

Device Modeling Report

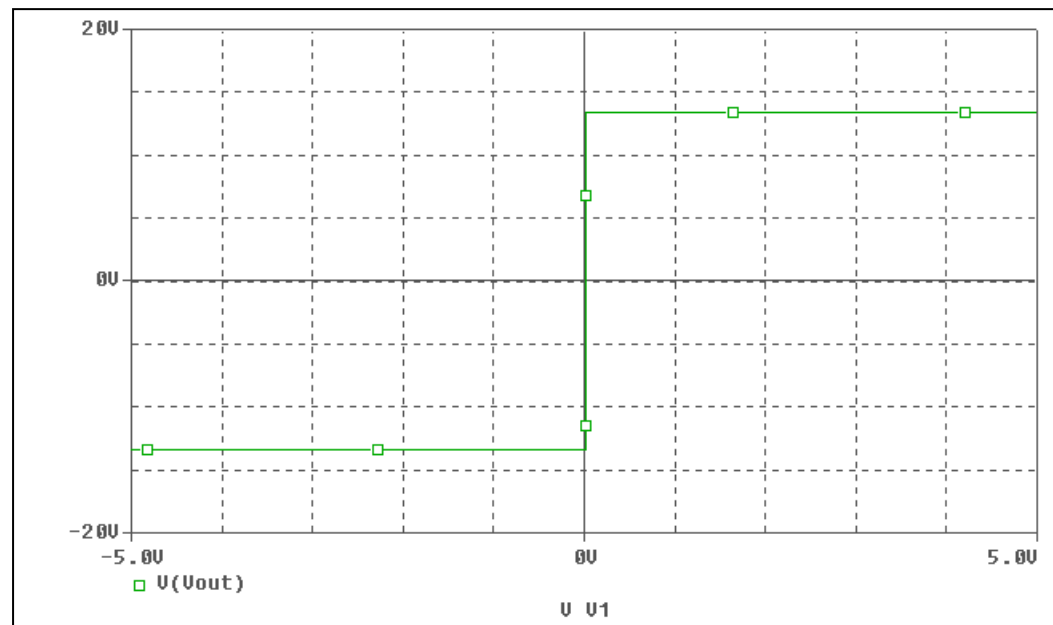
COMPONENTS: OPERATIONAL AMPLIFIER
PART NUMBER: NJM072M
MANUFACTURER: NEW JAPAN RADIO CO.,LTD



Bee Technologies Inc.

