

Device Modeling Report

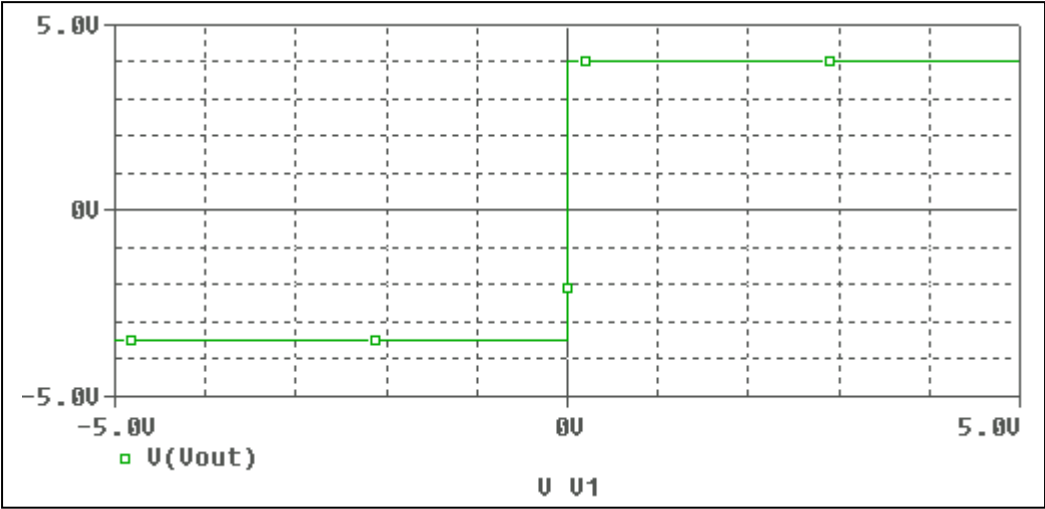
COMPONENTS:MOSFET: OPERATIONAL AMPLIFIER
PART NUMBER:NJM14558E
MANUFACTURER: NEW JAPAN RADIO CO.,LTD



Bee Technologies Inc.

