

Device Modeling Report

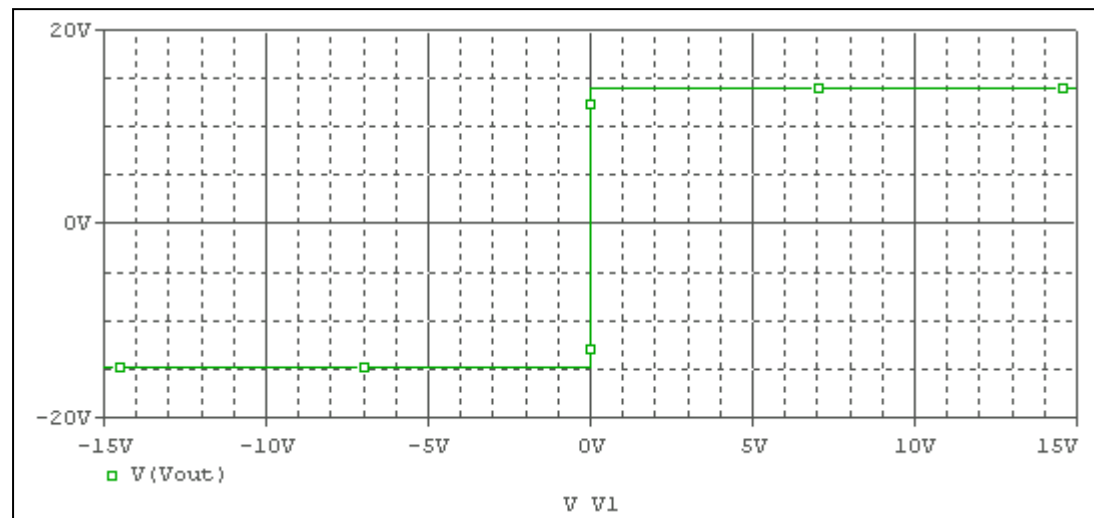
COMPONENTS:MOSFET: OPERATIONAL AMPLIFIER
PART NUMBER:NJM2742M
MANUFACTURER: NEW JAPAN RADIO CO.,LTD



Bee Technologies Inc.

