

Device Modeling Report

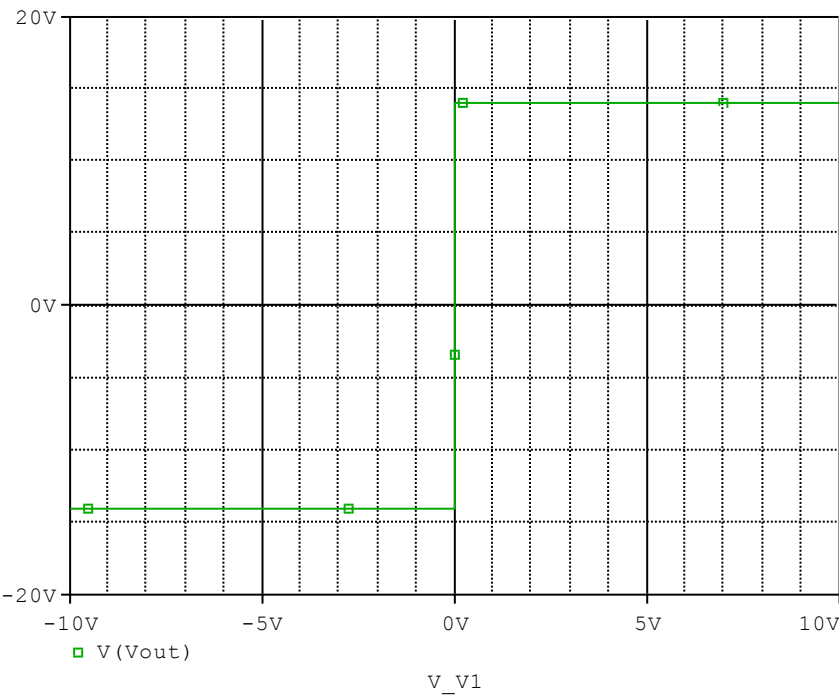
COMPONENTS: OPERATIONAL AMPLIFIER
PART NUMBER: NJM2059
MANUFACTURER: NEW JAPAN RADIO CO.,LTD



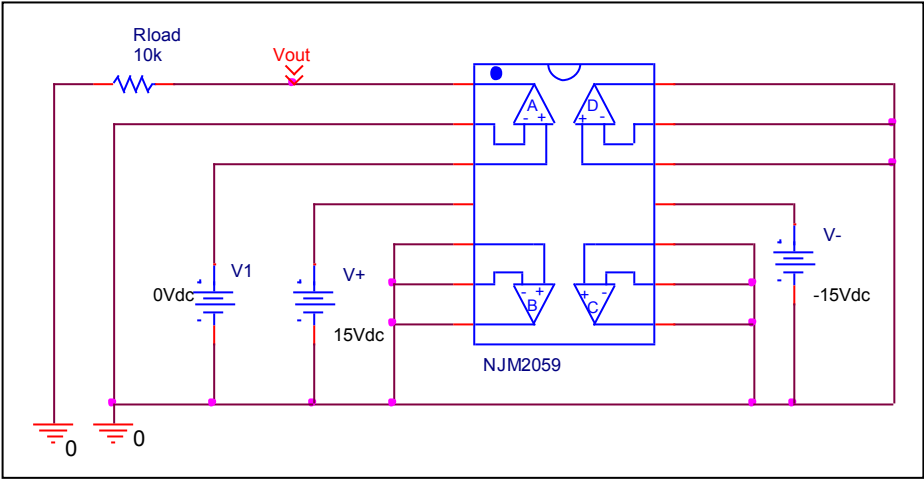
Bee Technologies Inc.

