

Device Modeling Report

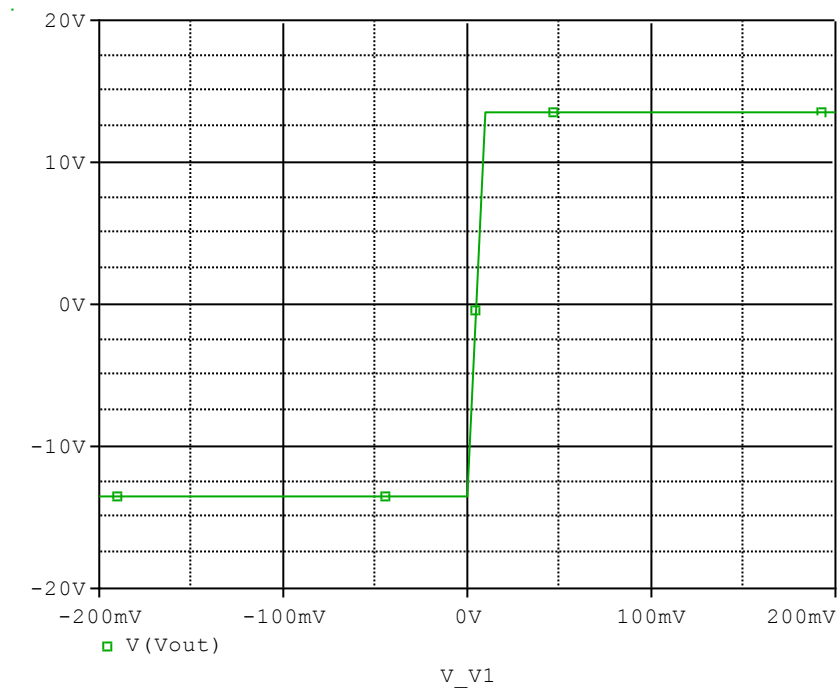
COMPONENTS: OPERATIONAL AMPLIFIER
PART NUMBER: NJM2749A
MANUFACTURER: NEW JAPAN RADIO



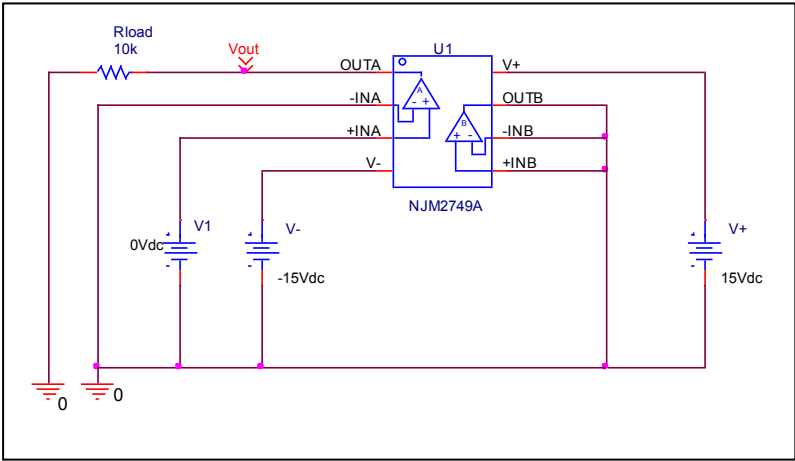
Bee Technologies Inc.

