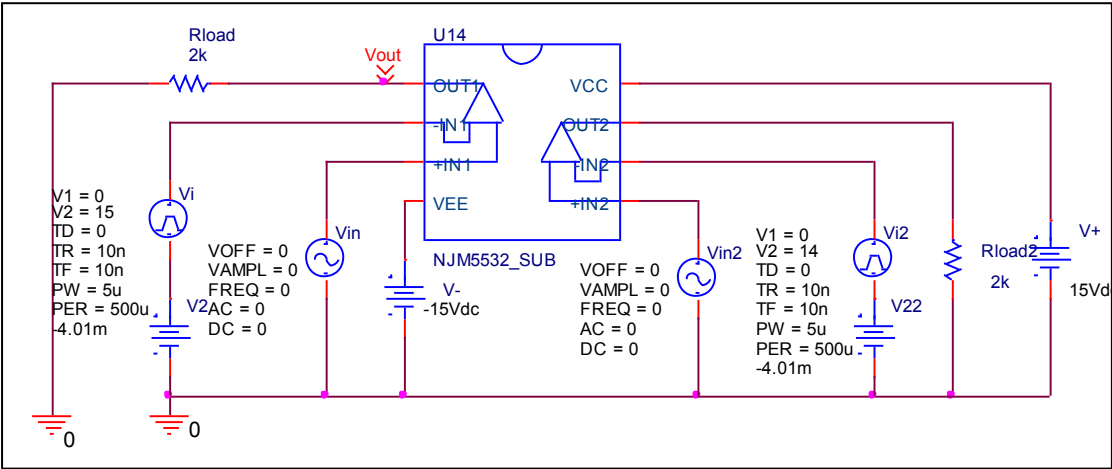
Vos	Measurement		Simulation		Error	
	4	mV	4.01	mV	0.25	%

