

Device Modeling Report

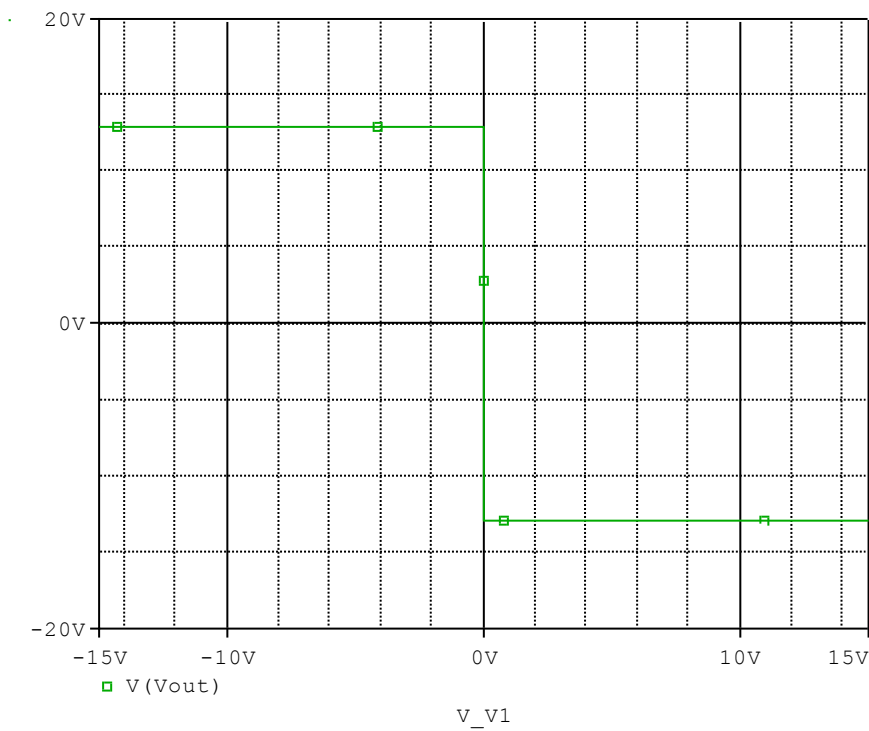
COMPONENTS: OPERATIONAL AMPLIFIER
PART NUMBER: NJM2130
MANUFACTURER: NEW JAPAN RADIO CO., LTD



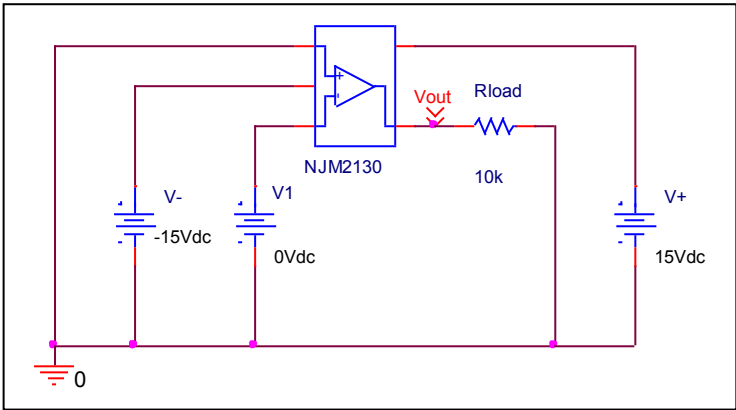
Bee Technologies Inc.