Output Voltage Swing

Simulation result



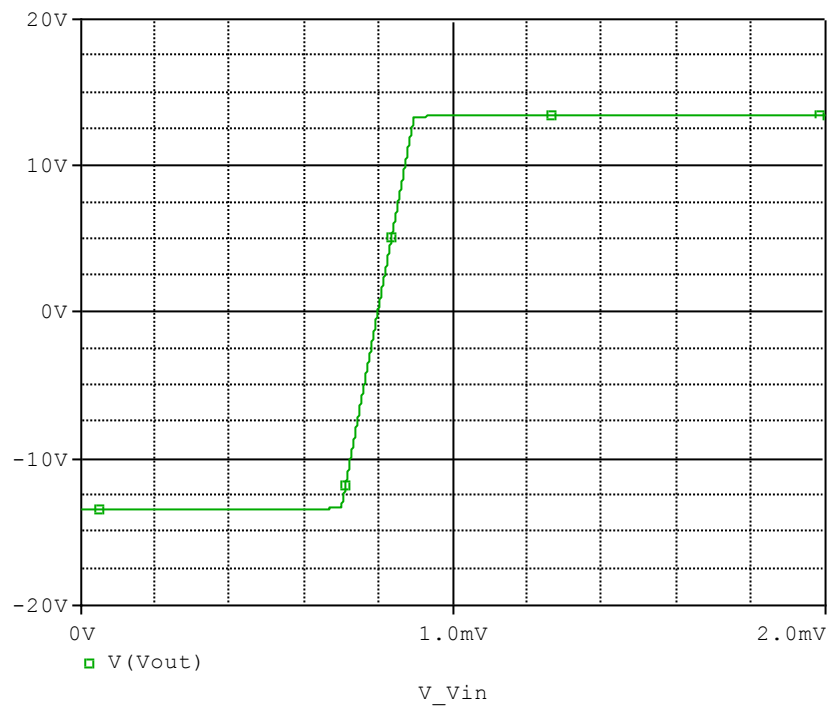
Evaluation circuit



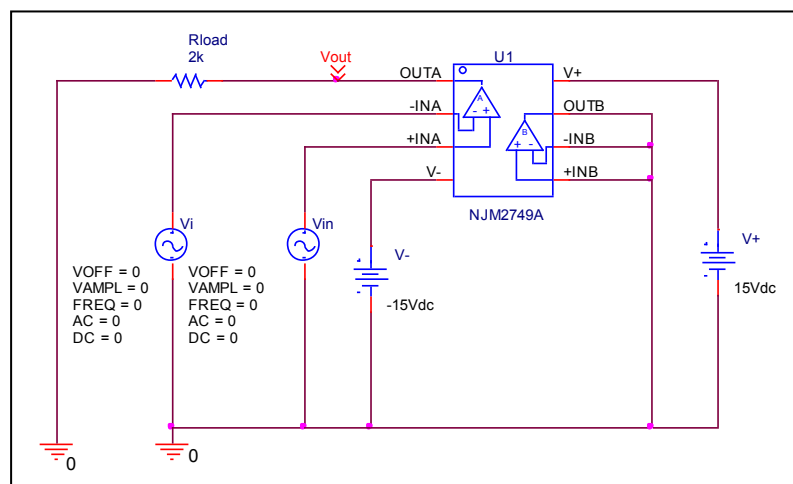
Output Voltage Swing	Measurement	Simulation	%Error
+ $V_{out}(V)$	+13.500	+13.499	-0.010
- $V_{out}(V)$	-13.500	-13.499	-0.010

