

Device Modeling Report

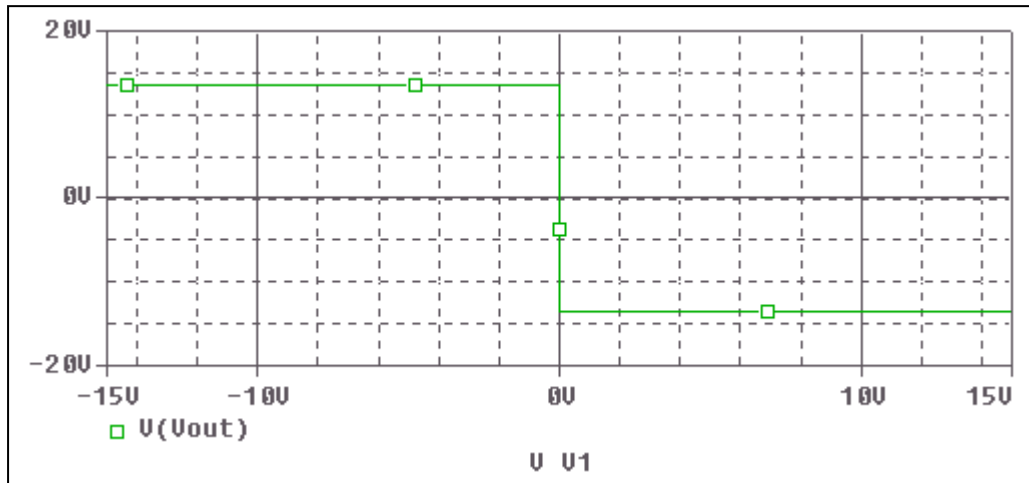
COMPONENTS:MOSFET: OPERATIONAL AMPLIFIER
PART NUMBER:NJM4580L
MANUFACTURER: NEW JAPAN RADIO CO.,LTD



Bee Technologies Inc.