Output Voltage Swing

Simulation result



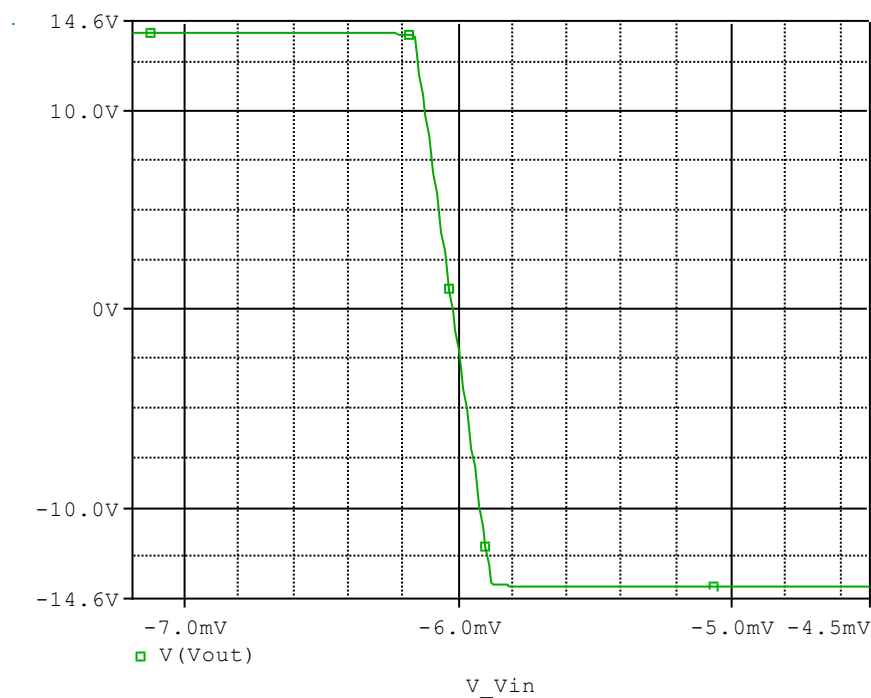
Evaluation circuit



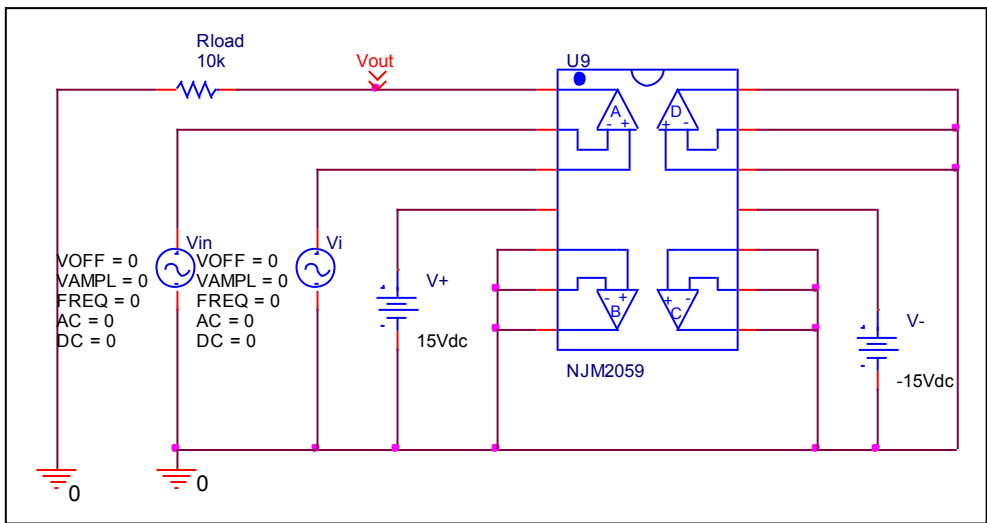
Output Voltage Swing	Data sheet	Simulation	%Error
+Vout(V)	+14.000	13.995	0.035
-Vout(V)	-14.000	-13.995	0.035