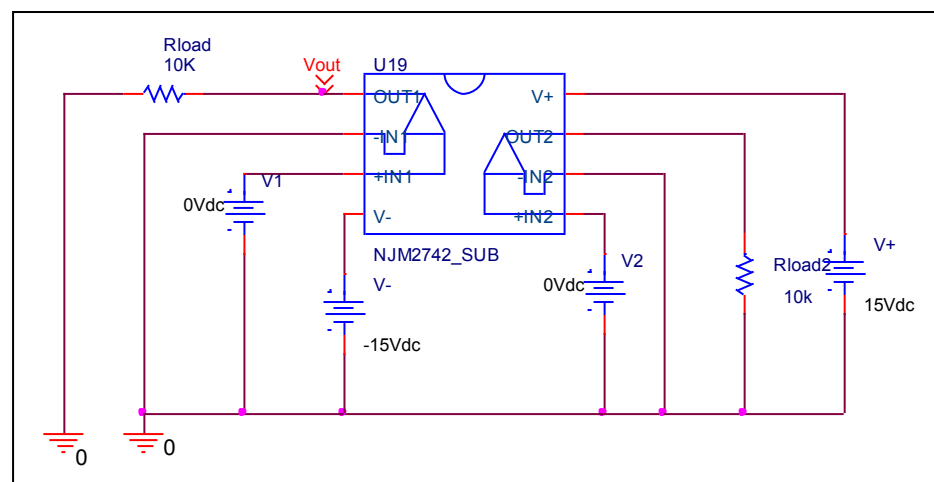
Output Voltage Swing, +Vout and –Vout

Simulation result



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

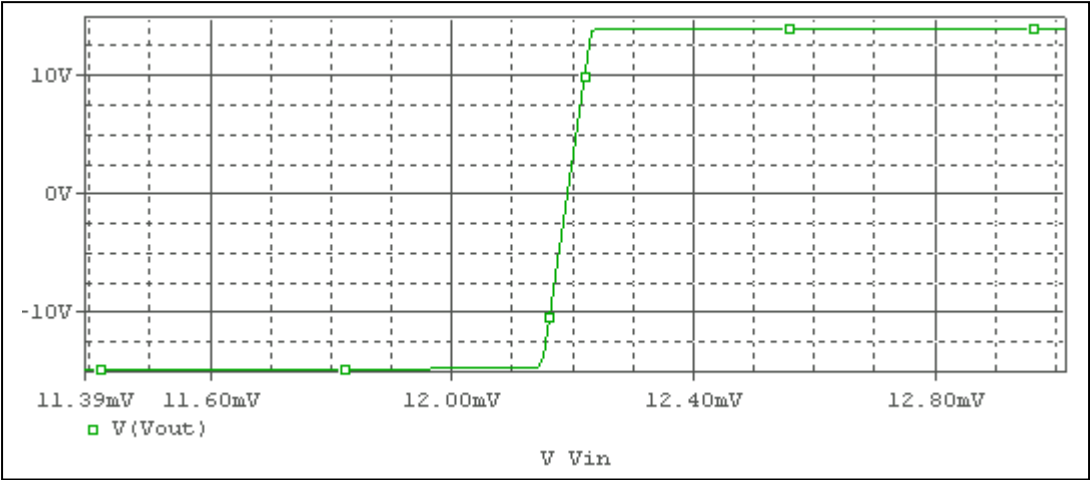
Evaluation circuit



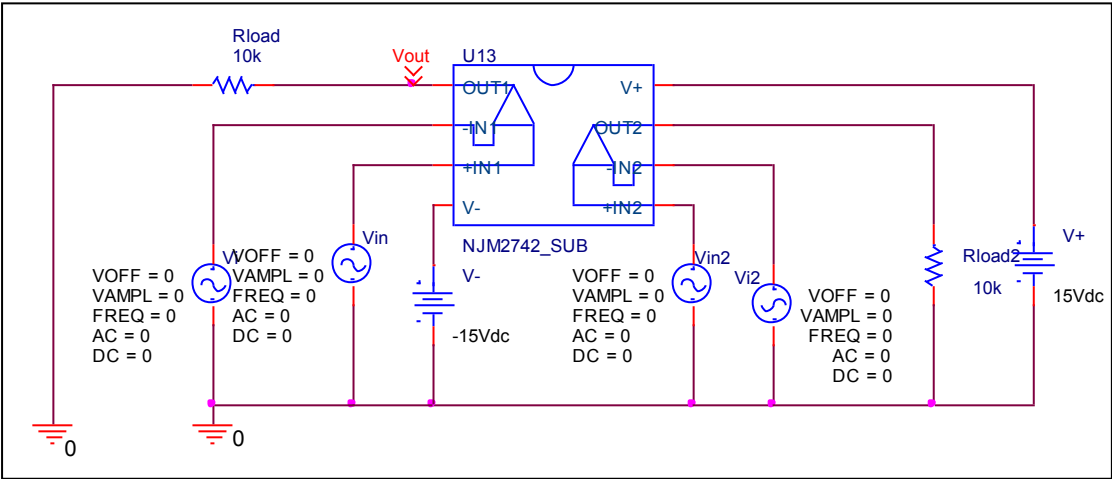
Output Voltage Swing	Data sheet	Simulation	%Error
+Vout(V)	+14	14.01	0.071
-Vout(V)	-14.8	-14.81	0.067