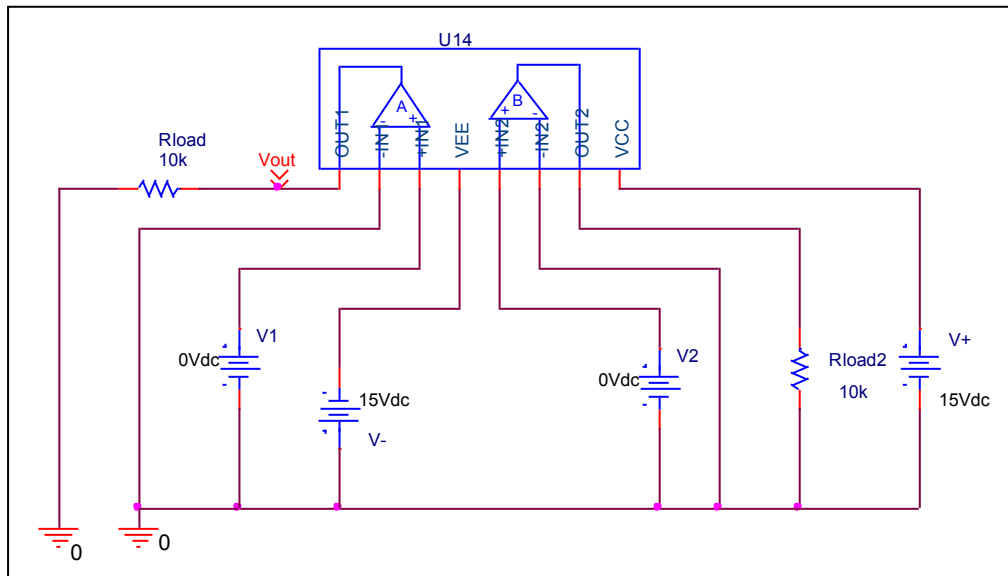
Output Voltage Swing, +Vout and -Vout

Simulation result



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

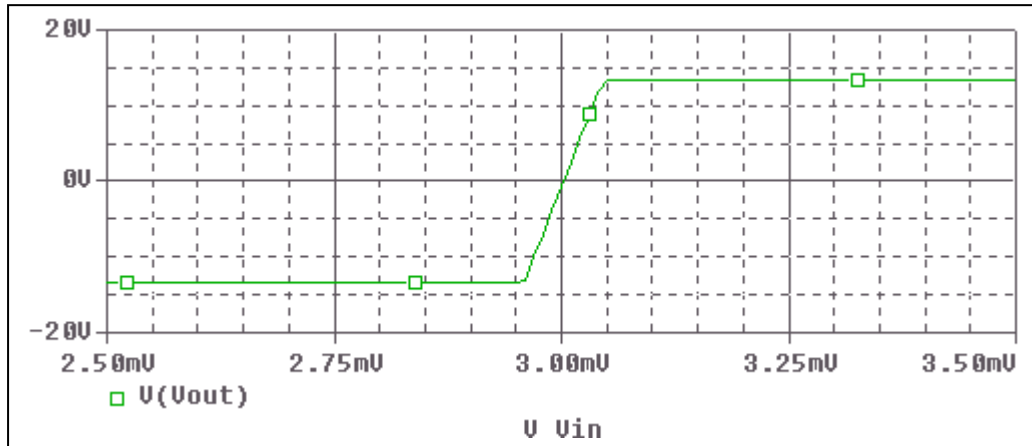
Evaluation circuit



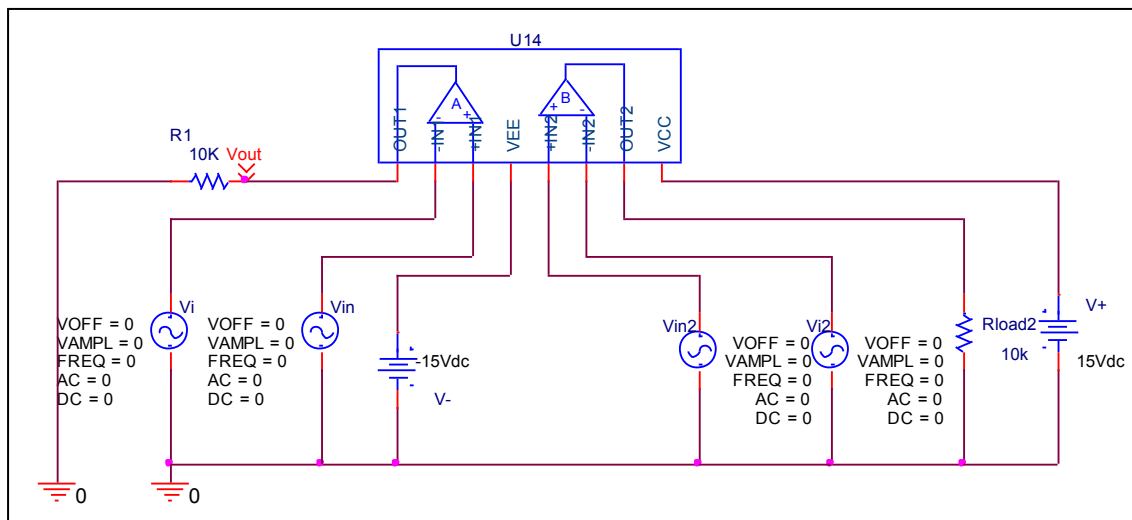
Output Voltage Swing	Data sheet	Simulation	%Error
+Vout(V)	+13.5	+13.466	0.251
-Vout(V)	-13.5	-13.466	0.251