Output Voltage Swing

Simulation result



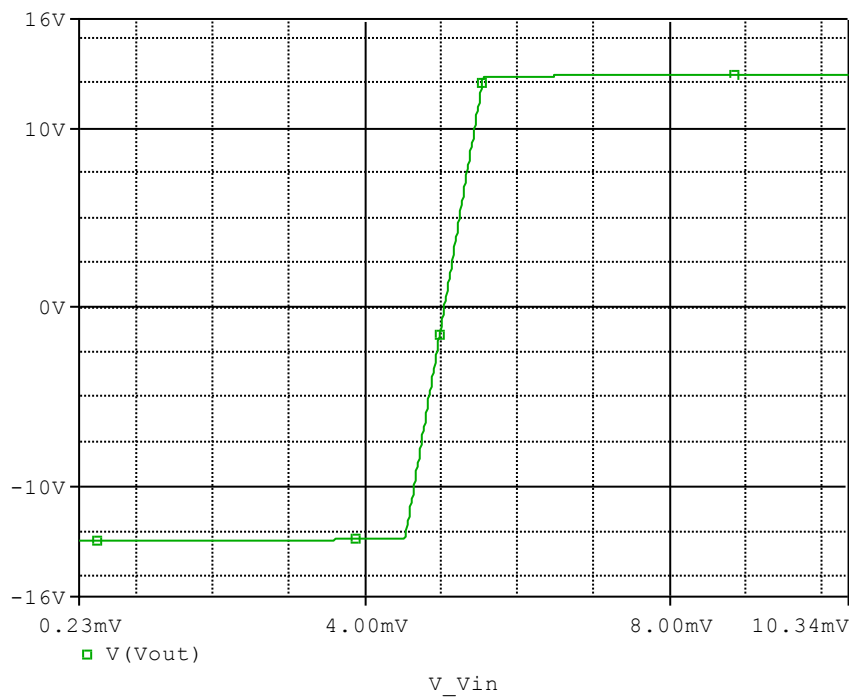
Evaluation circuit



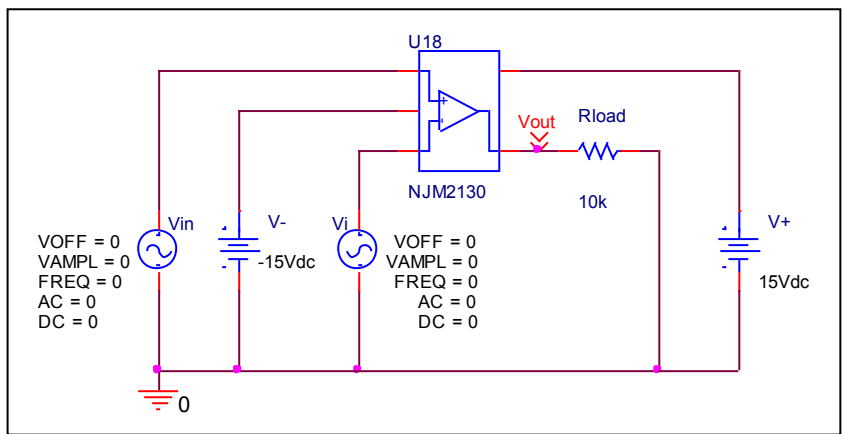
Output Voltage Swing	Data sheet	Simulation	%Error
+Vout(V)	13.000	12.963	0.284
-Vout(V)	13.000	12.963	0.284