Input Offset Voltage

Simulation result



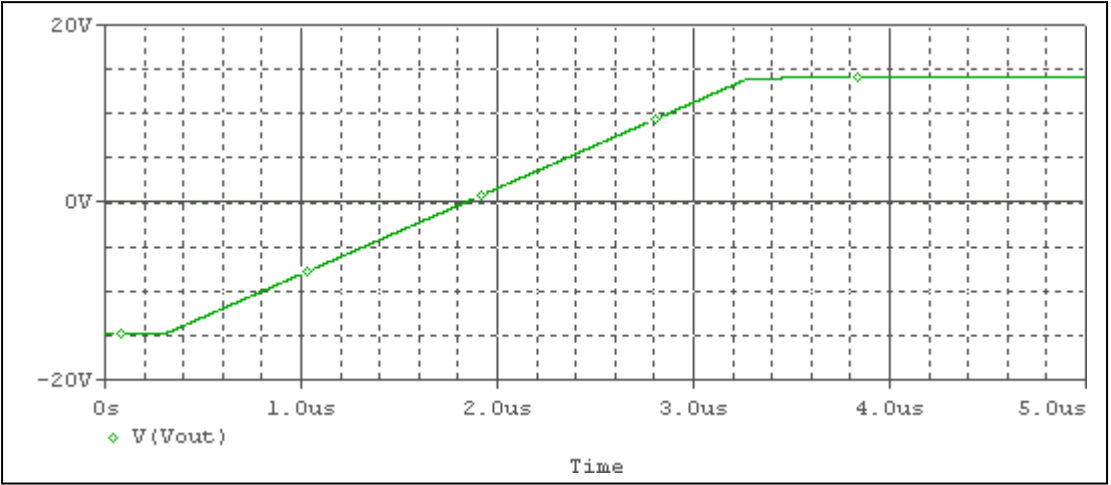
Evaluation circuit



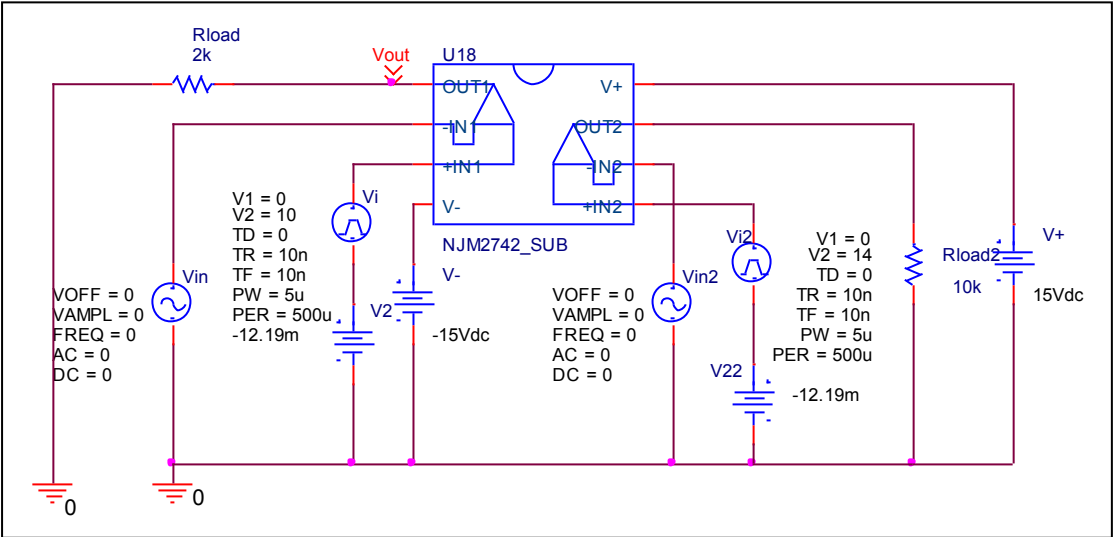
Vos	Measurement		Simulation		Error	
	12	mV	12.19	mV	1.58	%

