

Device Modeling Report

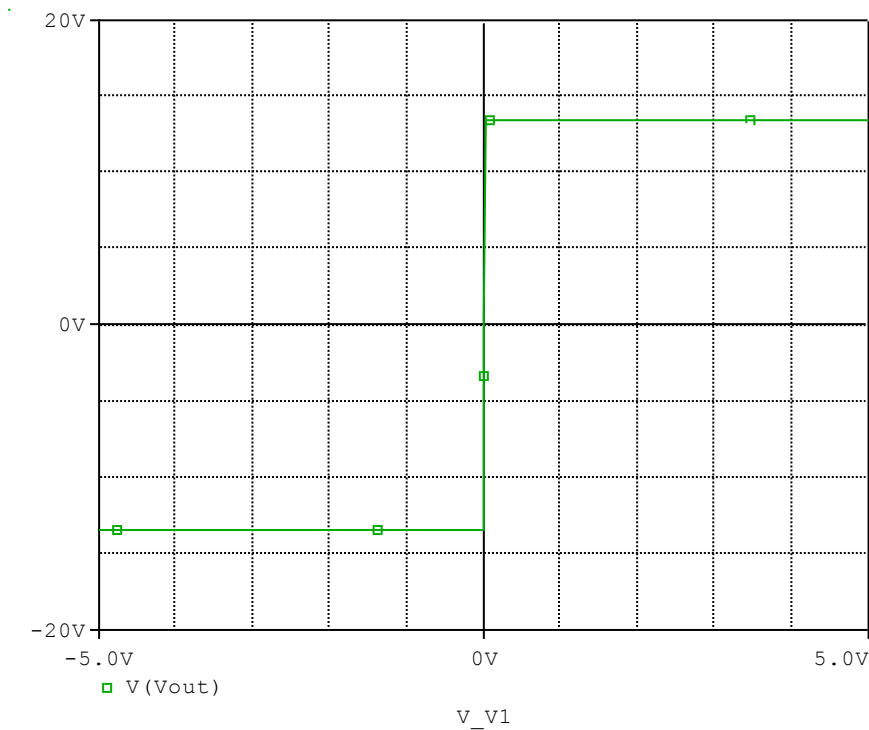
COMPONENTS: OPERATIONAL AMPLIFIER
PART NUMBER: NJM353
MANUFACTURER: NEW JAPAN RADIO CO.,LTD



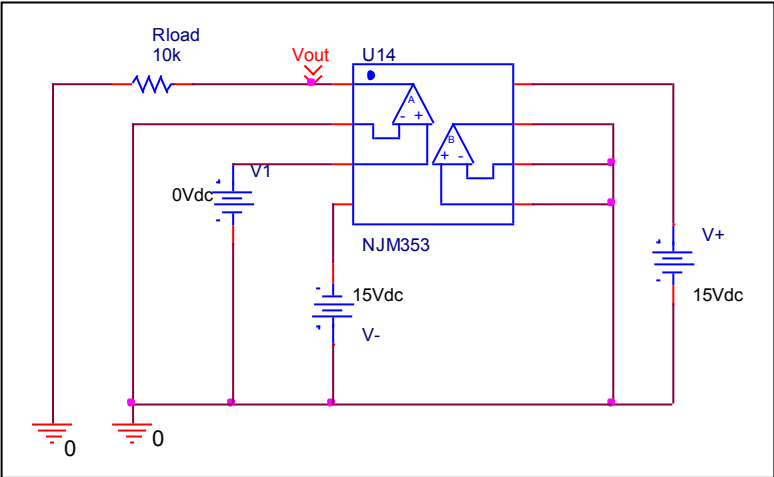
Bee Technologies Inc.