Input Offset Voltage

Simulation result



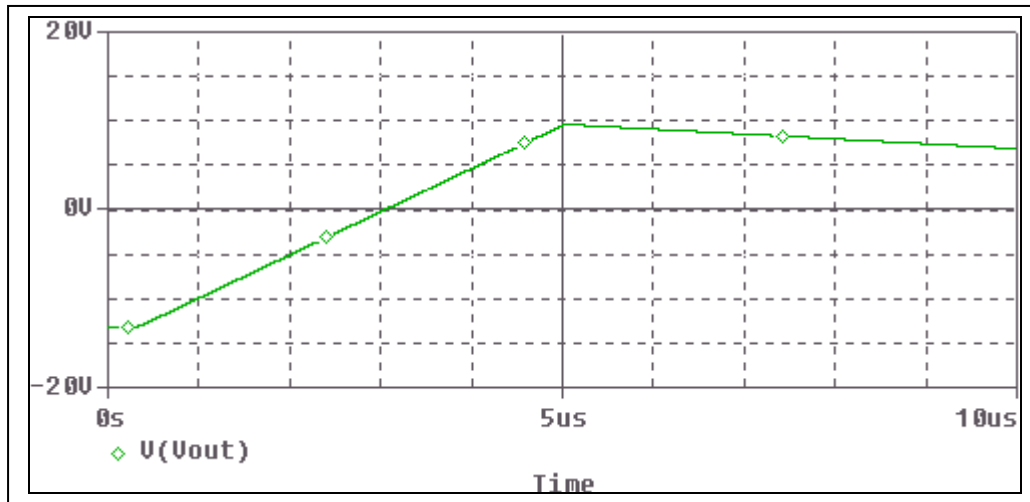
Evaluation circuit



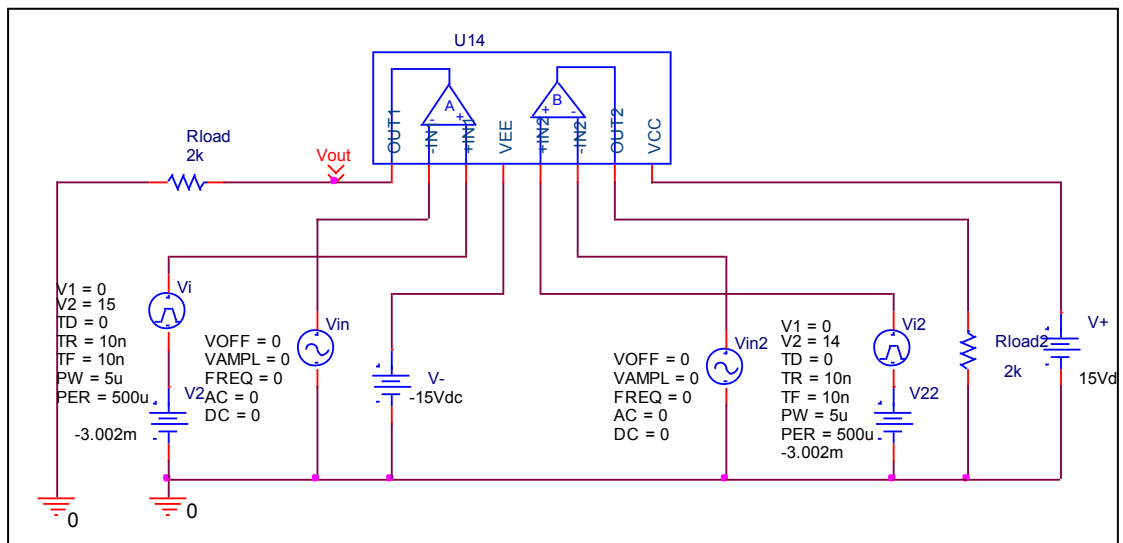
Vos	Measurement		Simulation		Error	
		3	mV	3.002	mV	0.066