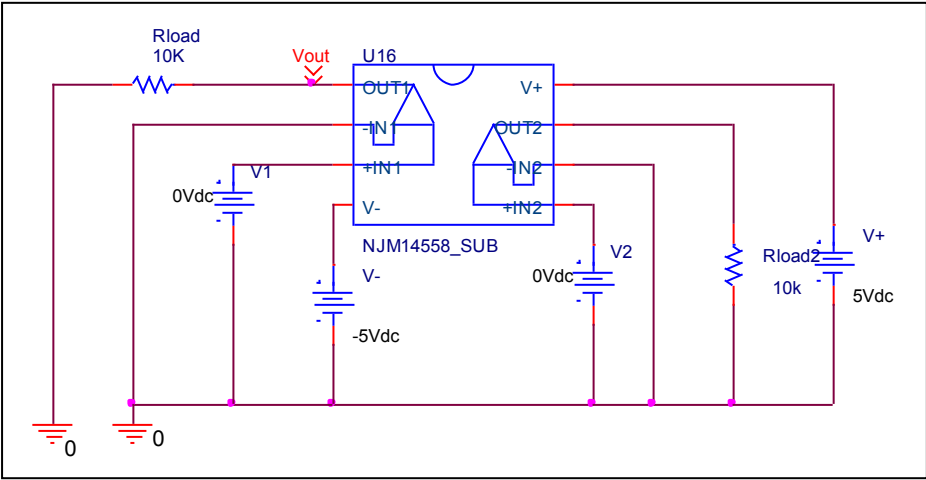
Output Voltage Swing, +Vout and –Vout

Simulation result



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

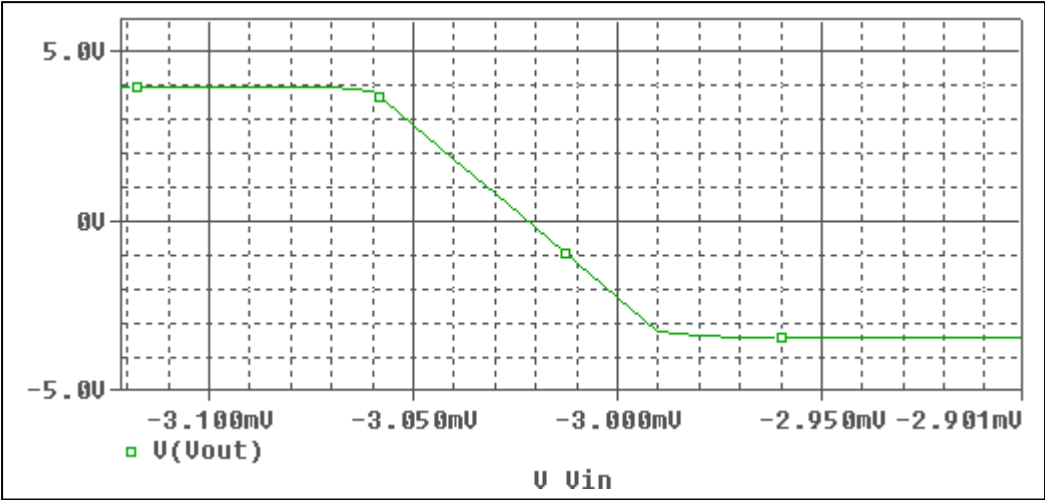
Evaluation circuit



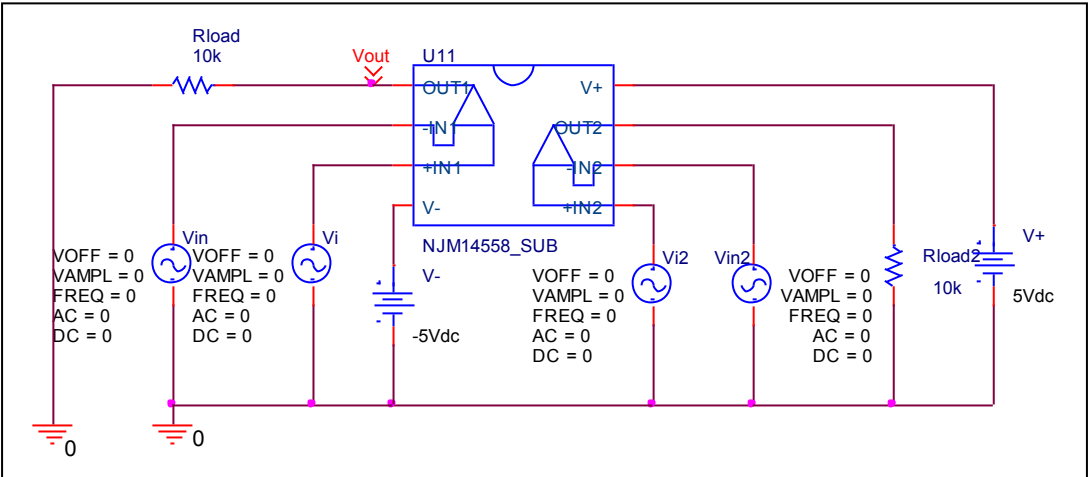
Output Voltage Swing	Data sheet	Simulation	%Error
+Vout(V)	+4	4.004	0.1
-Vout(V)	-3.5	3.502	0.057