Input Offset Voltage

Simulation result



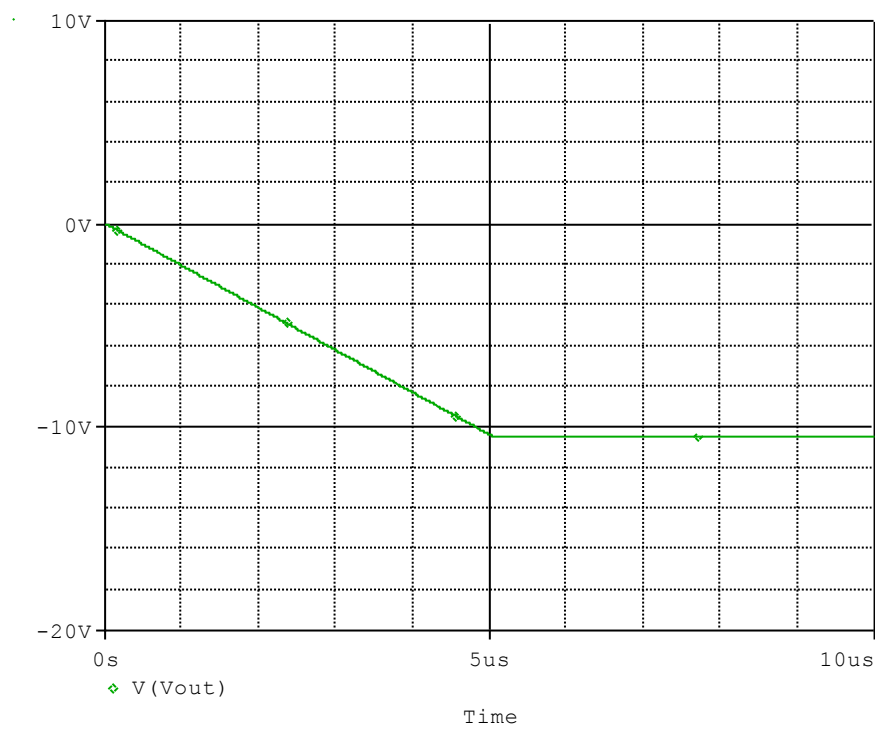
Evaluation circuit



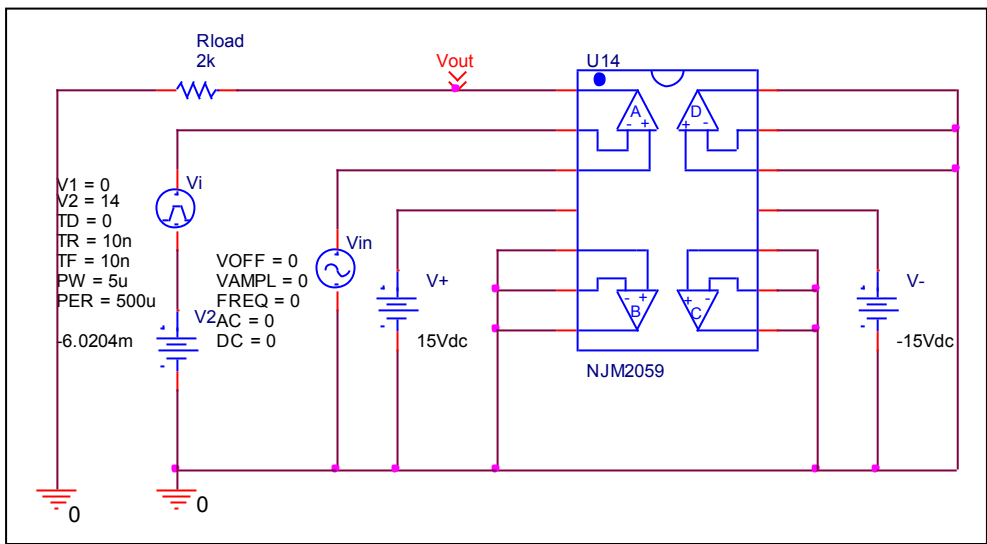
Vos	Measurement		Simulation		Error	
	6	mV	6.0204	mV	0.34	%