Slew Rate, +SR, -SR

Simulation result



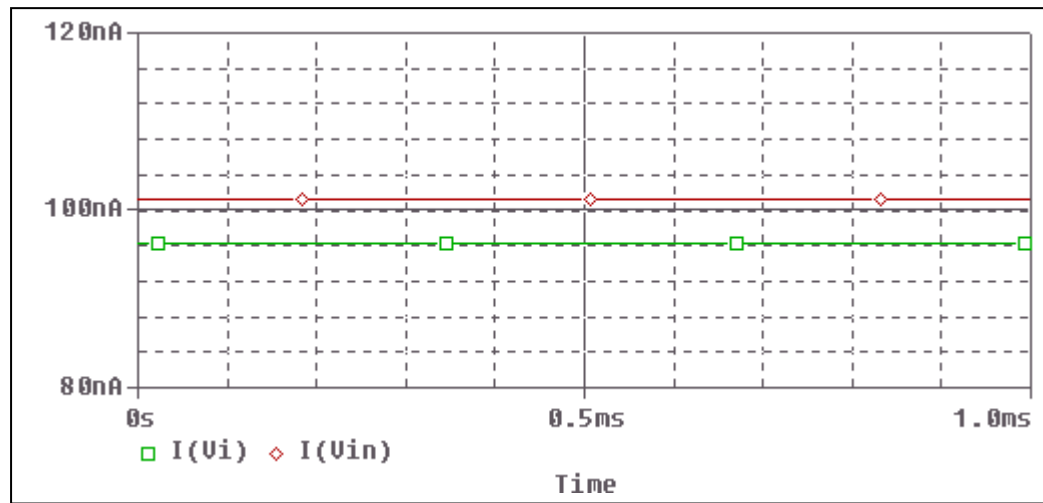
Evaluation circuit



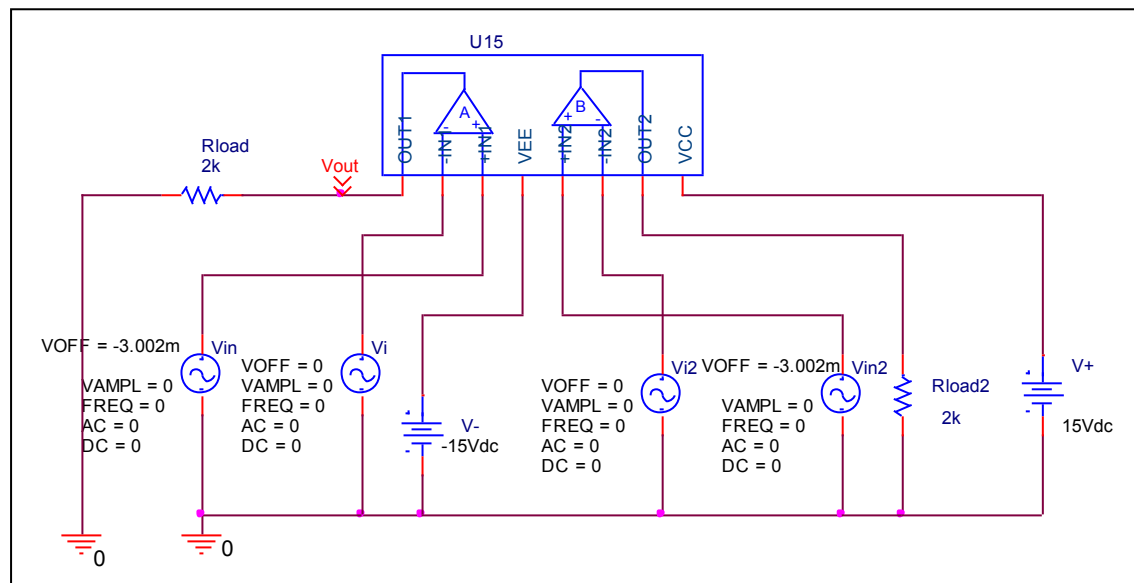
Slew Rate(v/us)	Data sheet	Simulation	%Error
		5V/us	4.85V/us