Output Voltage Swing

Simulation result



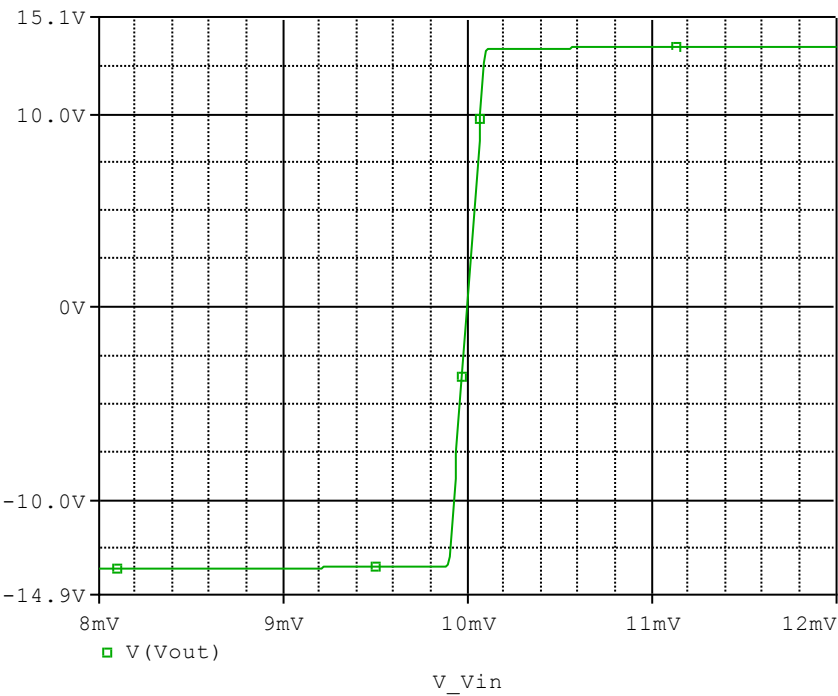
Evaluation circuit



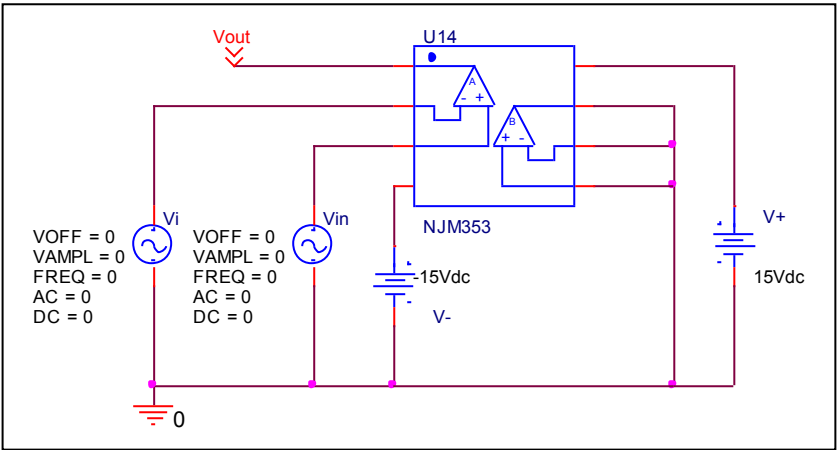
Output Voltage Swing	Data sheet	Simulation	%Error
+Vout(V)	13.500	13.445	-0.407
-Vout(V)	13.500	13.445	-0.407

