

Device Modeling Report

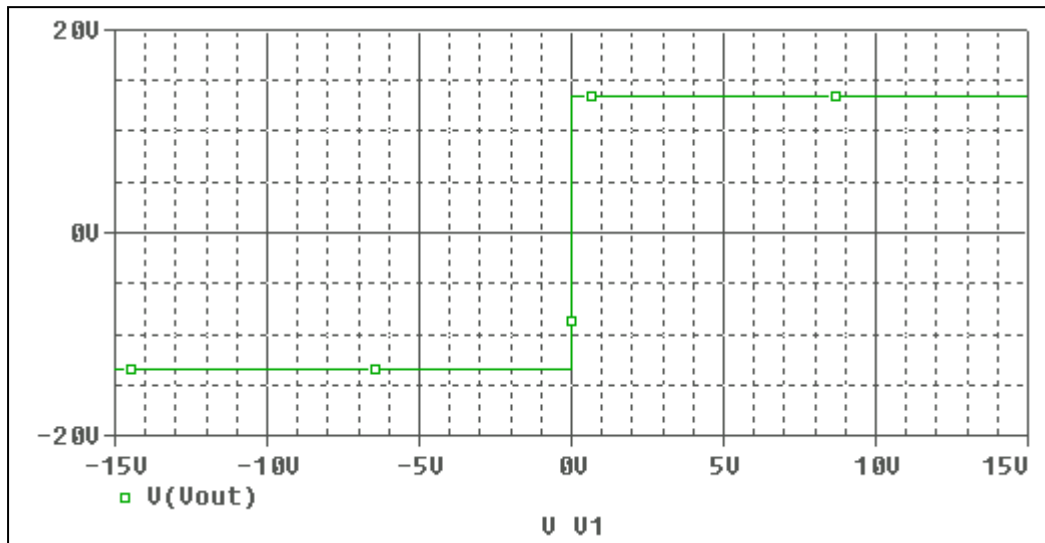
COMPONENTS:MOSFET: OPERATIONAL AMPLIFIER
PART NUMBER:NJM4556AM
MANUFACTURER: NEW JAPAN RADIO CO.,LTD



Bee Technologies Inc.