Slew Rate, +SR, -SR

Simulation result



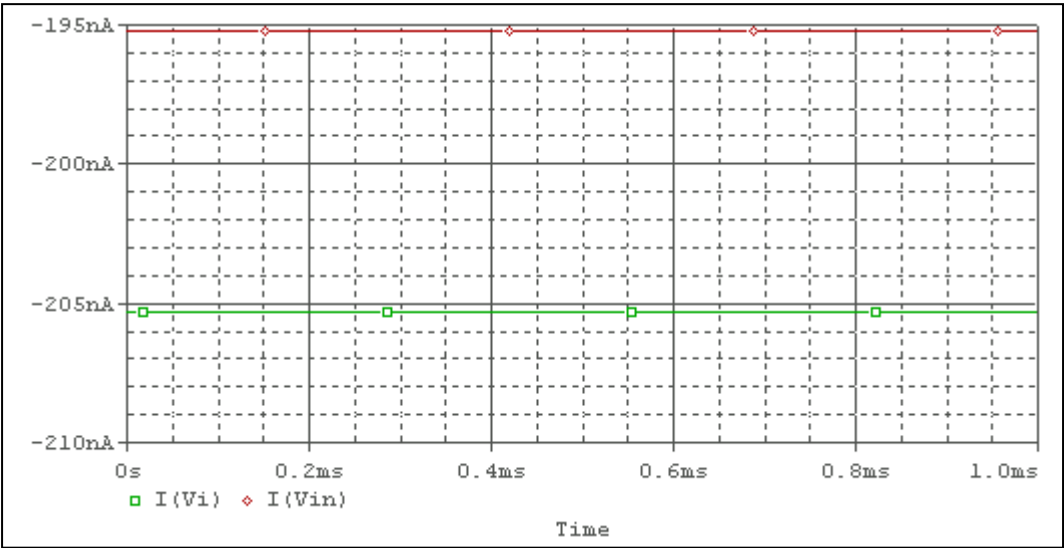
Evaluation circuit



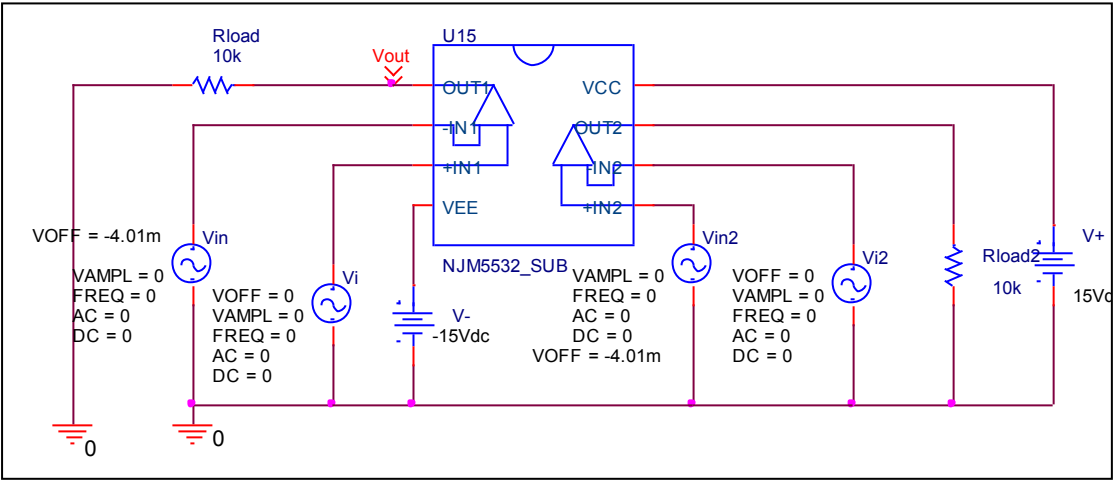
Slew Rate(v/us)	Data sheet	Simulation	%Error
	8V/us	8.2V/us	2.5

Input current Ib, Ibos

Simulation result



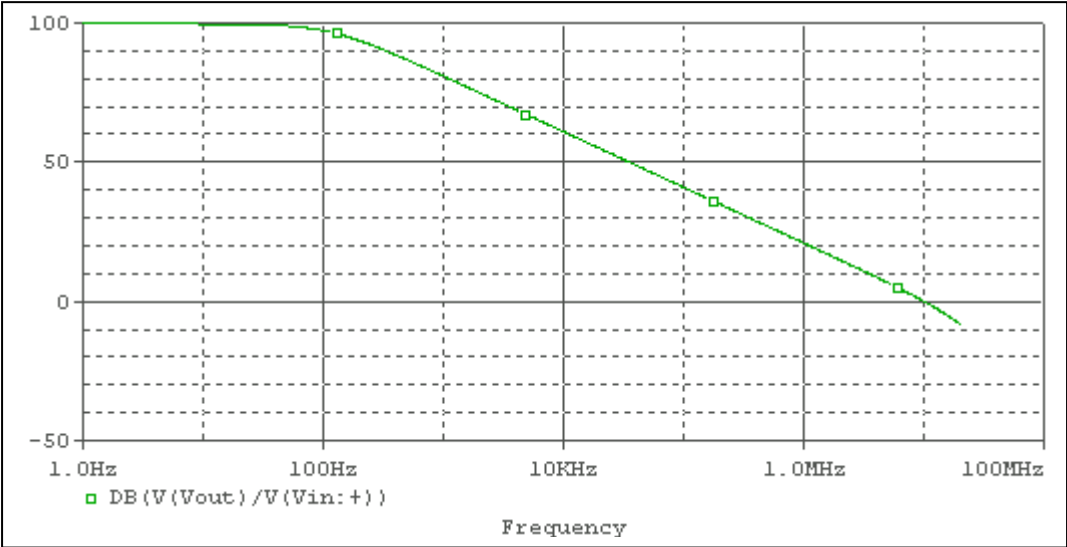
Evaluation circuit



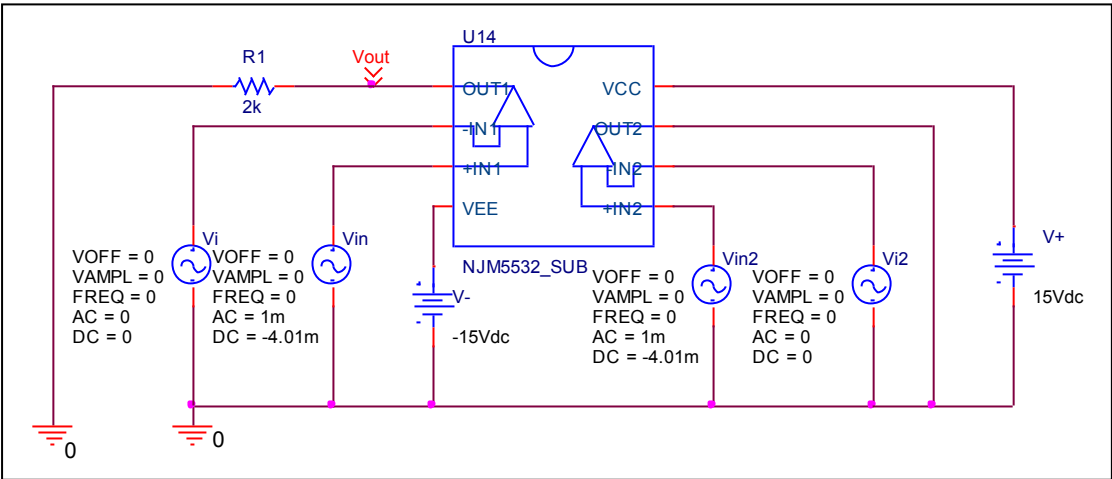
	Data sheet	Simulation	%Error
Ib(pA)	200	200.25	0.125
Ibos(pA)	10	10.06	0.6