Input Offset Voltage

Simulation result



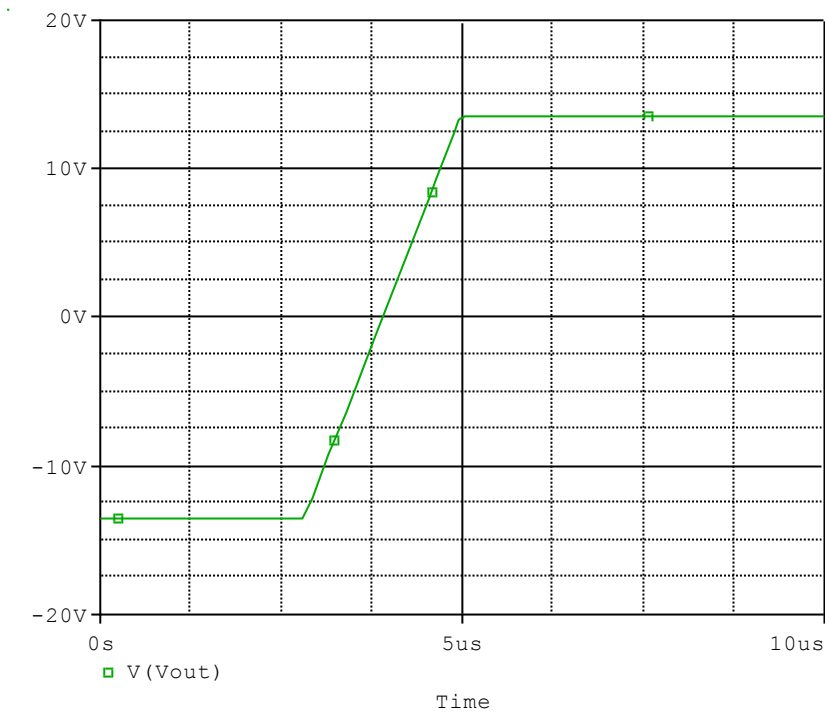
Evaluation circuit



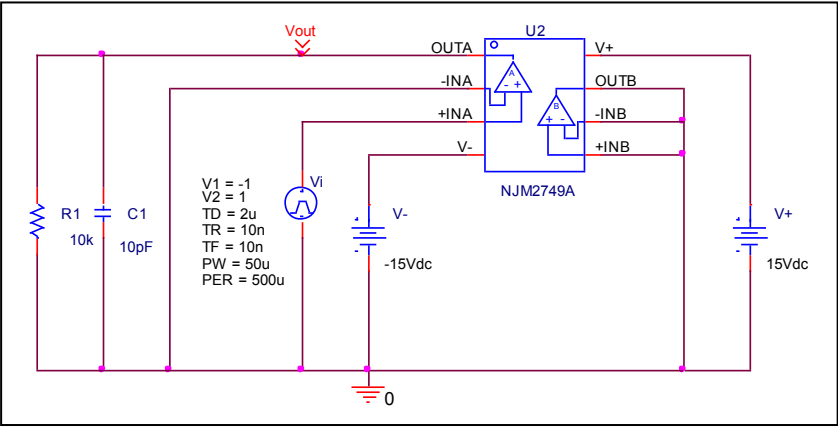
Vos	Measurement		Simulation		Error	
	0.800	mV	0.797	mV	-0.380	%