Input current I_b , I_{bos}

Simulation result



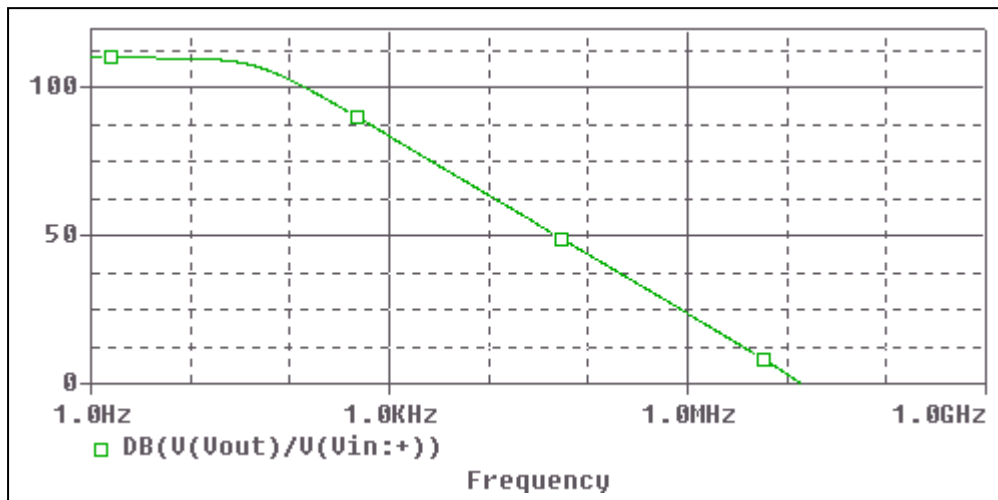
Evaluation circuit



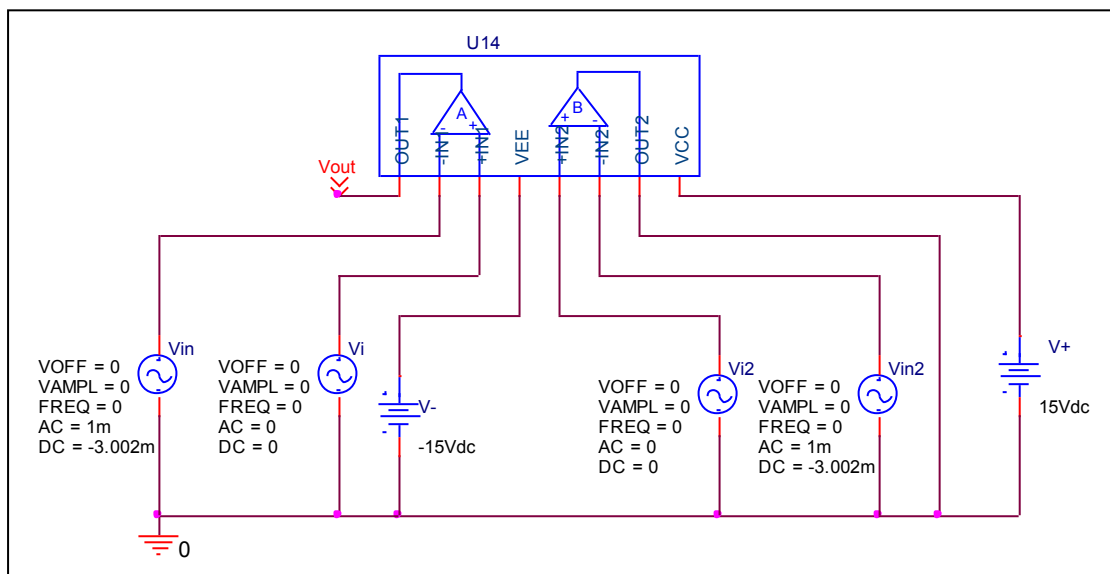
	Data sheet	Simulation	%Error
I_b (nA)	100	98.67	1.33
I_{bos} (nA)	5	5.019	0.38