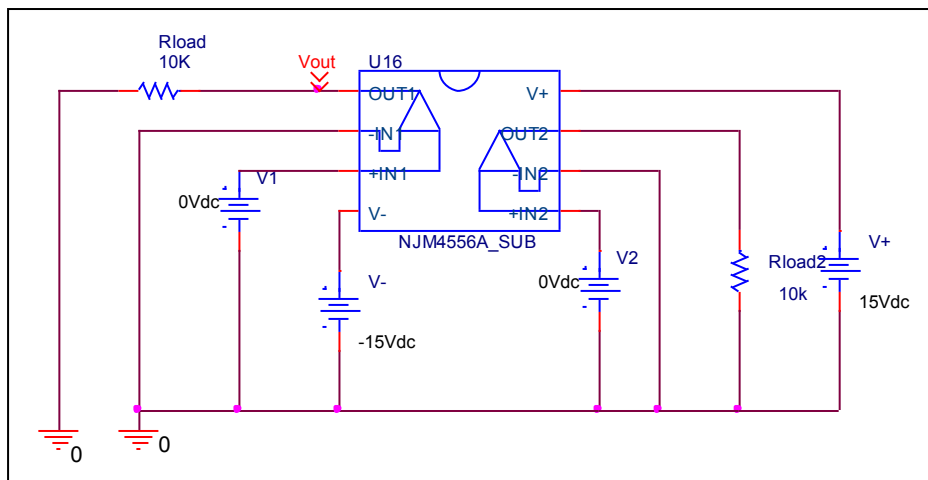
Output Voltage Swing, +Vout and -Vout

Simulation result



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

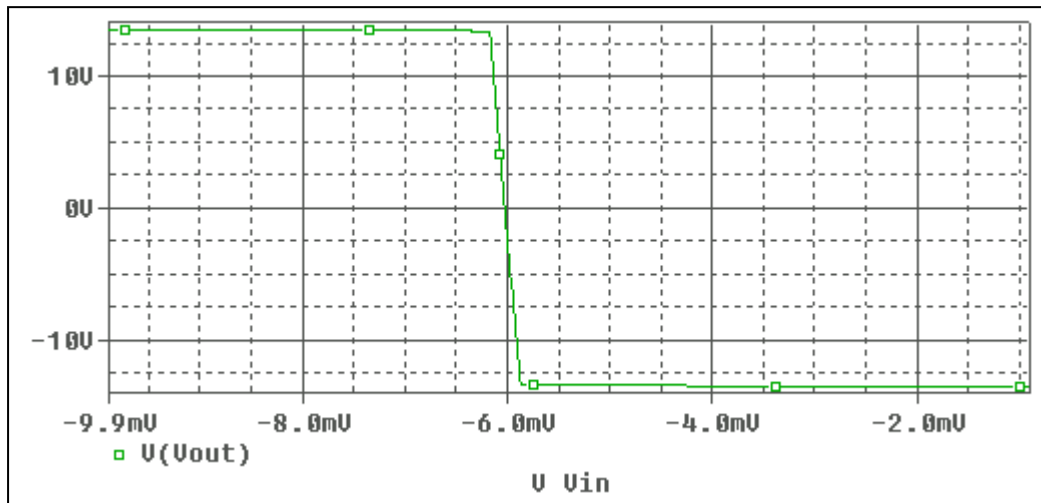
Evaluation circuit



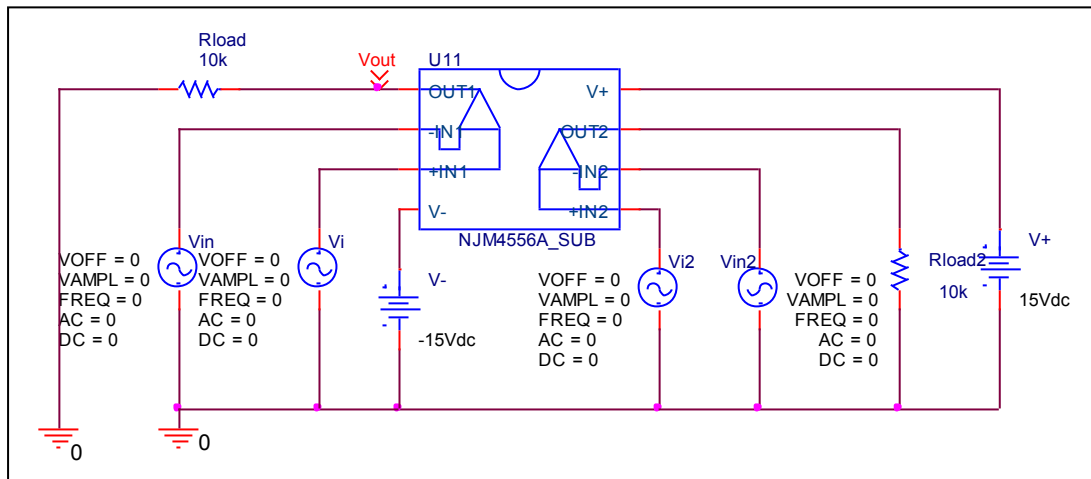
Output Voltage Swing	Data sheet	Simulation	%Error
+Vout(V)	+13.5	13.476	0.177
-Vout(V)	-13.5	-13.476	0.177