Input Offset Voltage

Simulation result



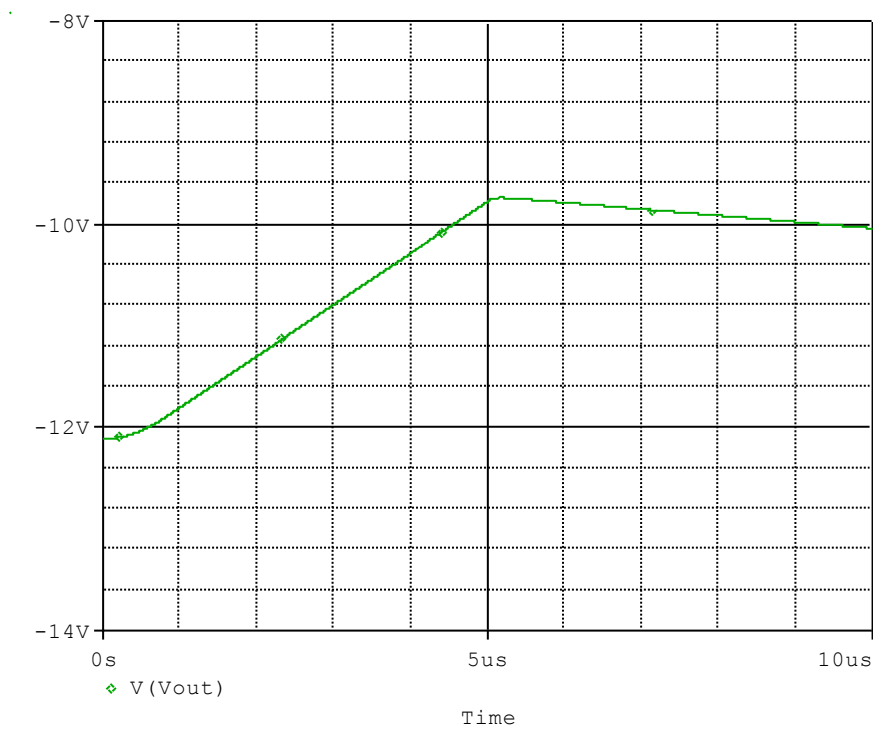
Evaluation circuit



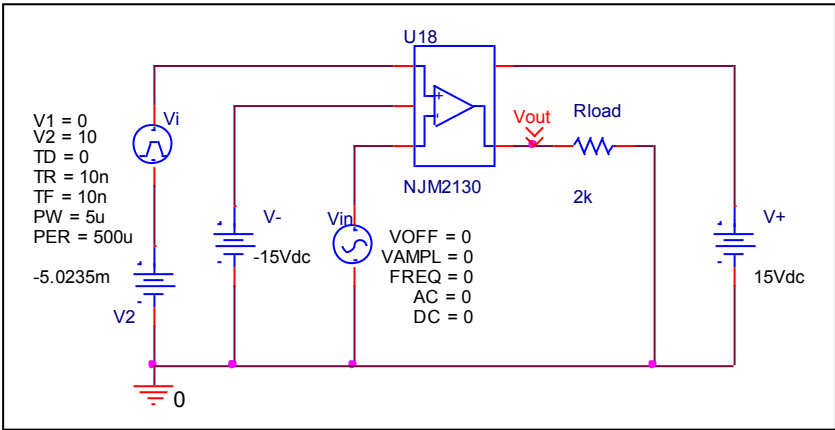
Vos	Measurement		Simulation		Error	
	5.000	mV	5.0235	mV	0.460	%