Slew Rate

Simulation result



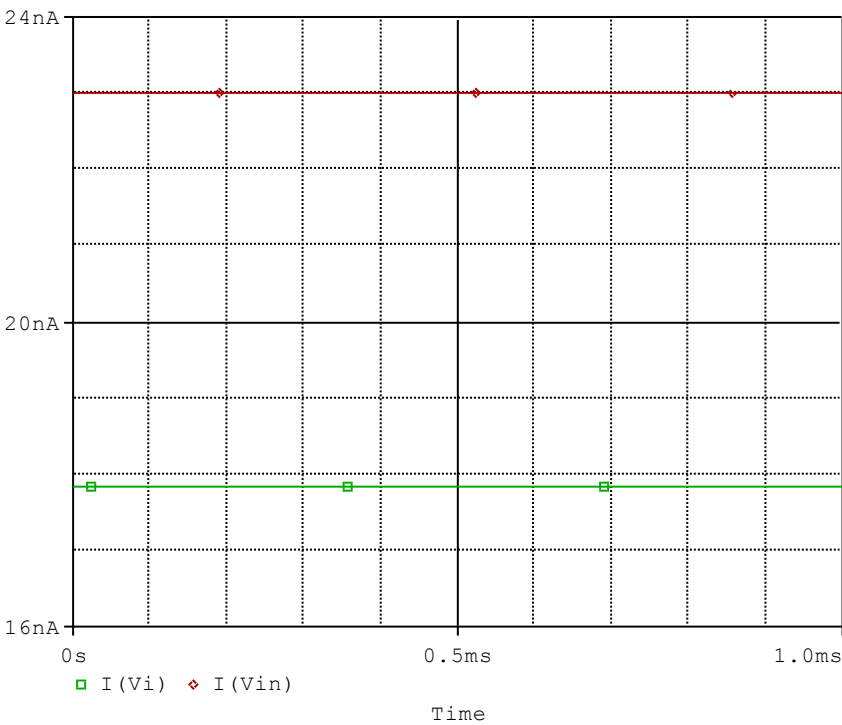
Evaluation circuit



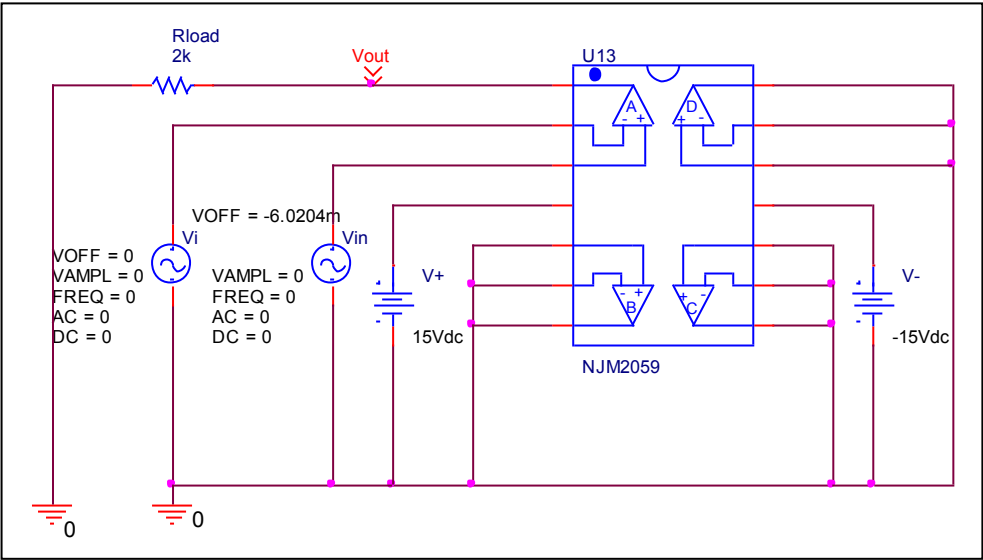
Slew Rate(v/us)	Data sheet	Simulation	%Error
	2.000	2.081	4.050