Slew Rate, +SR, -SR

Simulation result



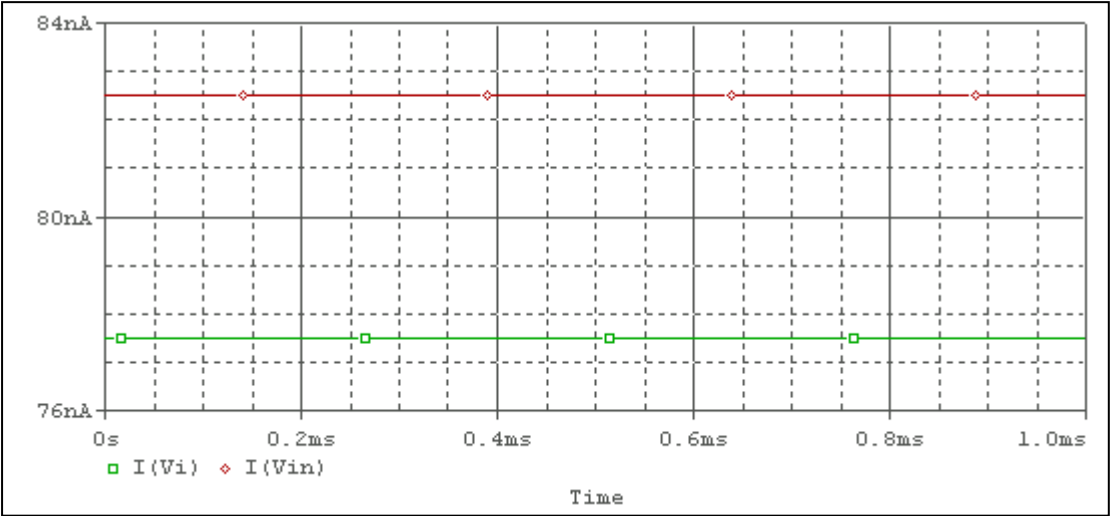
Evaluation circuit



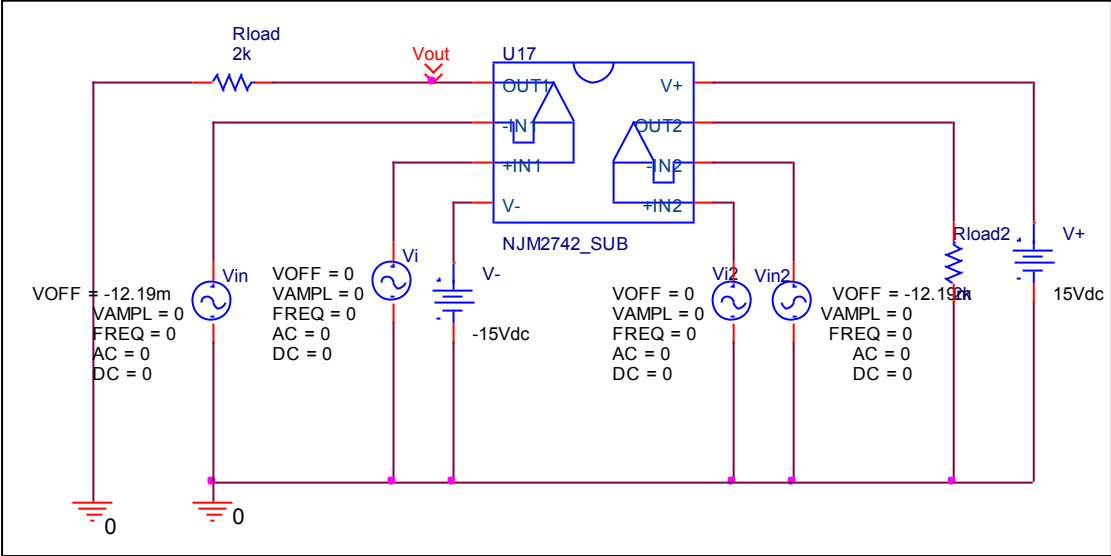
Slew Rate(v/us)	Data sheet	Simulation	%Error
	10V/us	9.68V/us	3.2