Input Offset Voltage

Simulation result



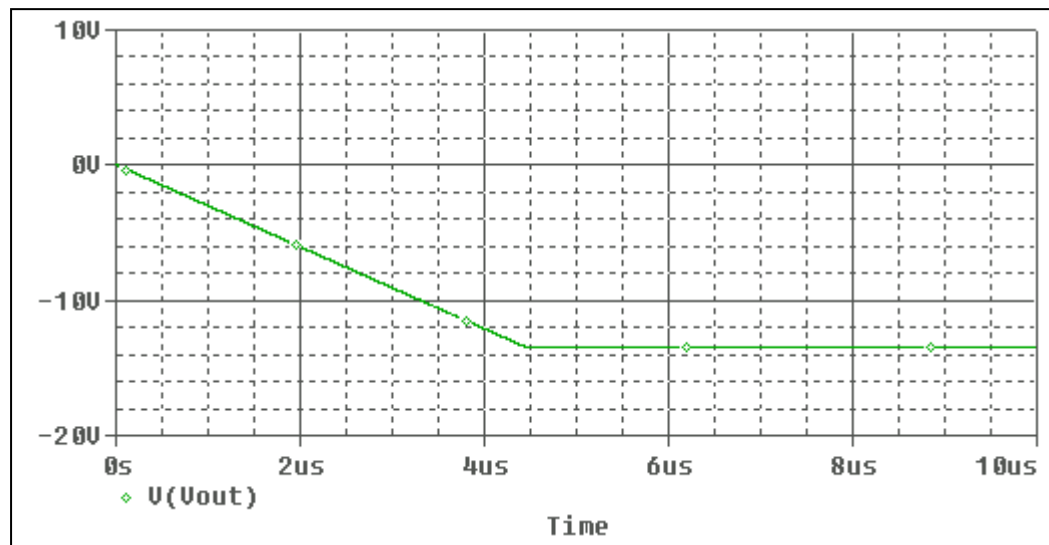
Evaluation circuit



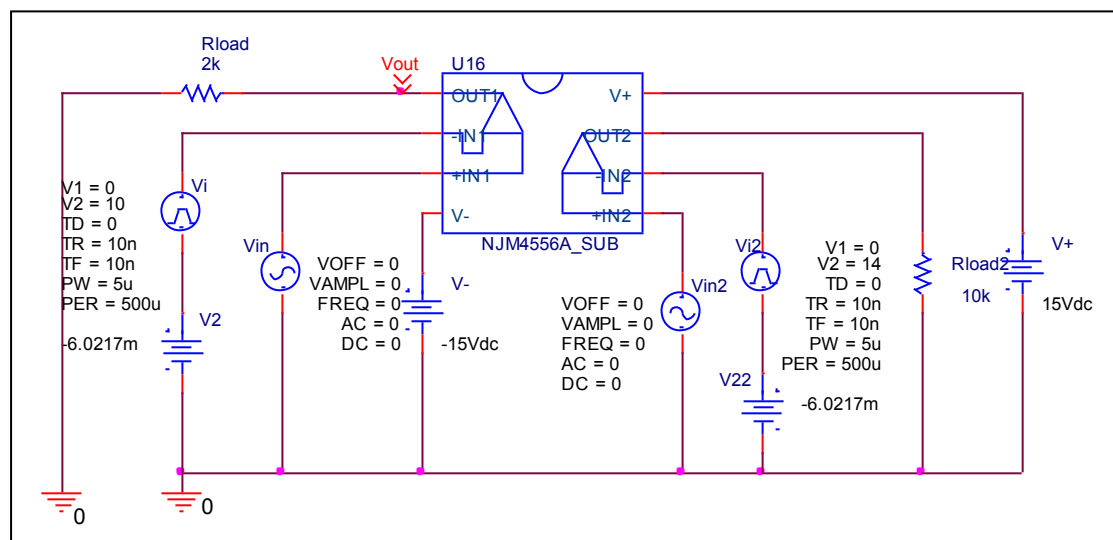
Vos	Measurement		Simulation		Error	
	6	mV	6.0217	mV	0.361	%