Input Offset Voltage

Simulation result



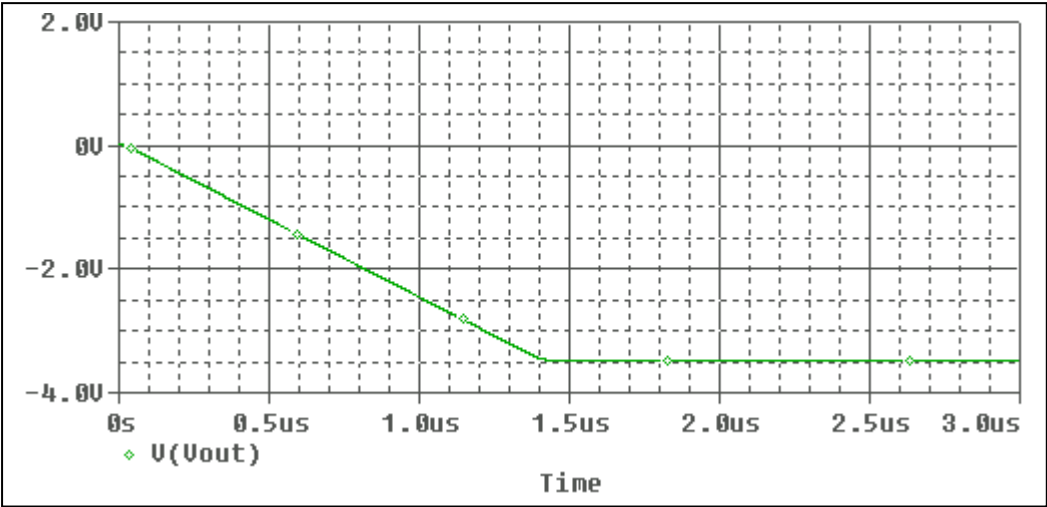
Evaluation circuit



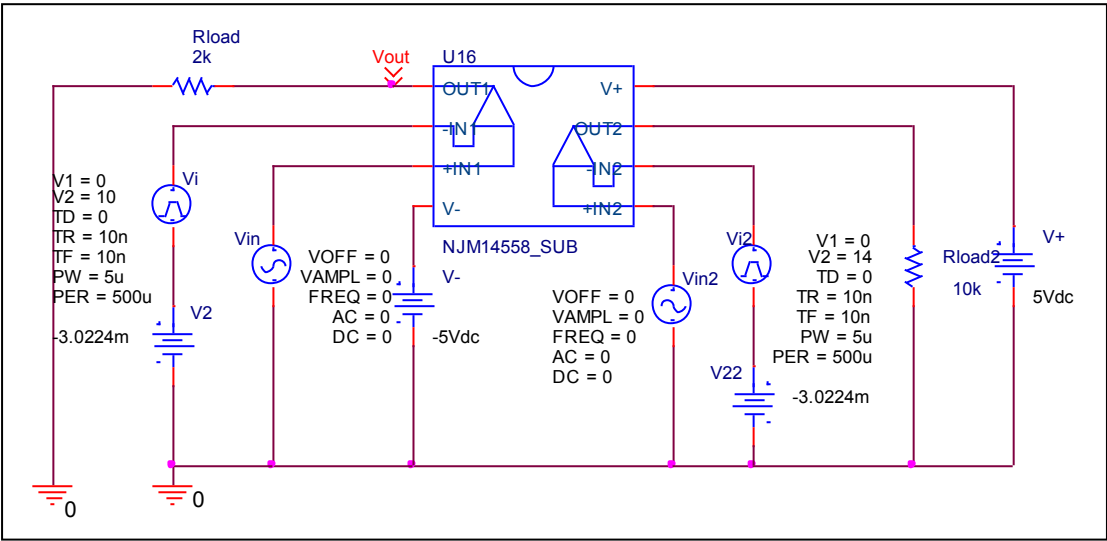
Vos	Measurement		Simulation		Error	
	3	mV	3.0224	mV	0.746	%