Slew Rate

Simulation result



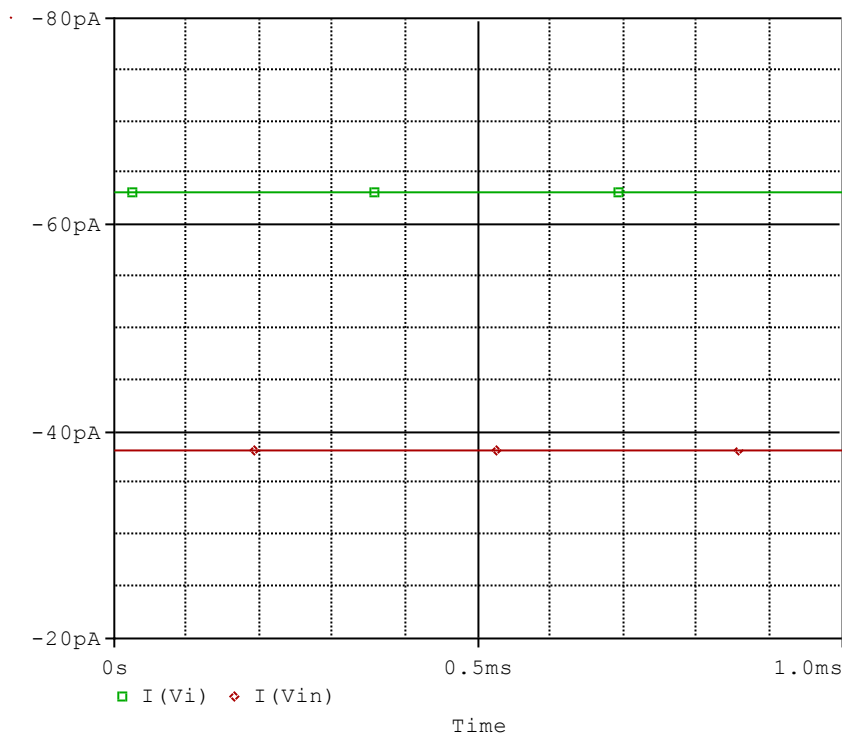
Evaluation circuit



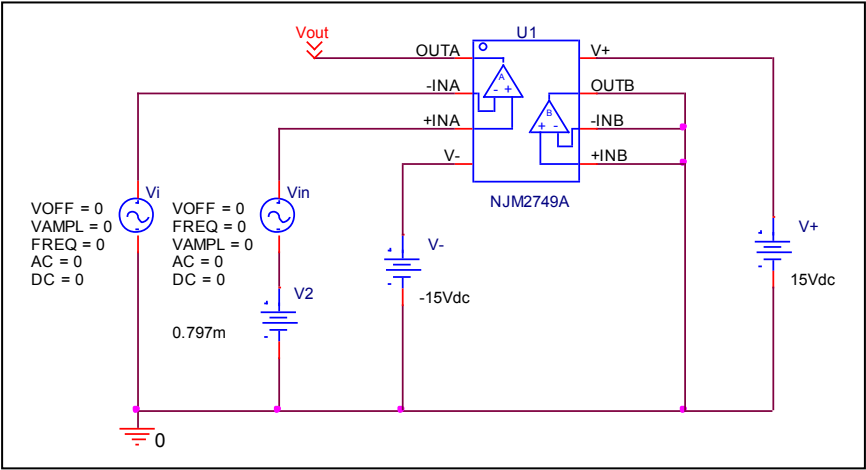
Slew Rate(v/us)	Measurement	Simulation	%Error
	13.000	12.538	-3.550

Input current Ib, Ibos

Simulation result



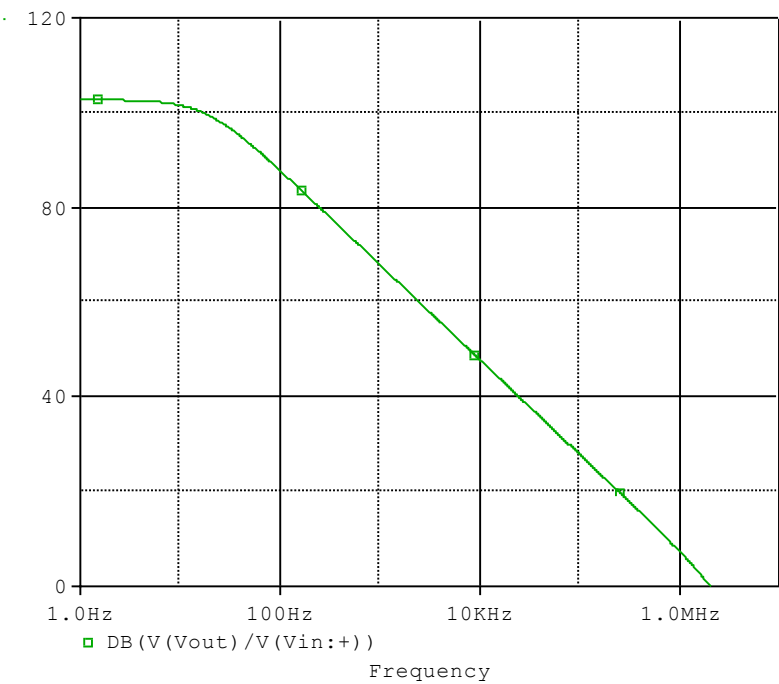
Evaluation circuit



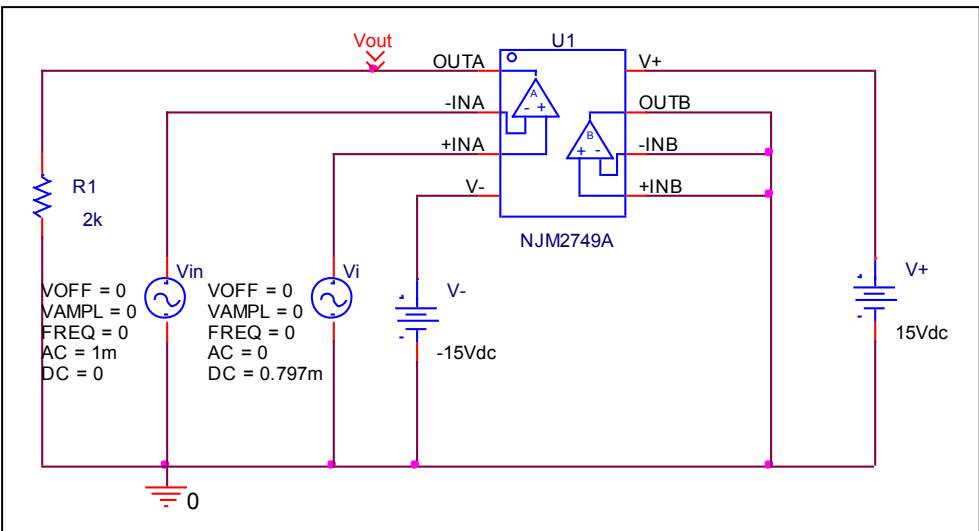
	Measurement	Simulation	%Error
Ib(nA)	50.000	50.599	1.200
Ibos(nA)	25.000	24.989	-0.040