Slew Rate, +SR, -SR

Simulation result



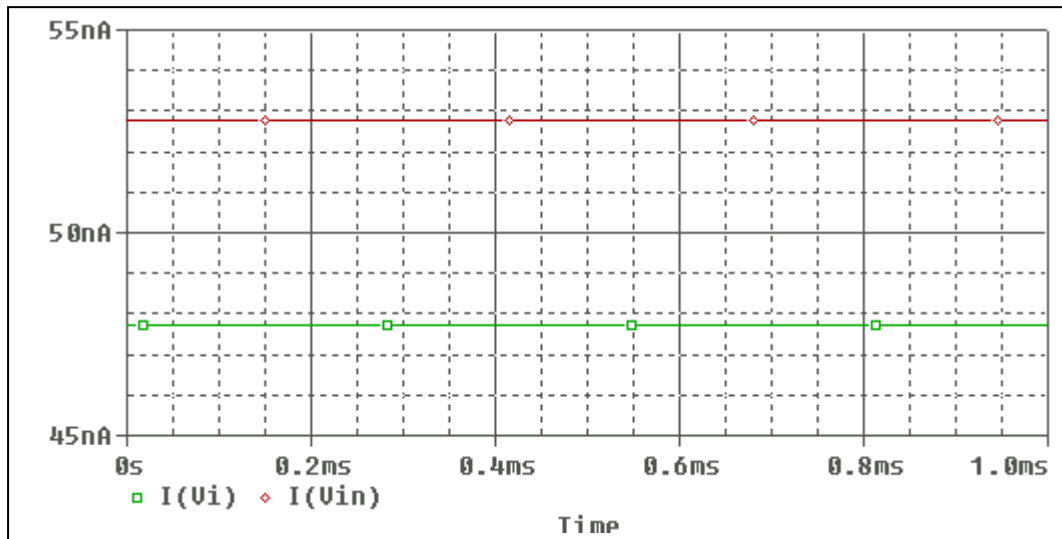
Evaluation circuit



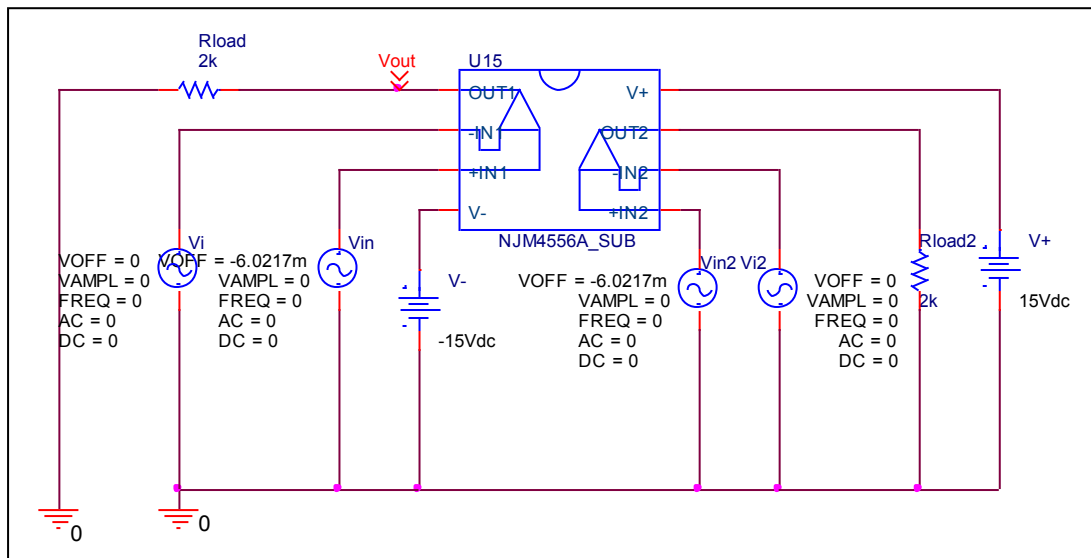
Slew Rate(v/us)	Data sheet	Simulation	%Error
		3V/us	3.035V/us