Slew Rate

Simulation result



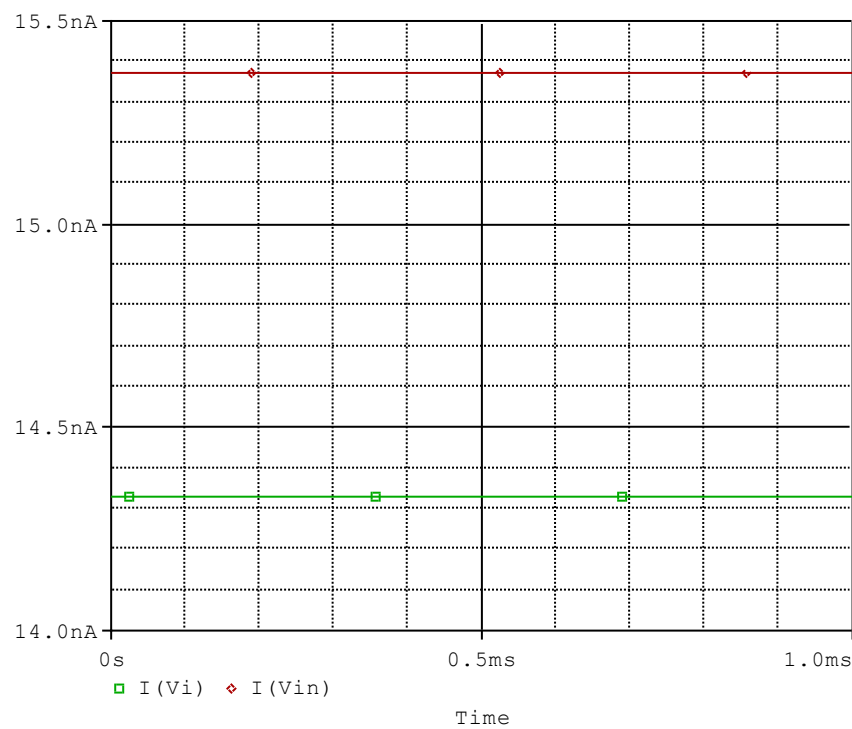
Evaluation circuit



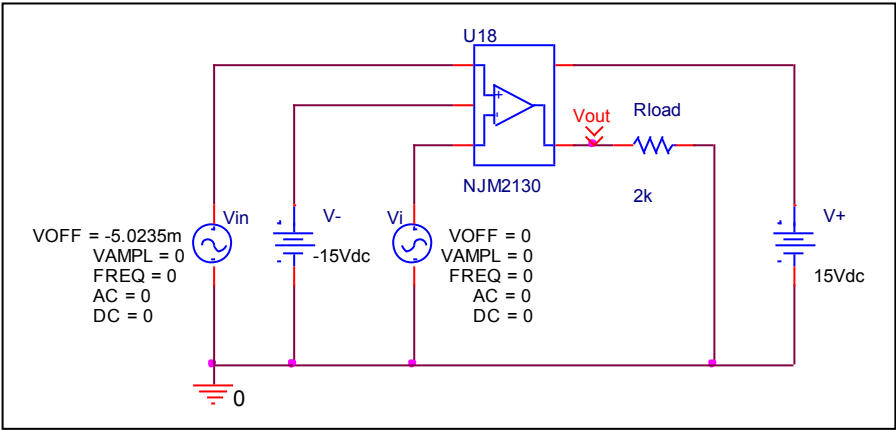
Slew Rate(v/us)	Data sheet	Simulation	%Error
	0.500	0.507	1.400

Input current

Simulation result



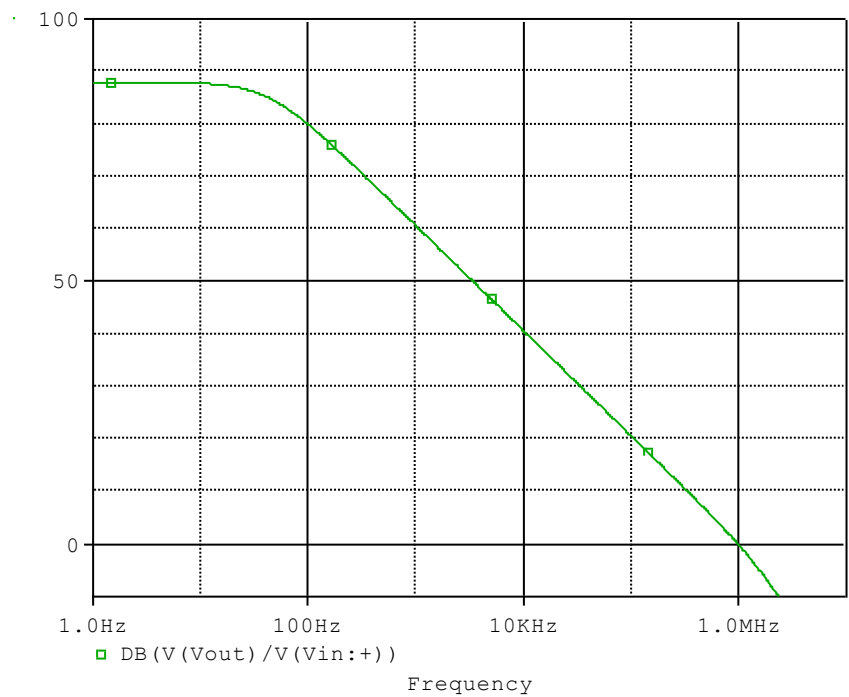
Evaluation circuit



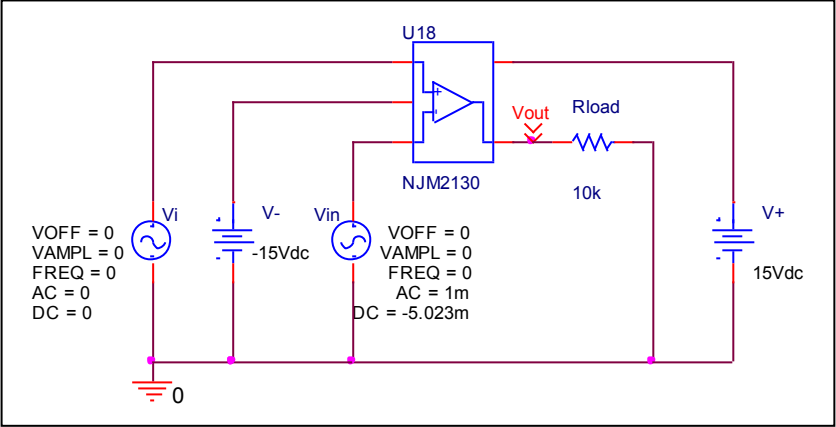
	Data sheet	Simulation	%Error
Ib(nA)	15.000	14.850	1.000
Ibos(nA)	1.000	1.042	4.200