Input current

Simulation result



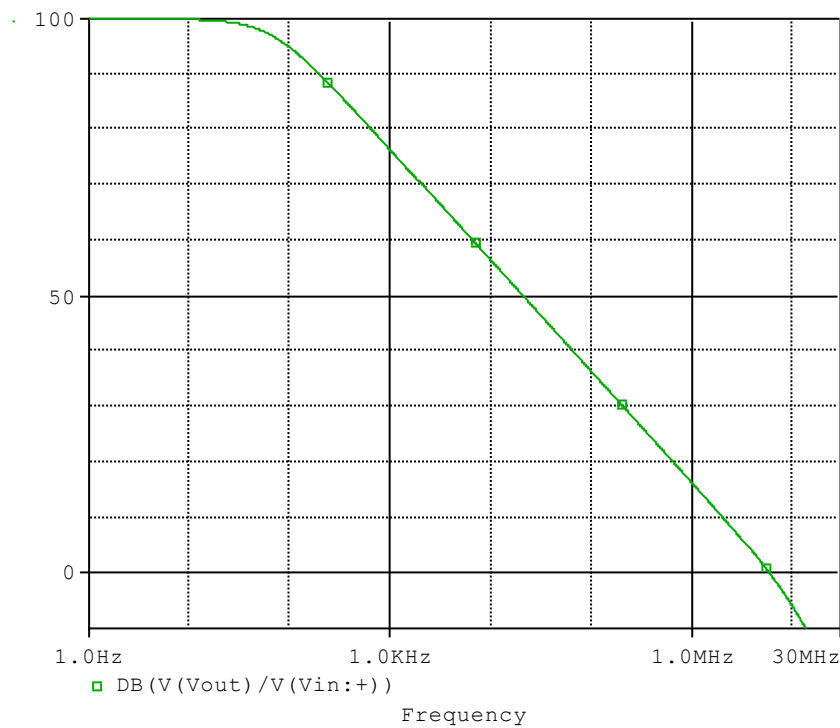
Evaluation circuit



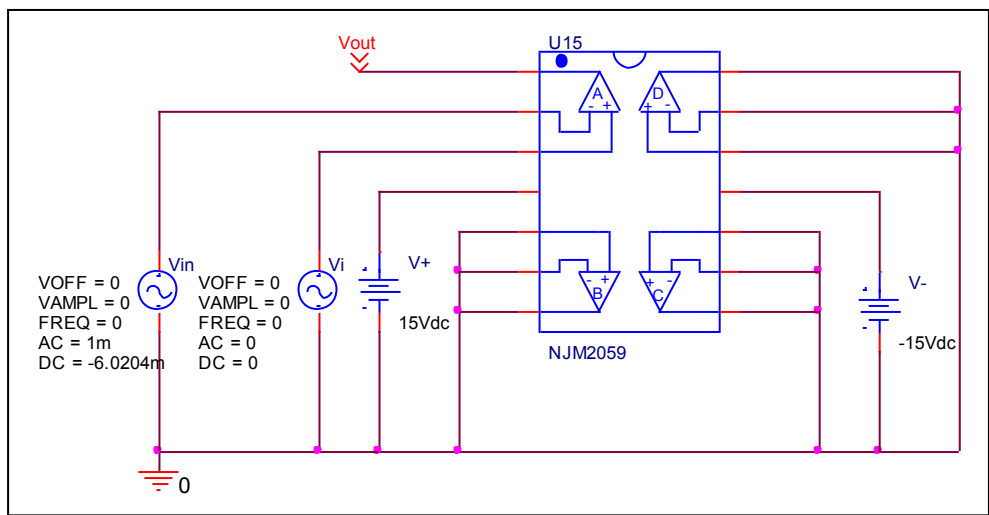
	Data sheet	Simulation	%Error
Ib(nA)	20.000	20.418	2.090
Ibos(nA)	5.000	5.170	3.400