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

Simulation result



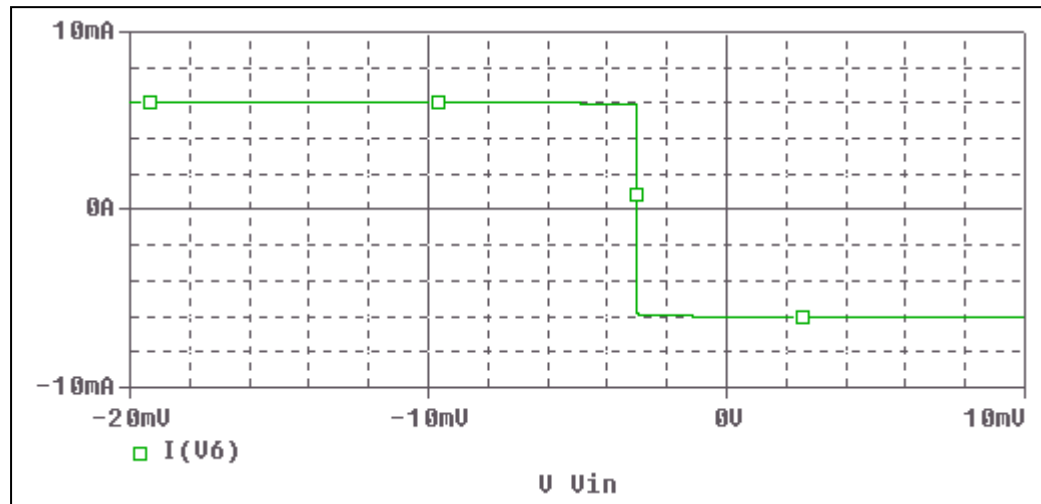
Evaluation circuit



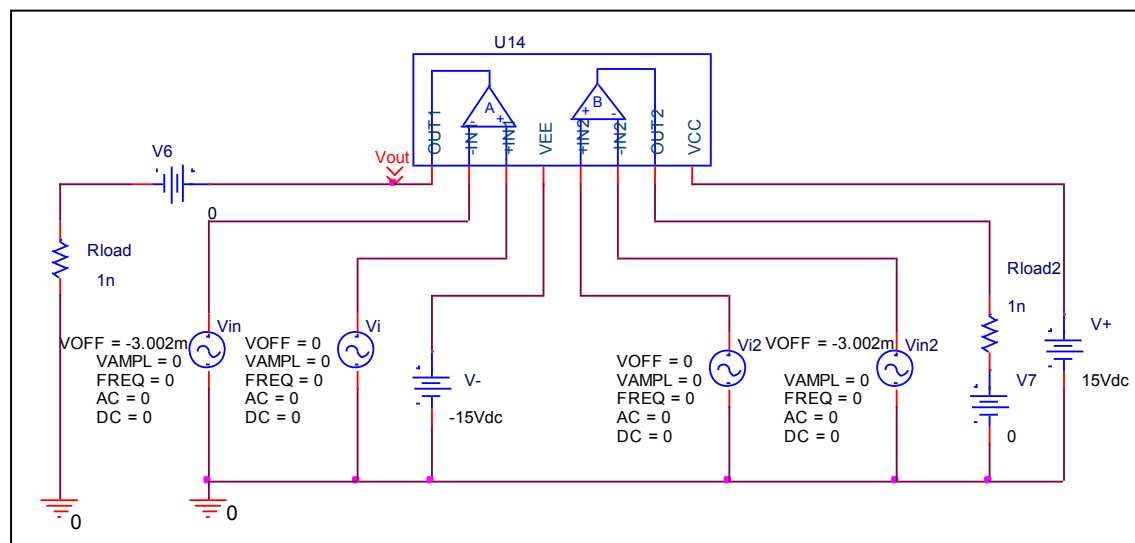
	Data sheet	Simulation	%Error
f-0dB(MHz)	15	14.3	4.666
Av-dc	110	110.2	0.181