Input current Ib, Ibos

Simulation result



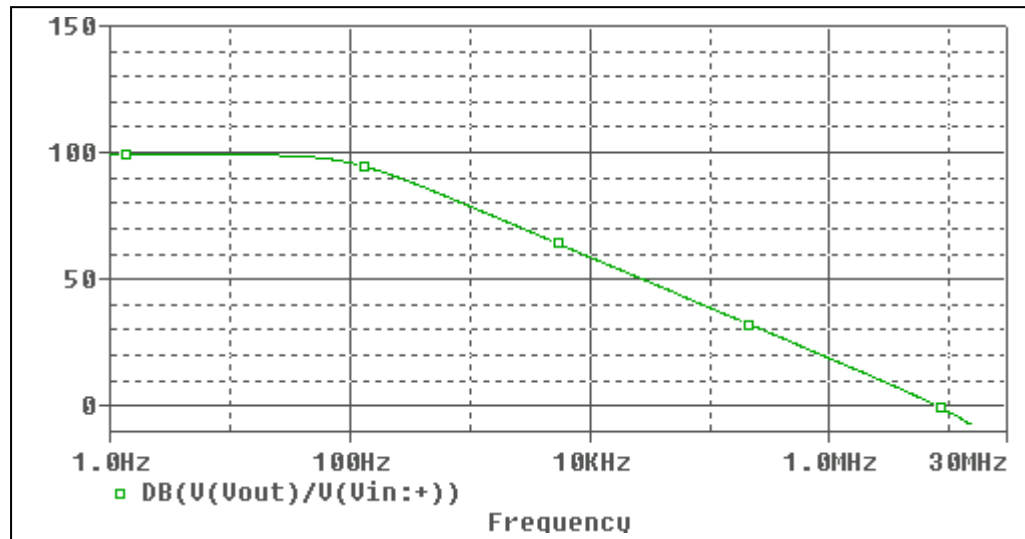
Evaluation circuit



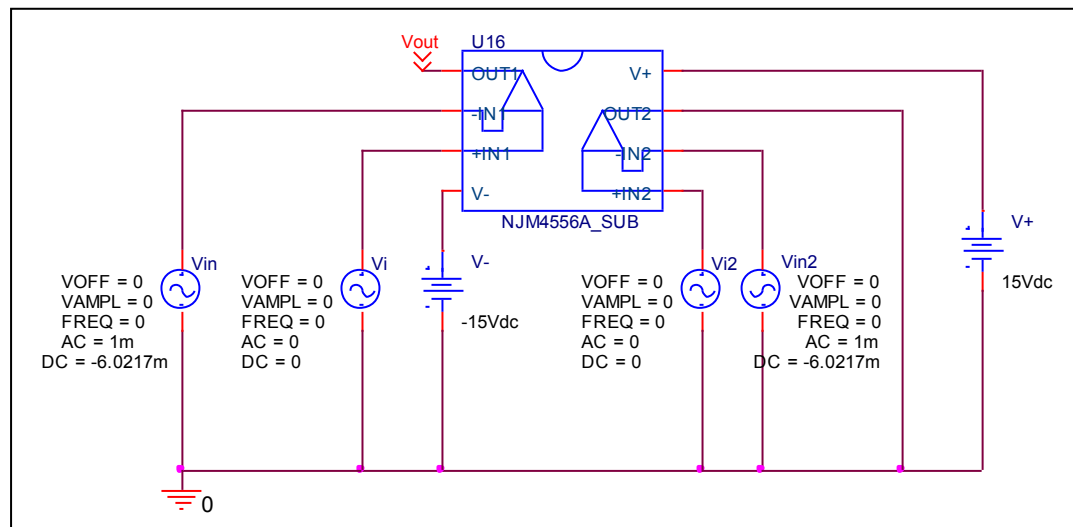
	Data sheet	Simulation	%Error
Ib(nA)	50	50.24	0.48
Ibos(nA)	5	5.01	0.2