Input current Ib, Ibos

Simulation result



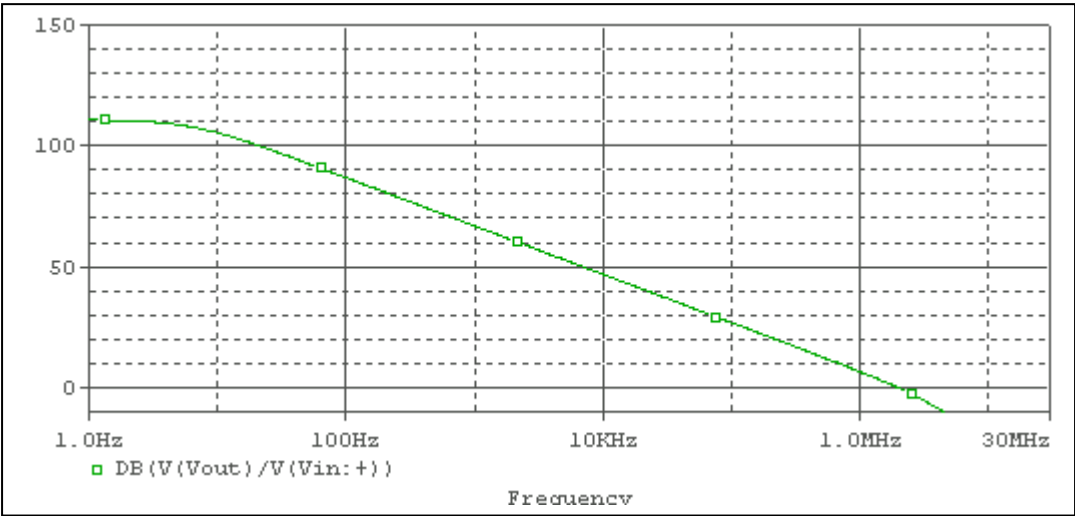
Evaluation circuit



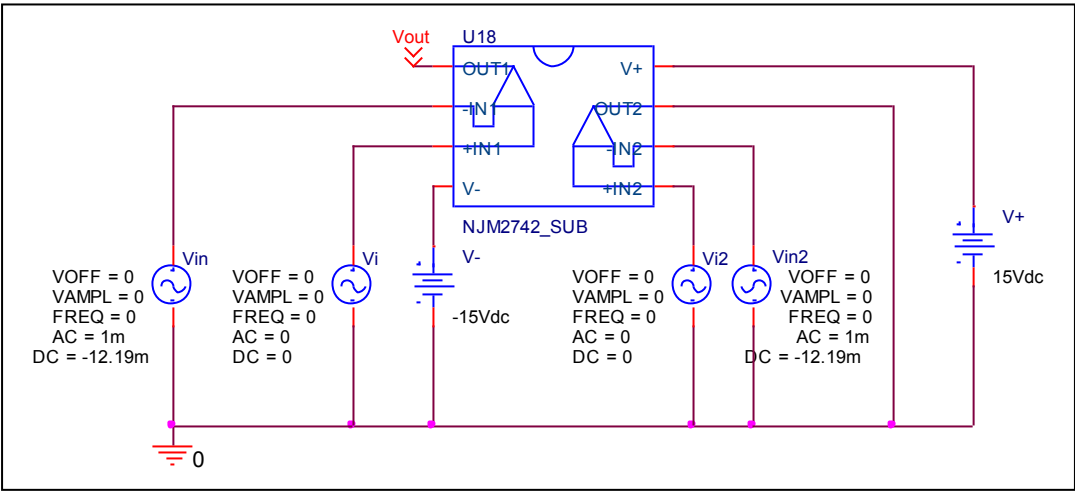
	Data sheet	Simulation	%Error
Ib(nA)	80	79.9	0.125
Ibos(nA)	5	5.01	0.2