Slew Rate, +SR, -SR

Simulation result



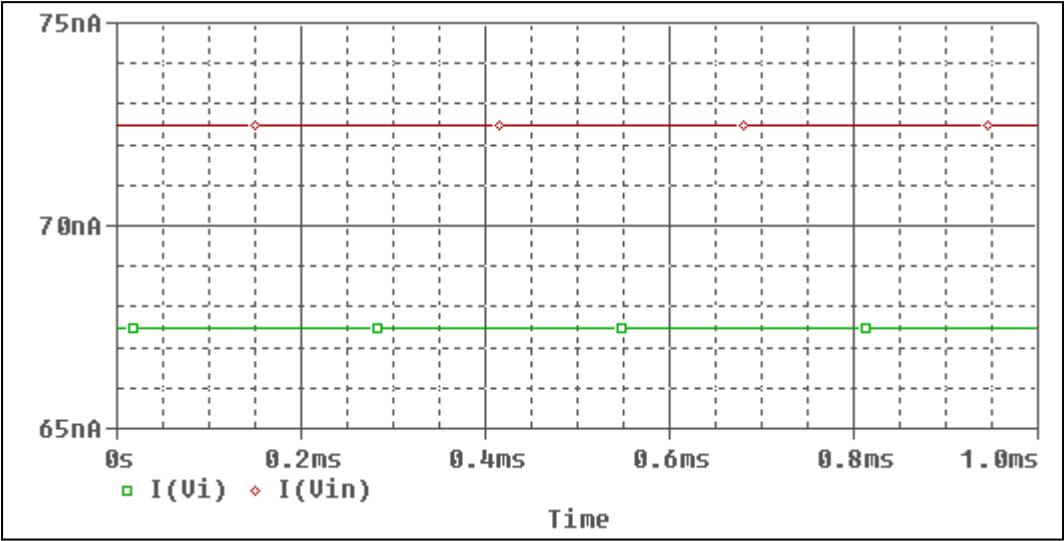
Evaluation circuit



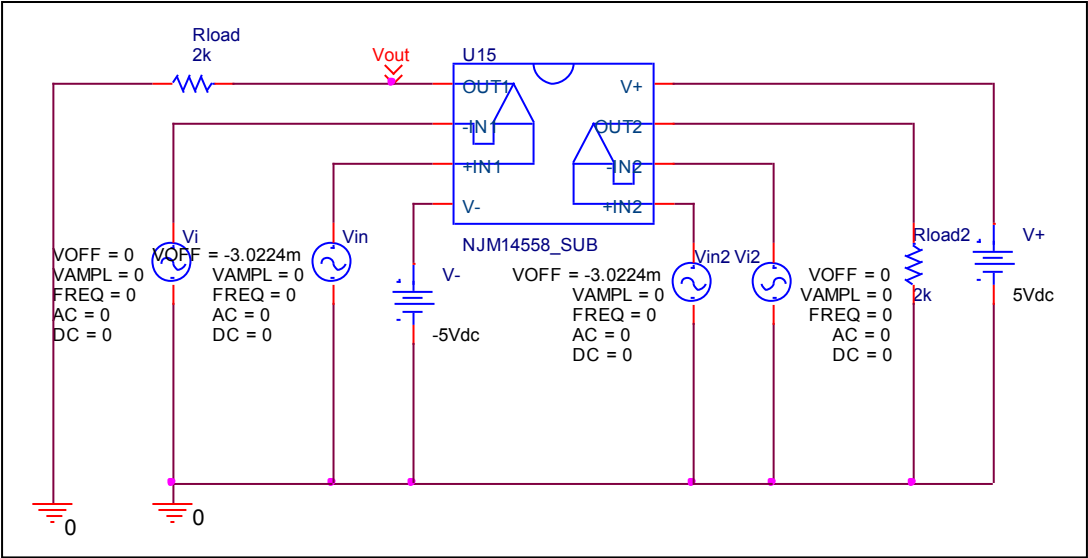
Slew Rate(v/us)	Data sheet	Simulation	%Error
	2.5V/us	2.509V/us	0.36