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

Simulation result



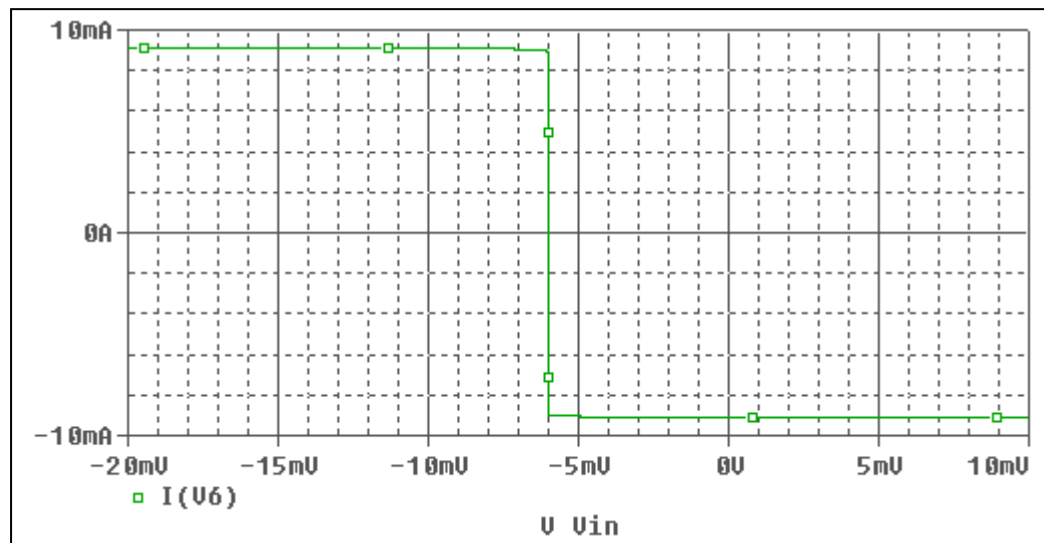
Evaluation circuit



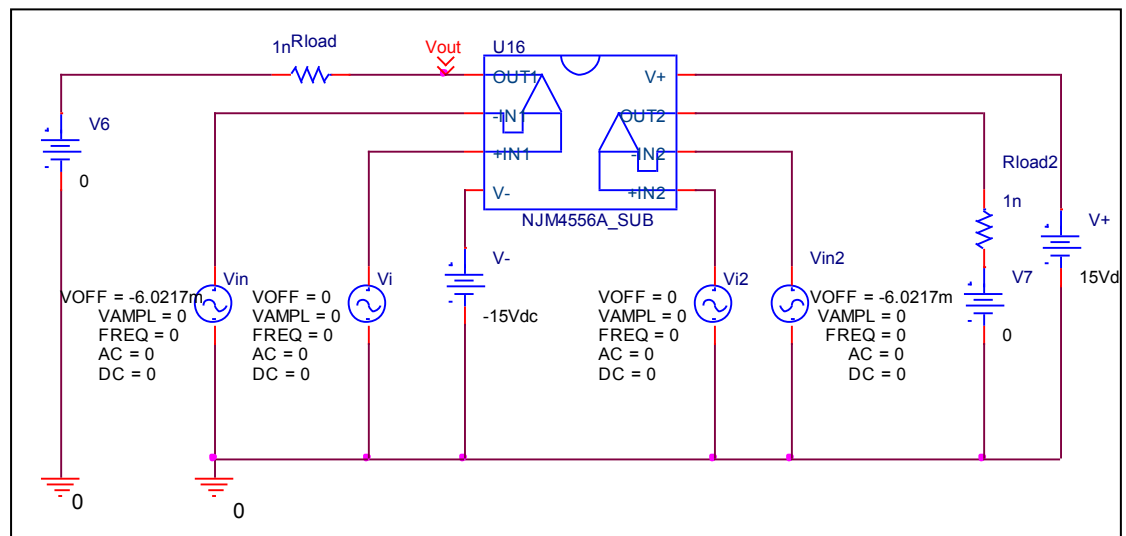
	Data sheet	Simulation	%Error
f-0dB(MHz)	8	7.9	1.25
Av-dc(dB)	100	99.53	0.47