Output Short Circuit Current - Ios

Simulation result



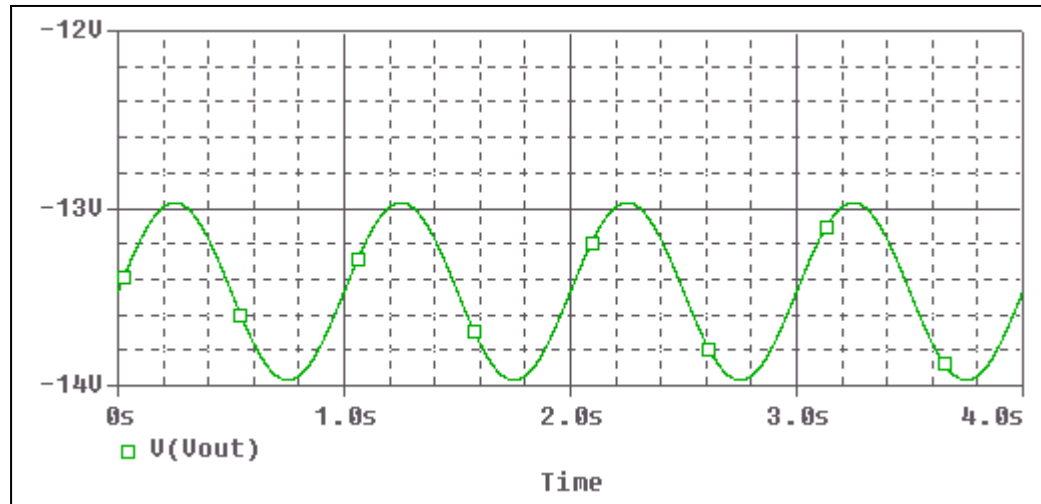
Evaluation circuit



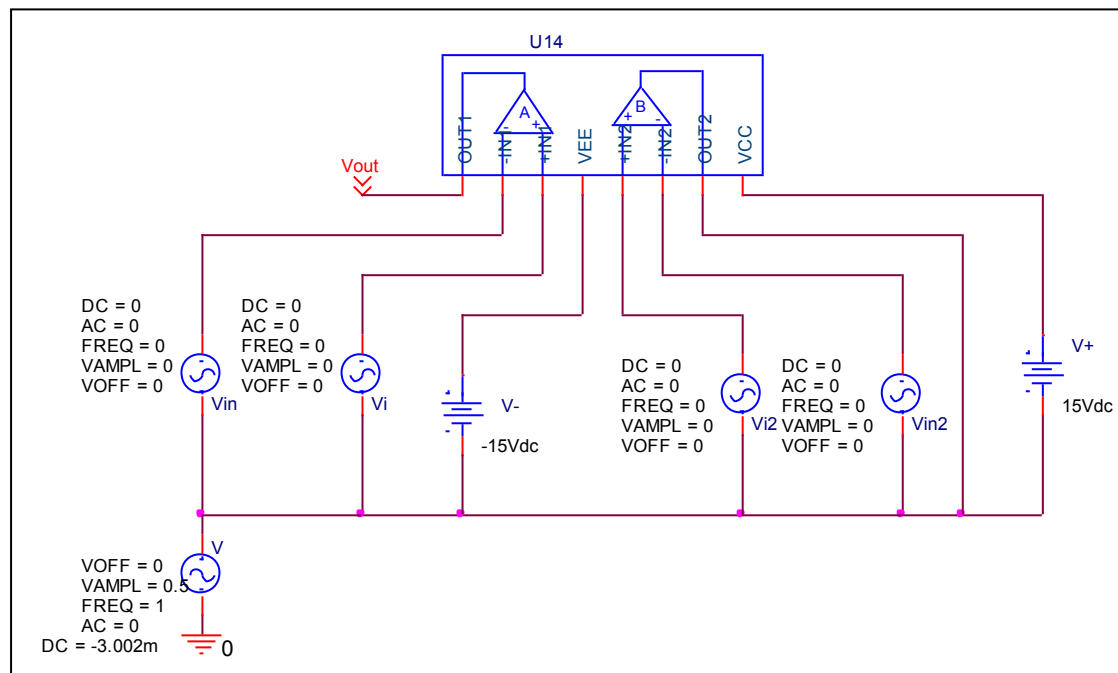
Short Circuit Current	Data sheet	Simulation	%Error
		6mA	6.044mA

Common-Mode Rejection Voltage gain

Simulation result



Evaluation circuit



Common mode gain=1/1

Common Mode Reject Ratio=323593/1=323593

CMRR	Data sheet	Simulation	%Error
		316230	323593