Input current Ib, Ibos

Simulation result



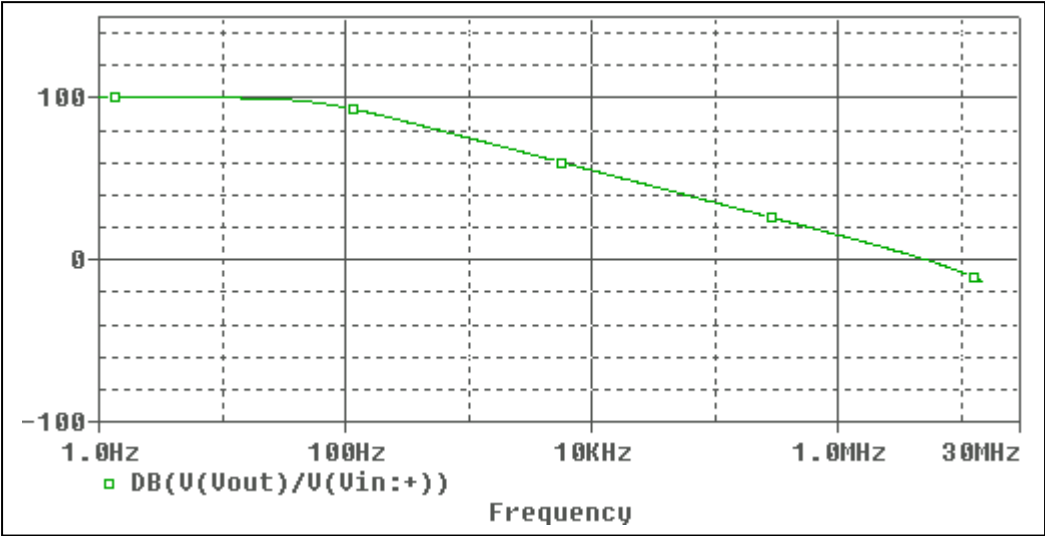
Evaluation circuit



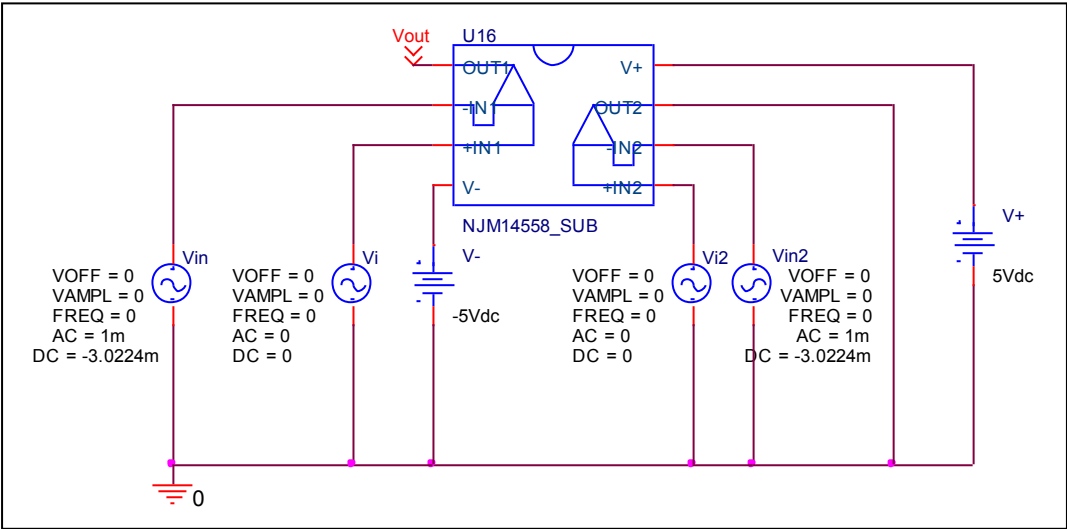
	Data sheet	Simulation	%Error
Ib(nA)	70	69.96	0.442
Ibos(nA)	5	5.005	0.1