Open Loop Voltage Gain vs. Frequency

Simulation result



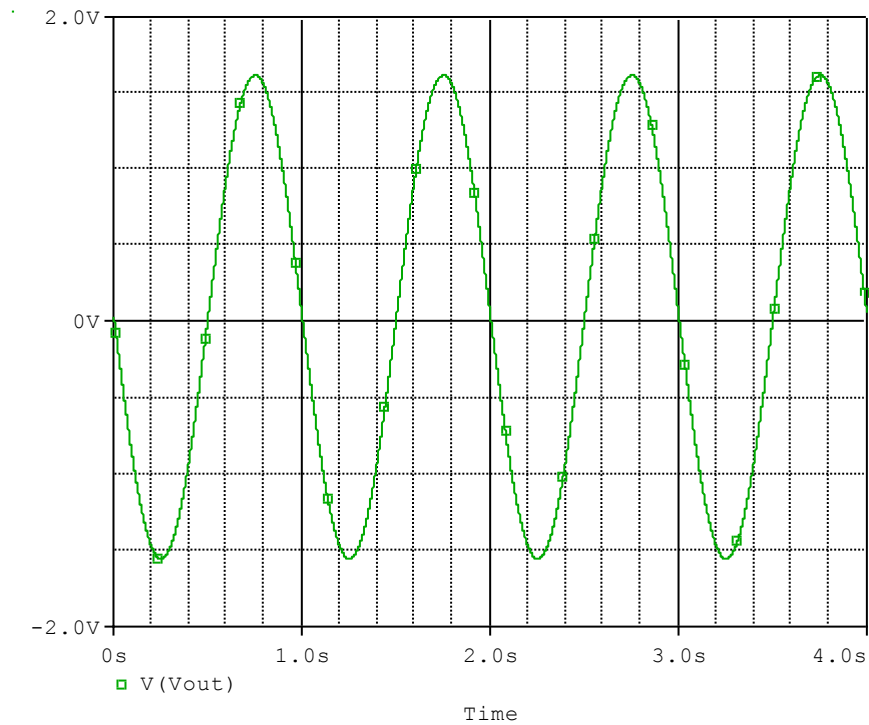
Evaluation circuit



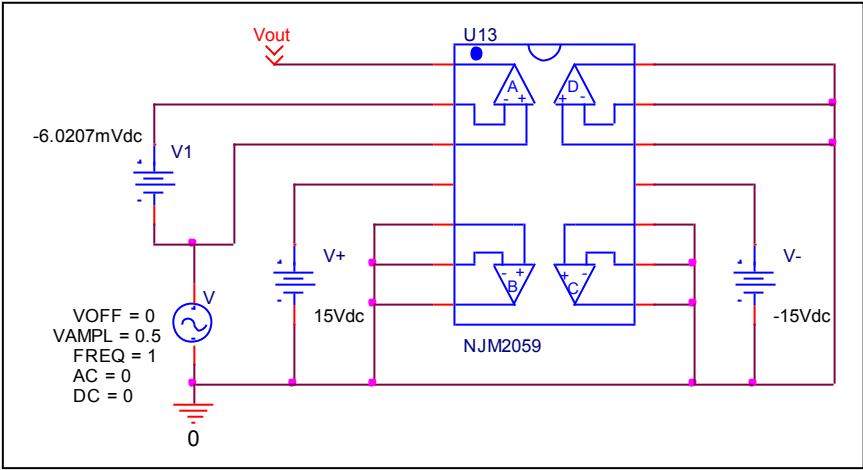
	Data sheet	Simulation	%Error
f-0dB(MHz)	6.000	5.944	0.933
Av-dc(dB)	100.000	99.972	0.028

Common-Mode Rejection Voltage gain

Simulation result



Evaluation circuit



Common Mode Rejection Ratio= $99678/3.171=31434.247$

CMRR	Data sheet	Simulation	%Error
	90	89.948	-0.057