Output Short Circuit Current - Ios

Simulation result



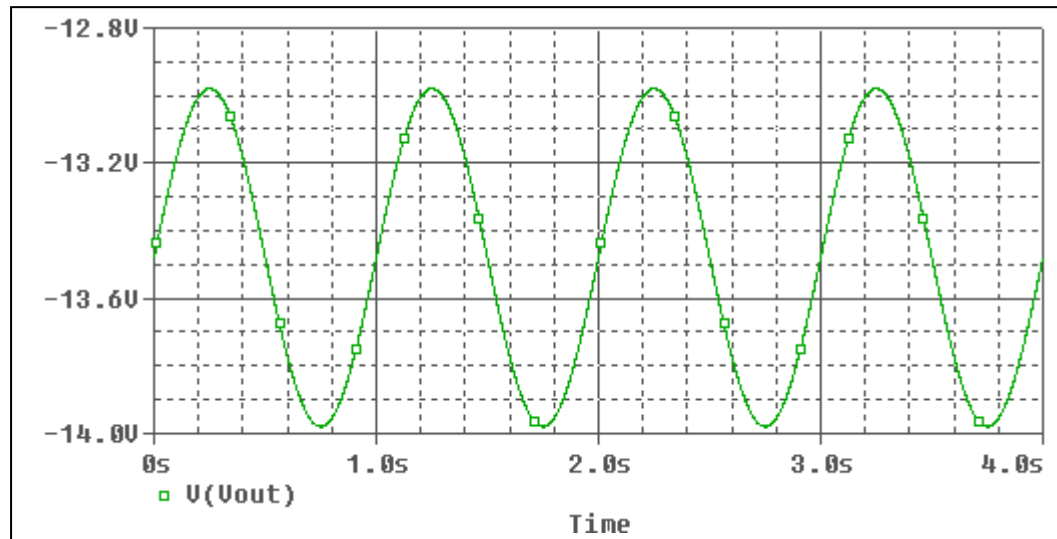
Evaluation circuit



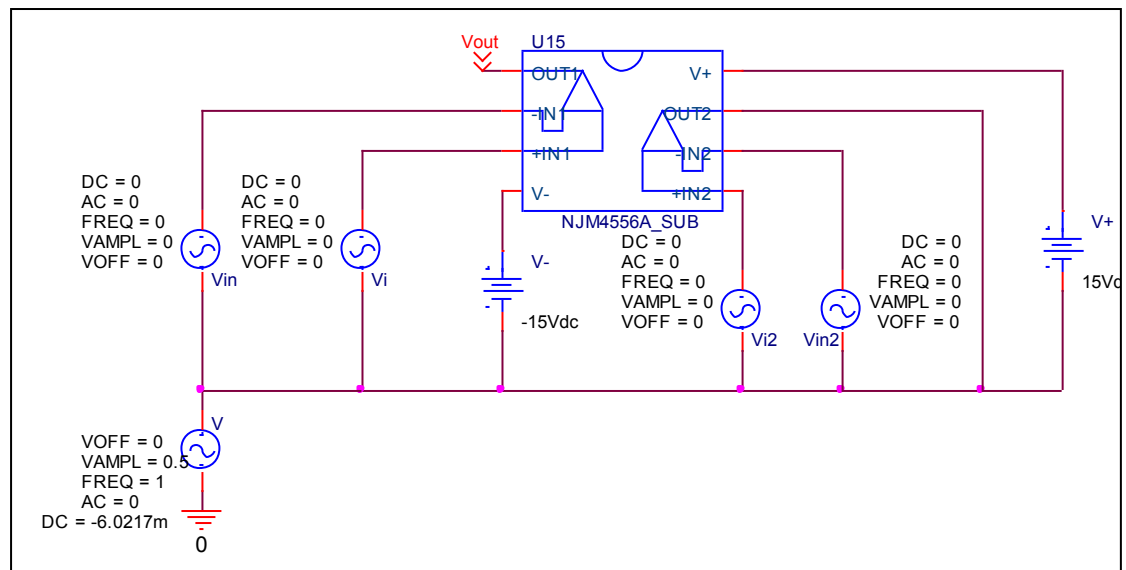
Short Circuit Current	Data sheet	Simulation	%Error
		9mA	9.074mA

Common-Mode Rejection Voltage gain

Simulation result



Evaluation circuit



Common mode gain=3.162/1

Common Mode Reject Ratio=95499/3.162=30202

CMRR	Data sheet	Simulation	%Error
		31622	30202