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

Simulation result



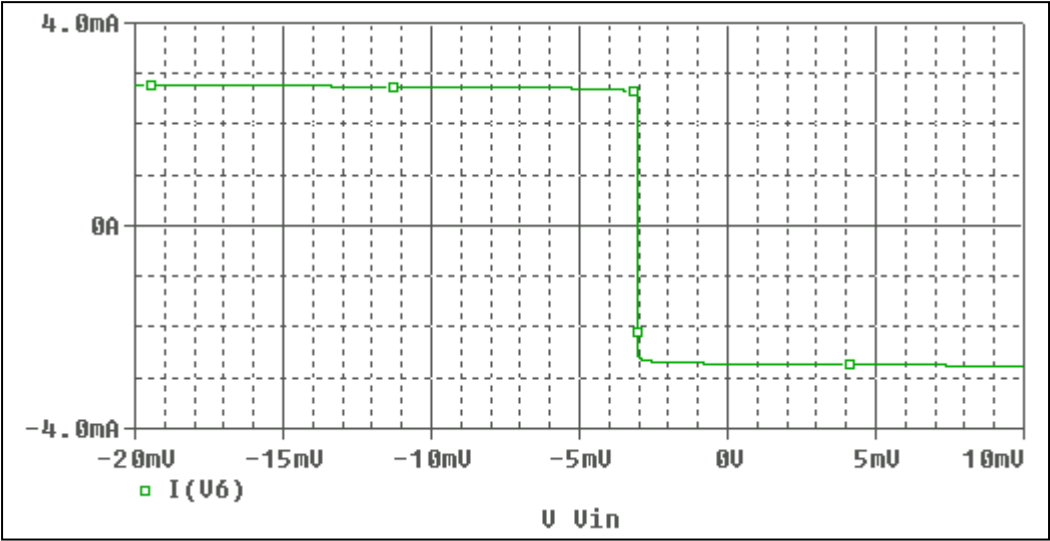
Evaluation circuit



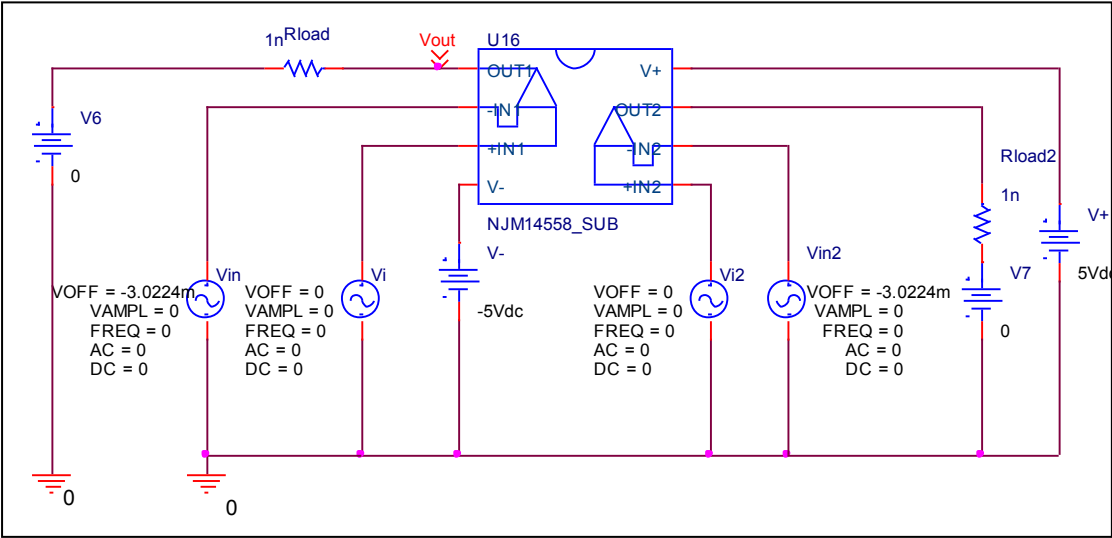
	Data sheet	Simulation	%Error
f-0dB(MHz)	5	5.01	0.2
Av-dc(dB)	100	100.01	0.1