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

Simulation result



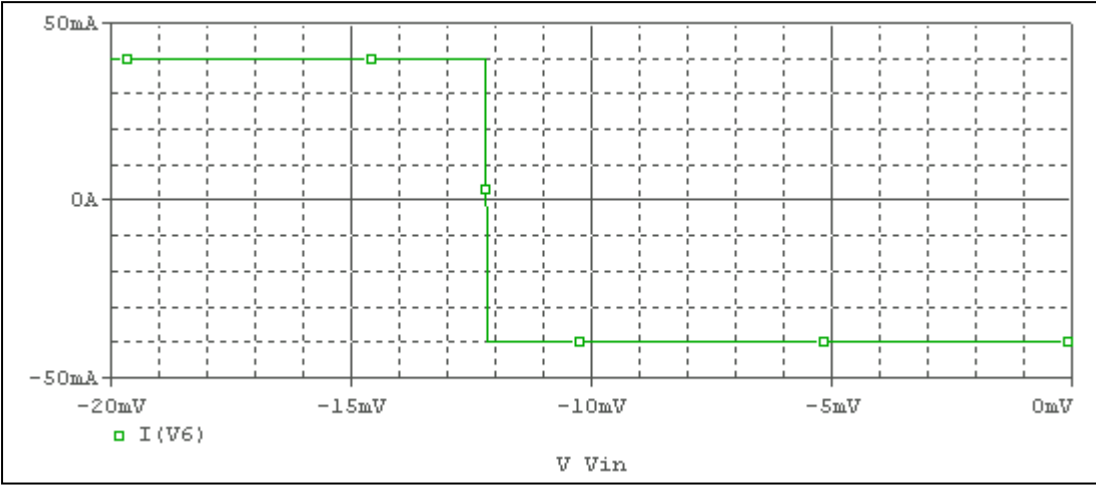
Evaluation circuit



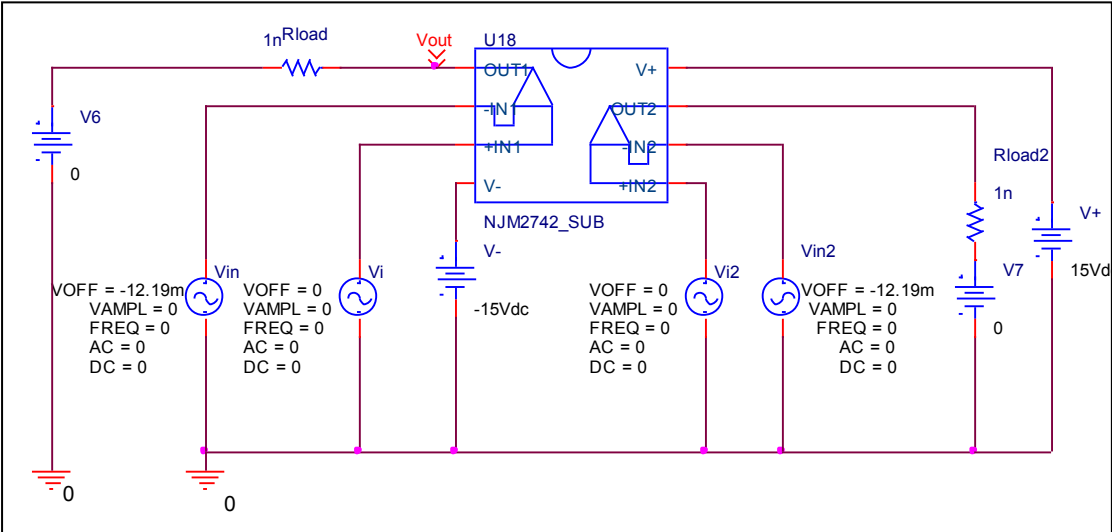
	Data sheet	Simulation	%Error
f-0dB(MHz)	2	1.95	2.5
Av-dc(dB)	110	110.71	0.645