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

Simulation result



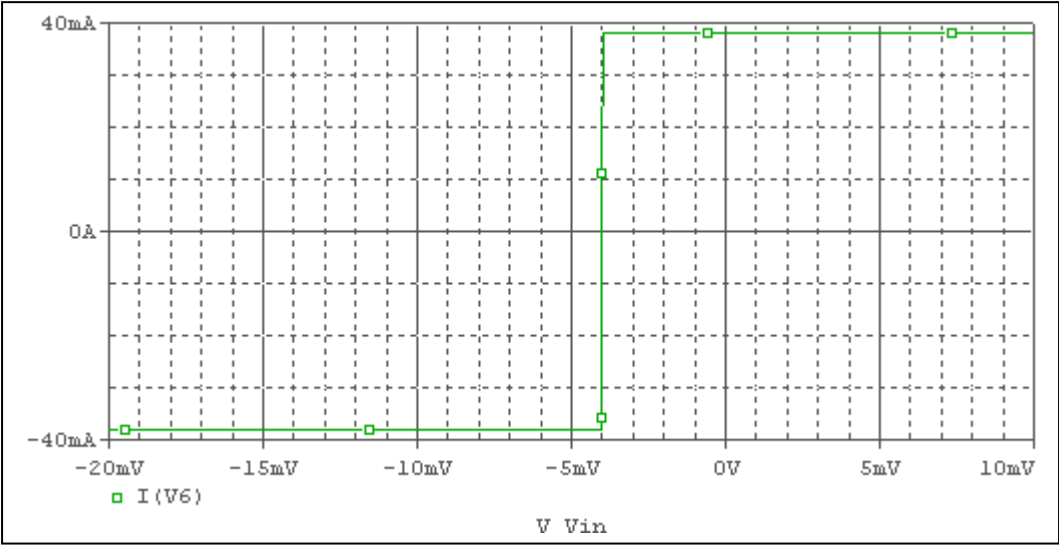
Evaluation circuit



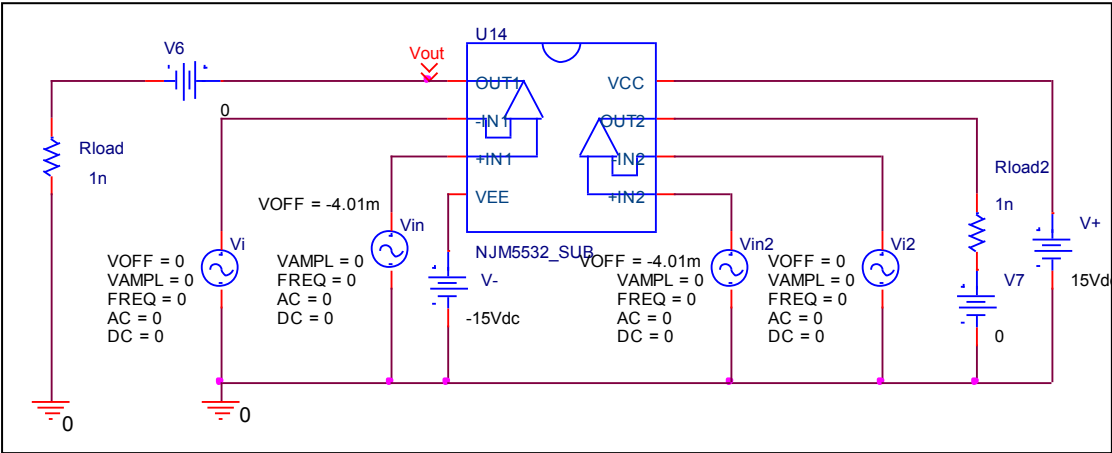
	Data sheet	Simulation	%Error
f-0dB(MHz)	10	9.985	0.15
Av-dc	100	99.66	0.34