Open Loop Voltage Gain vs. Frequency

Simulation result



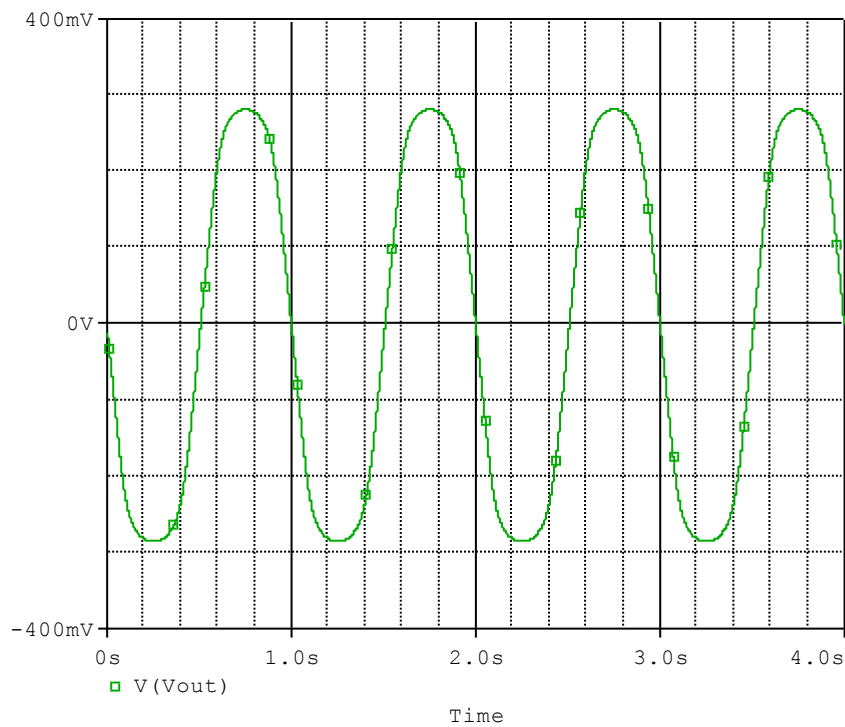
Evaluation circuit



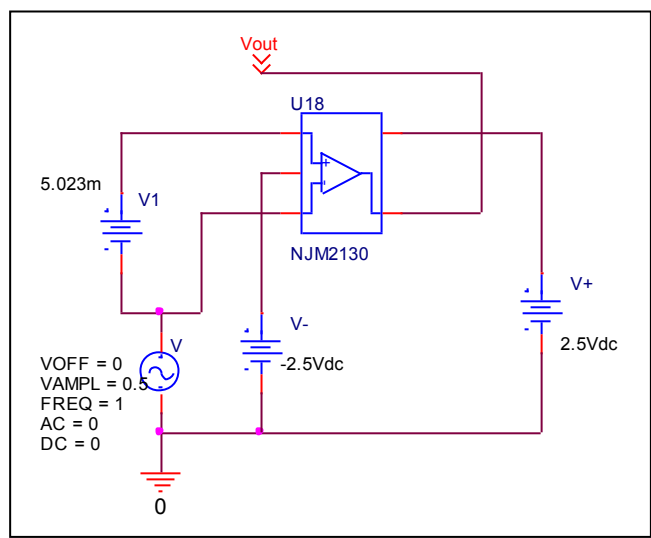
	Data sheet	Simulation	%Error
f-0dB(MHz)	1.000	0.979	2.100
Av-dc(dB)	88.000	87.965	0.039

Common-Mode Rejection Voltage gain

Simulation result



Evaluation circuit



Common Mode Reject Ratio= $25017/0.567=44121.693$

CMRR	Data sheet	Simulation	%Error
	90.000	92.893	3.214