Output Short Circuit Current - Ios

Simulation result



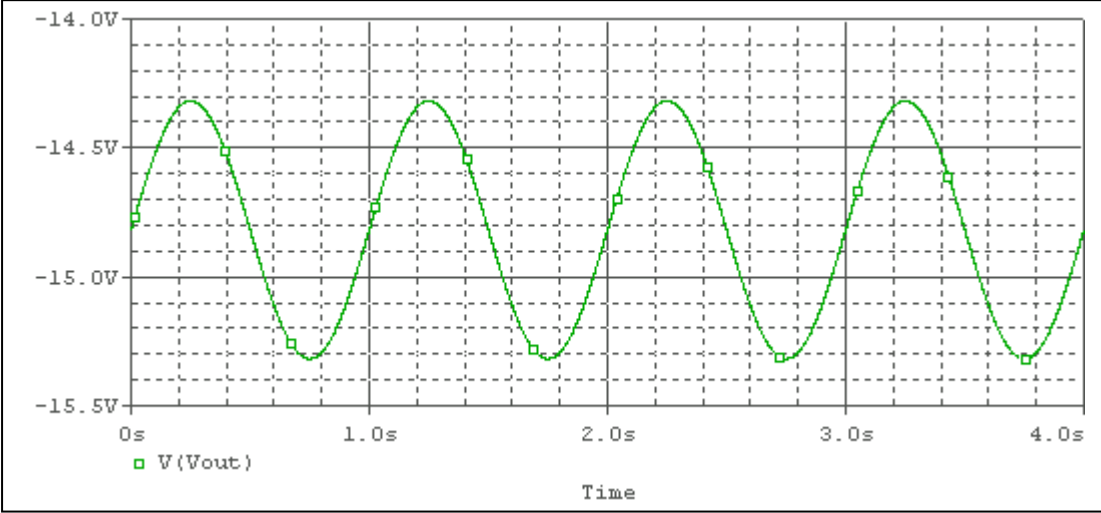
Evaluation circuit



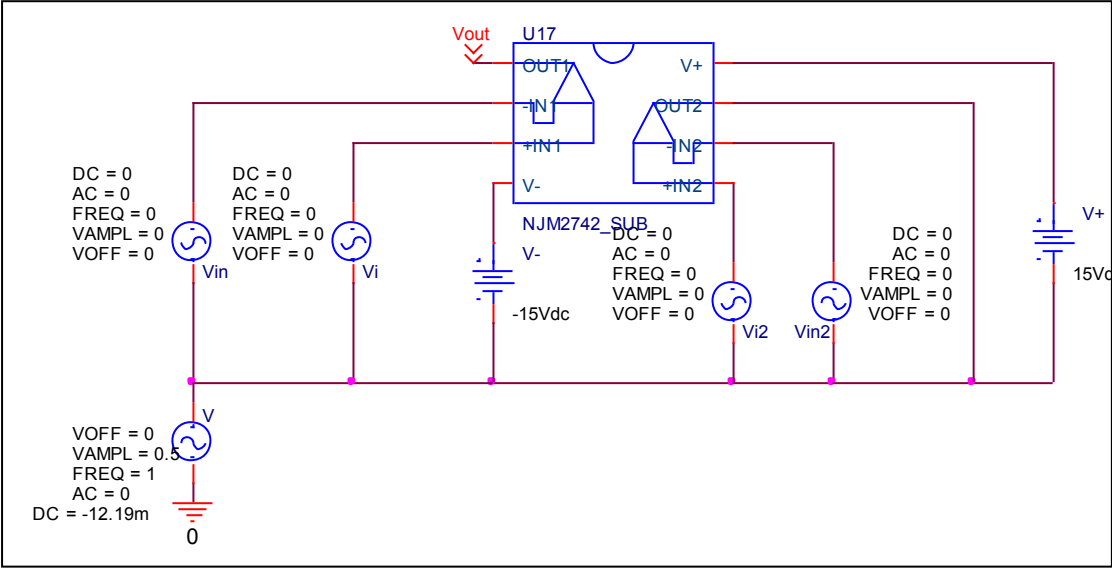
Short Circuit Current	Data sheet	Simulation	%Error
	40mA	40.07mA	10.175

Common-Mode Rejection Voltage gain

Simulation result



Evaluation circuit



Common mode gain=56.23/1
Common Mode Reject Ratio=343162/56.23=6102

CMRR	Data sheet	Simulation	%Error
	75	75.71	0.946