Input Offset Voltage

Simulation result



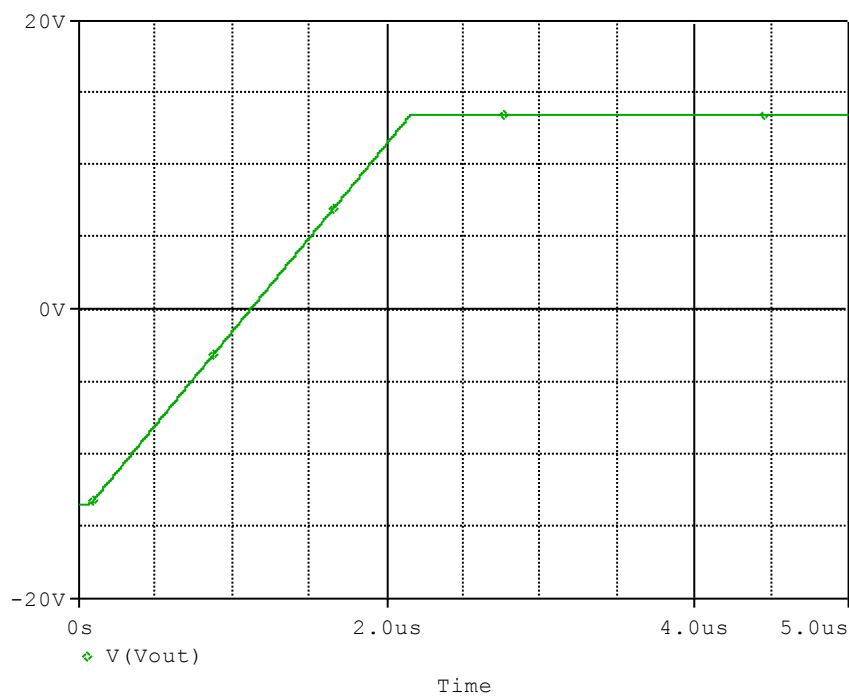
Evaluation circuit



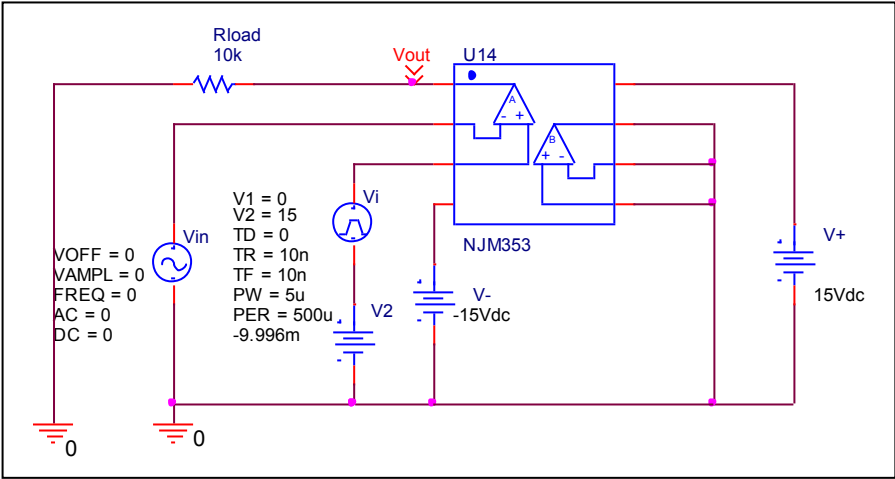
Vos	Measurement		Simulation		Error	
	10.000	mV	9.996	mV	0.040	%