Output Short Circuit Current - Ios

Simulation result



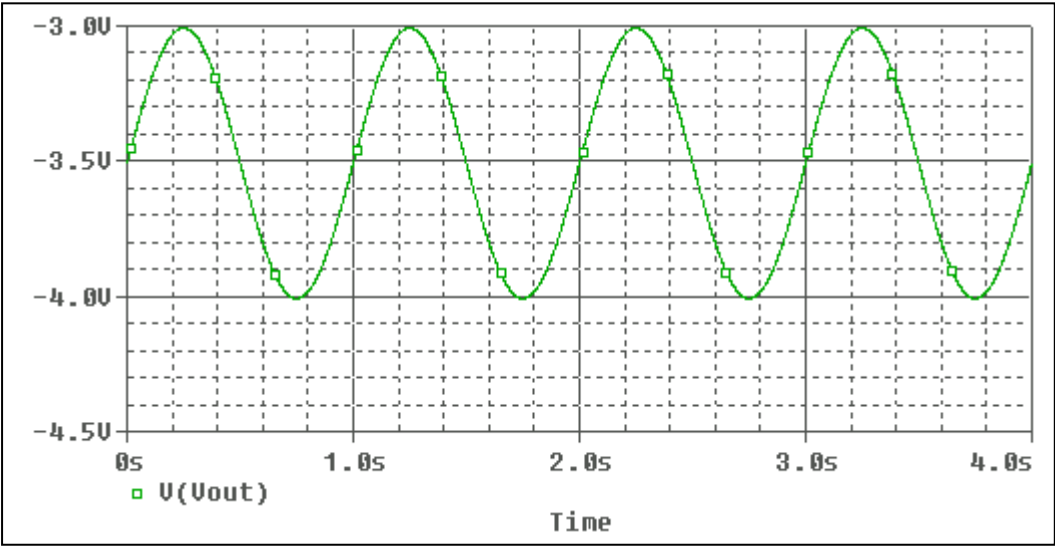
Evaluation circuit



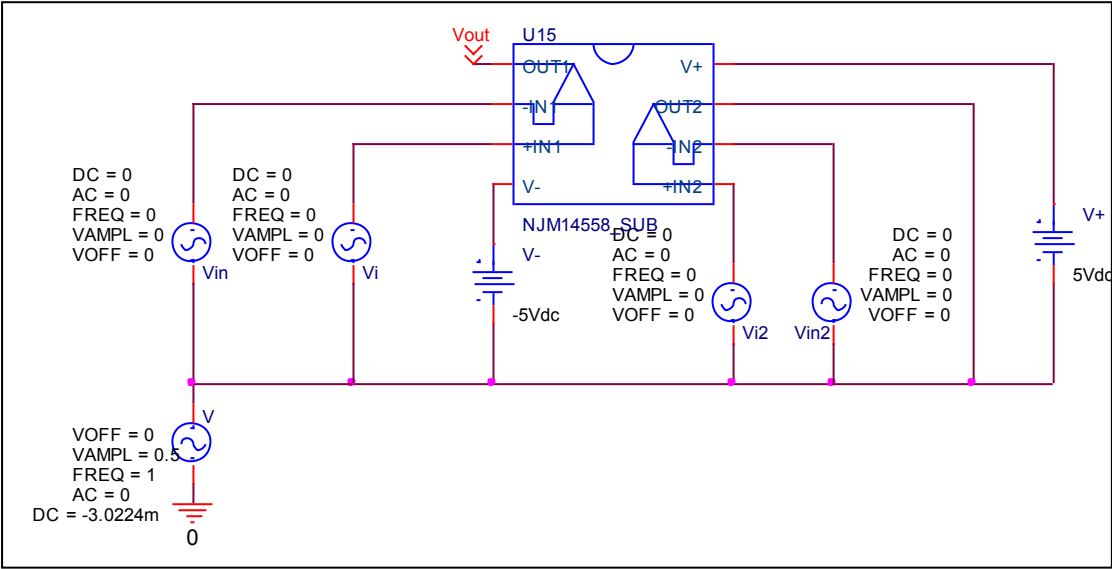
Short Circuit Current	Data sheet	Simulation	%Error
	2.7mA	2.704mA	0.148

Common-Mode Rejection Voltage gain

Simulation result



Evaluation circuit



Common mode gain=3.162/1
Common Mode Reject Ratio=100115/3.162=31661

CMRR	Data sheet	Simulation	%Error
	31622	31661	0.123