Output Short Circuit Current - Ios

Simulation result



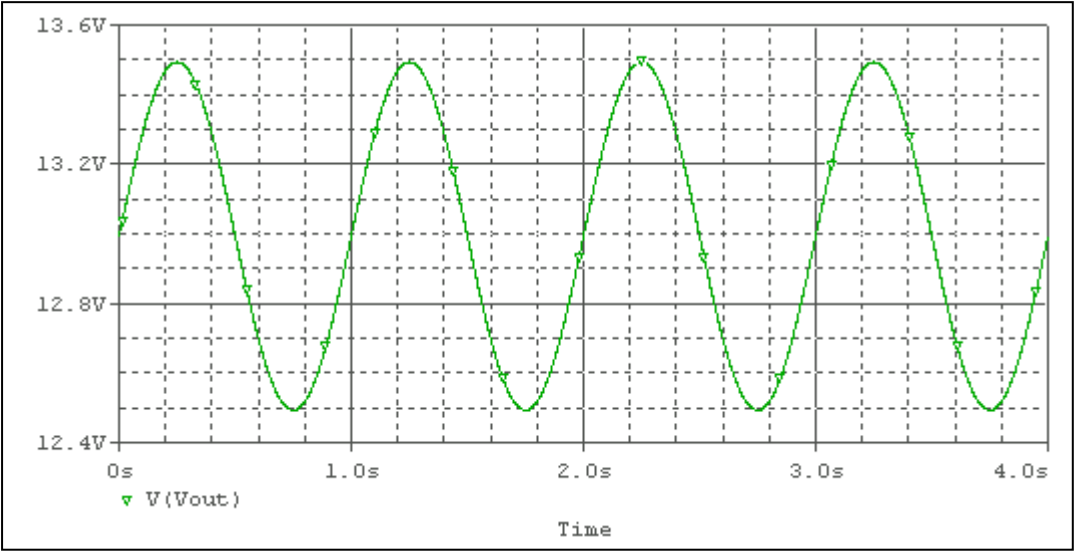
Evaluation circuit



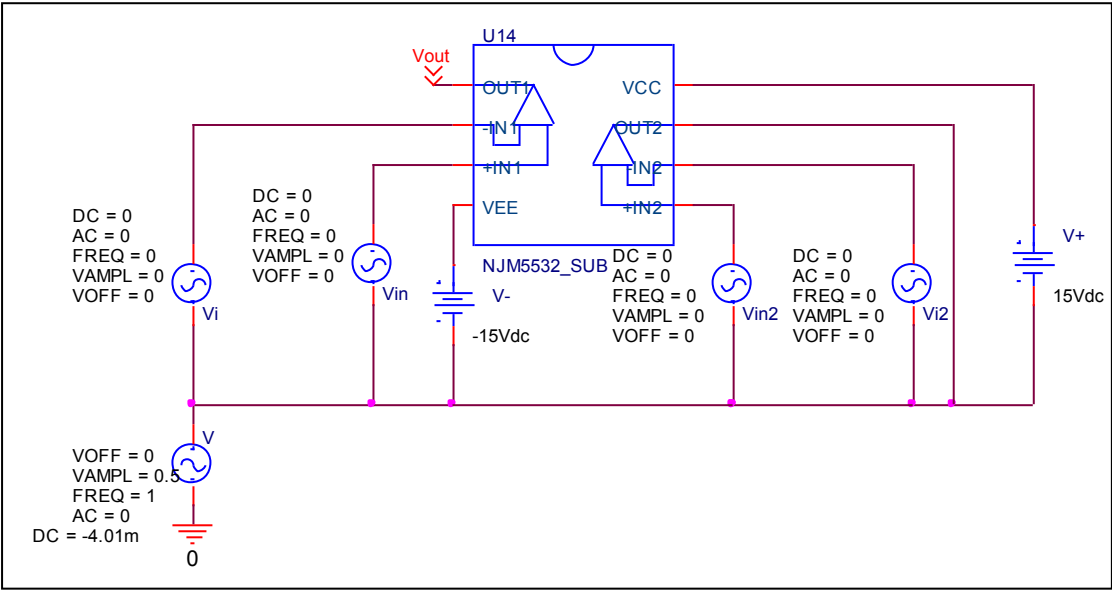
Short Circuit Current	Data sheet	Simulation	%Error
	38mA	38.1mA	0.263

Common-Mode Rejection Voltage gain

Simulation result



Evaluation circuit



Common mode gain= $1/1=1$
Common Mode Rejection Ratio= $96161/1=96161$

CMRR	Data sheet	Simulation	%Error
	100	99.66	0.34