Slew Rate

Simulation result



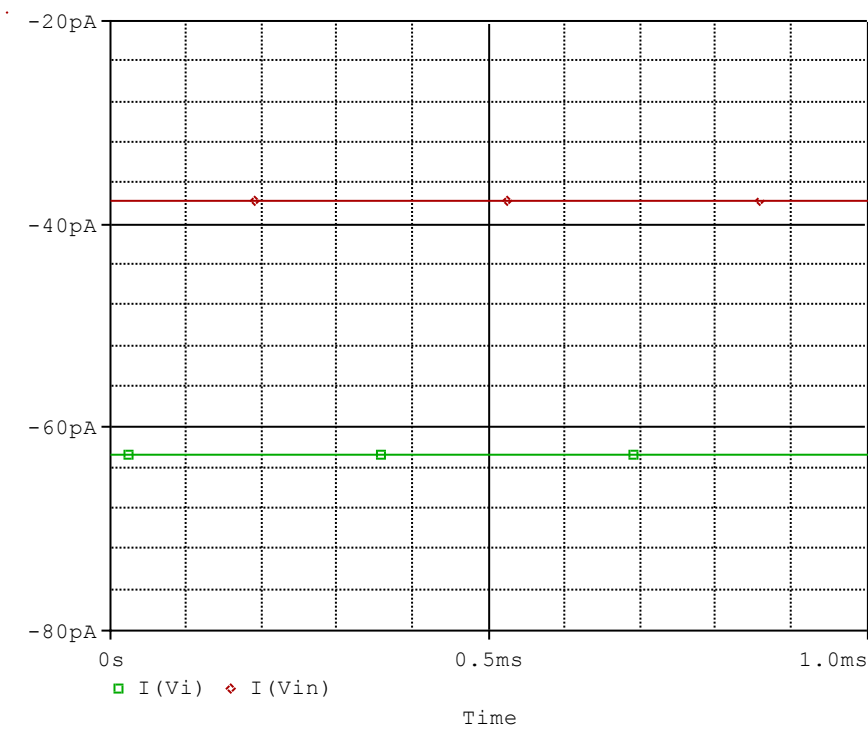
Evaluation circuit



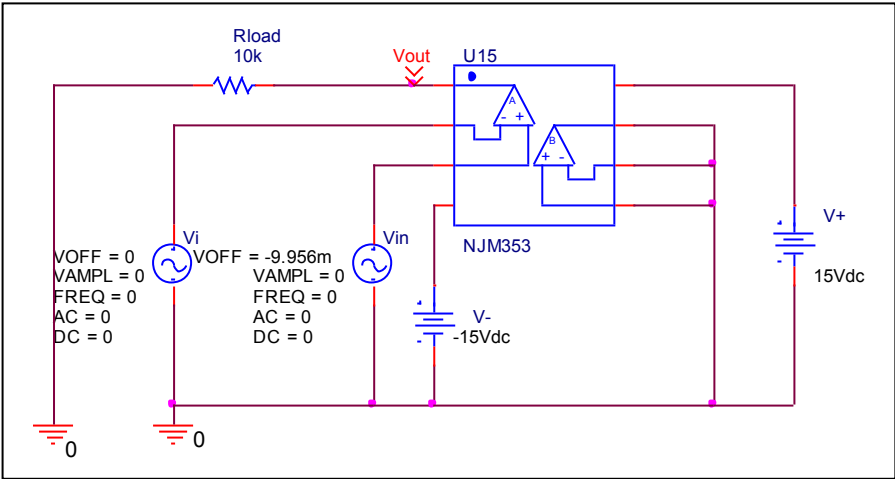
Slew Rate(v/us)	Data sheet	Simulation	%Error
	13.000	12.964	-0.276

Input current

Simulation result



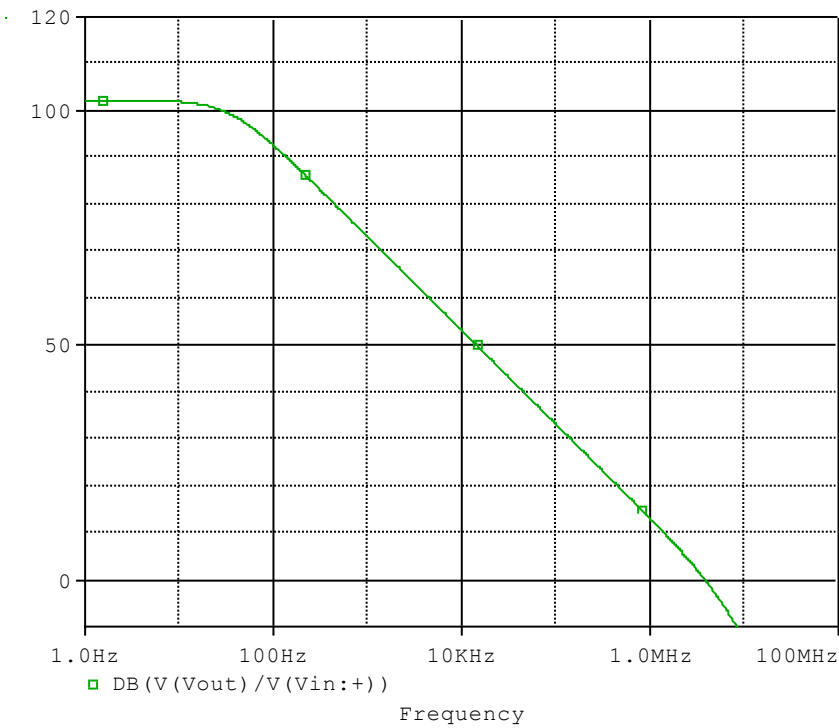
Evaluation circuit



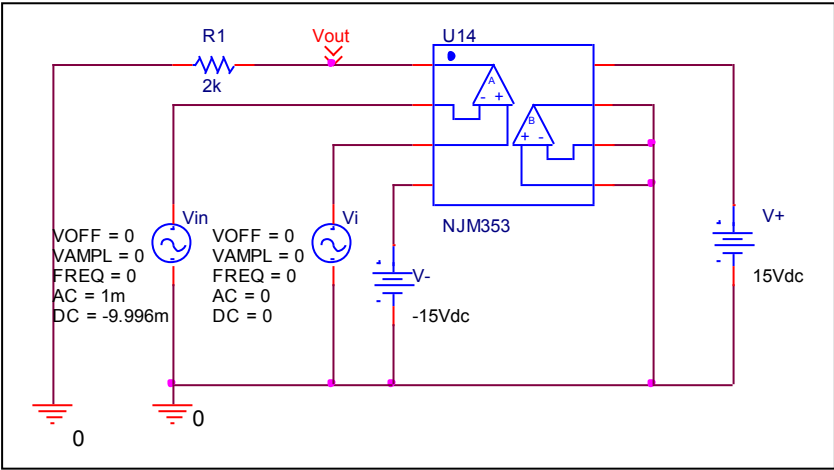
	Data sheet	Simulation	%Error
Ib(nA)	50.000	50.207	0.414
Ibos(nA)	25.000	25.048	0.129