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

Simulation result



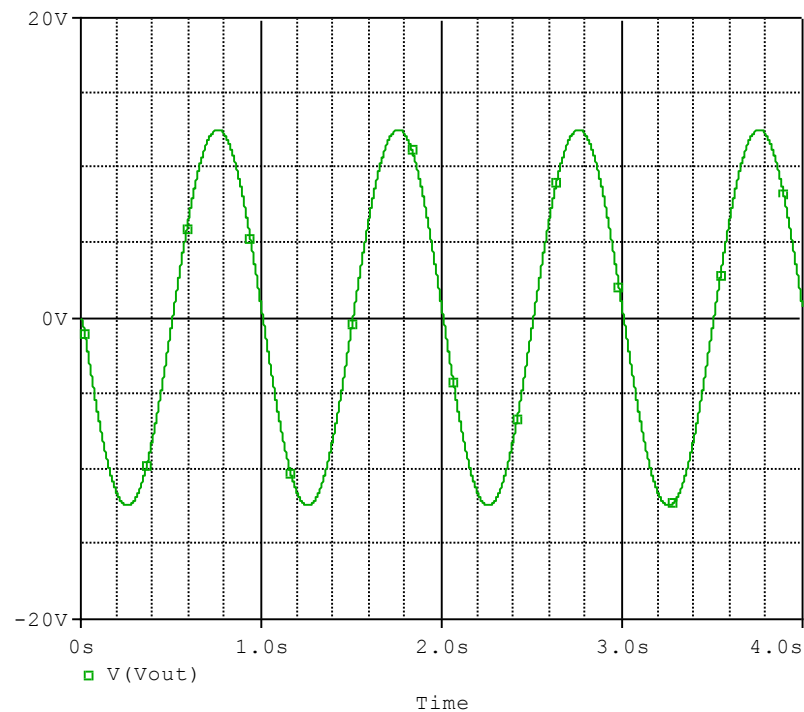
Evaluation circuit



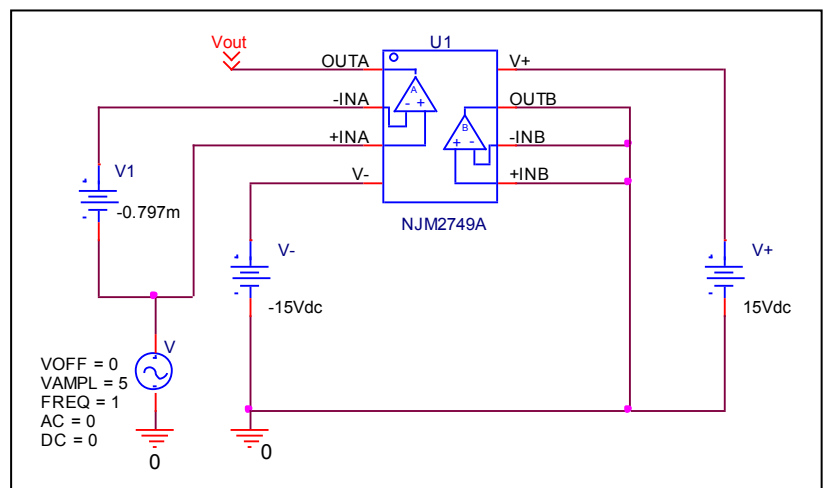
	Measurement	Simulation	%Error
f-0dB(MHz)	2.000	2.070	3.500
Av-dc(dB)	100.000	102.675	2.680

Common-Mode Rejection Voltage gain

Simulation result



Evaluation circuit



$$CMRR=20*LOG(136066.1197/(25.019/10)) = 94.709 \text{ dB}$$

CMRR (dB)	Measurement	Simulation	%Error
	92.000	94.709	2.940