Open Loop Voltage Gain vs. Frequency

Simulation result



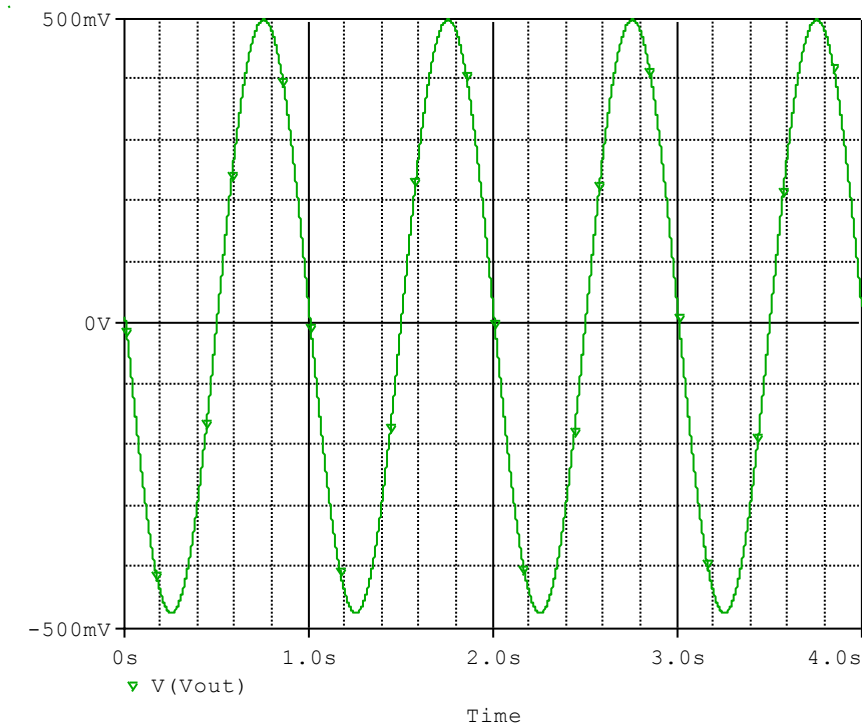
Evaluation circuit



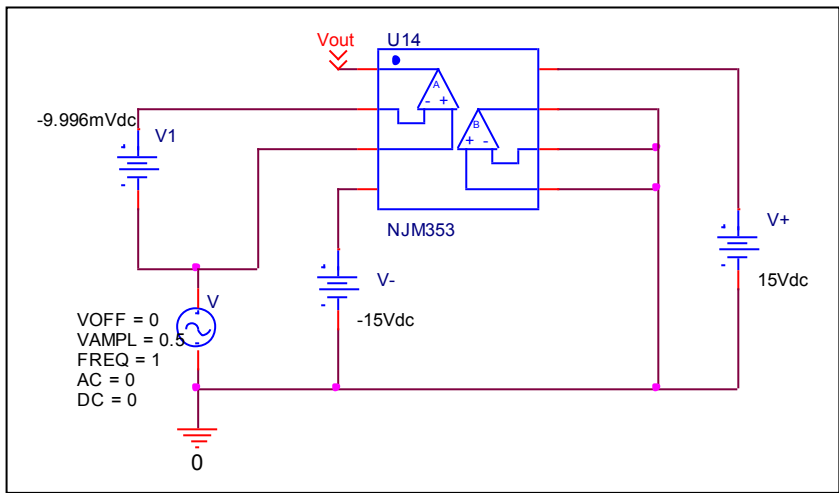
	Data sheet	Simulation	%Error
f-0dB(MHz)	4.000	3.870	-3.250
Av-dc	100.000	100.200	0.200

Common-Mode Rejection Voltage gain

Simulation result



Evaluation circuit



Common Mode Reject Ratio= $102329/0.972=105276$

CMRR	Data sheet	Simulation	%Error
	100.000	100.446	0.446