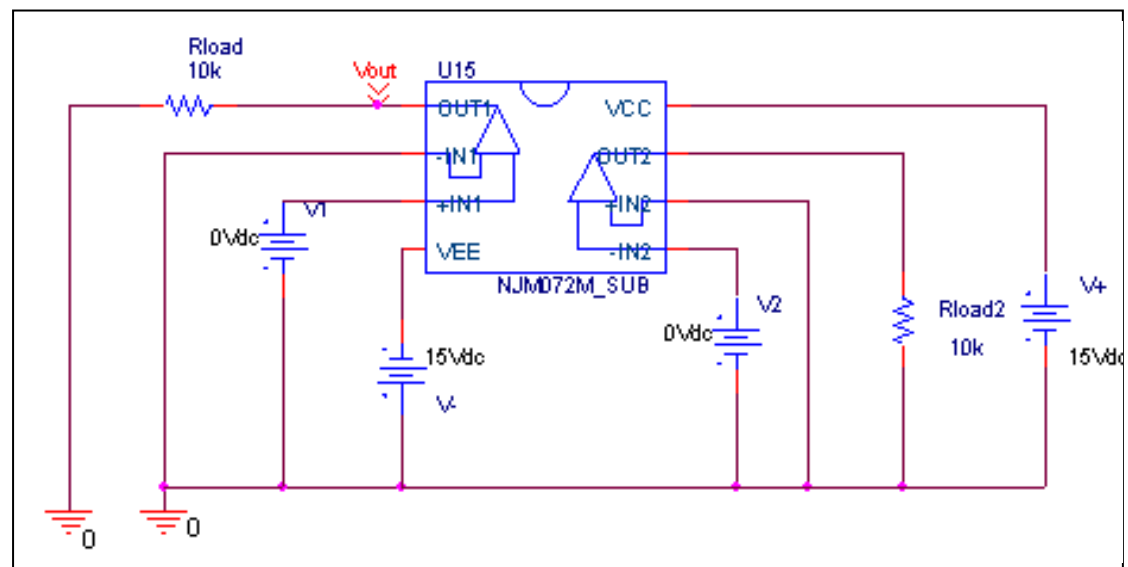
Output Voltage Swing, +Vout and –Vout

Simulation result



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

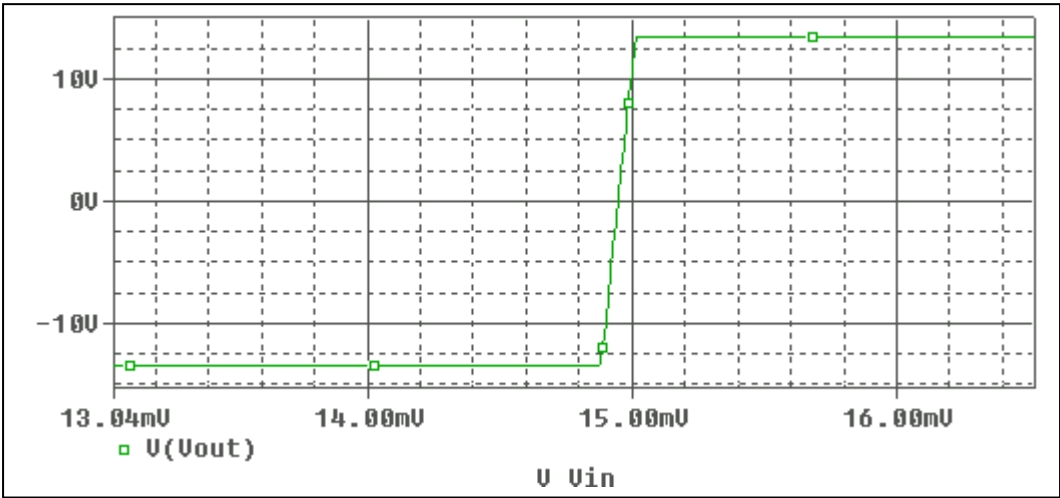
Evaluation circuit



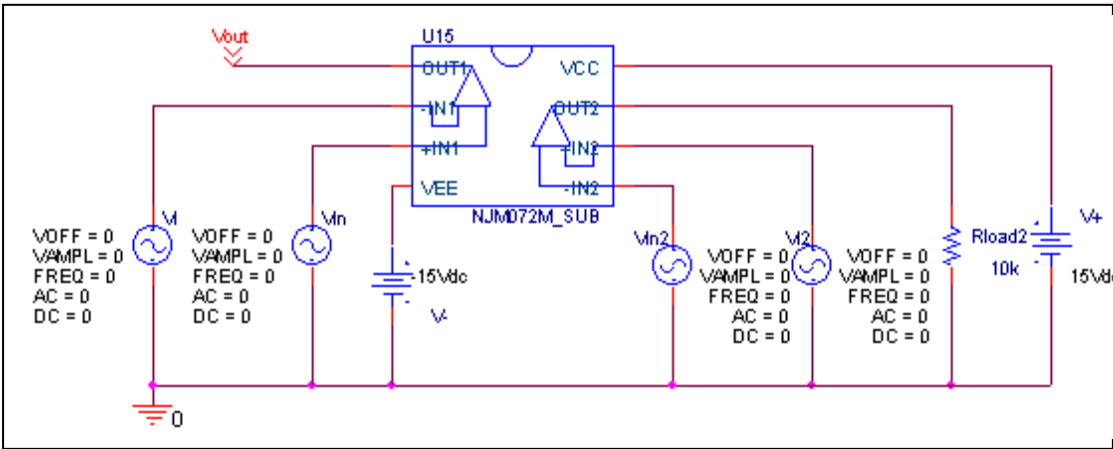
Output Voltage Swing	Data sheet	Simulation	%Error
+Vout(V)	+13.5	+13.438	0.459
-Vout(V)	-13.5	-13.438	0.459

Input Offset Voltage

Simulation result



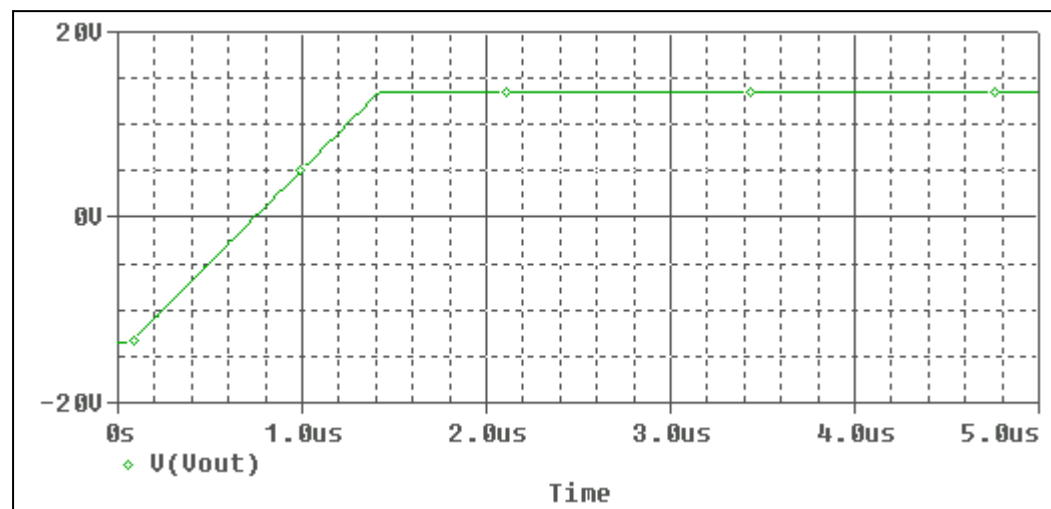
Evaluation circuit



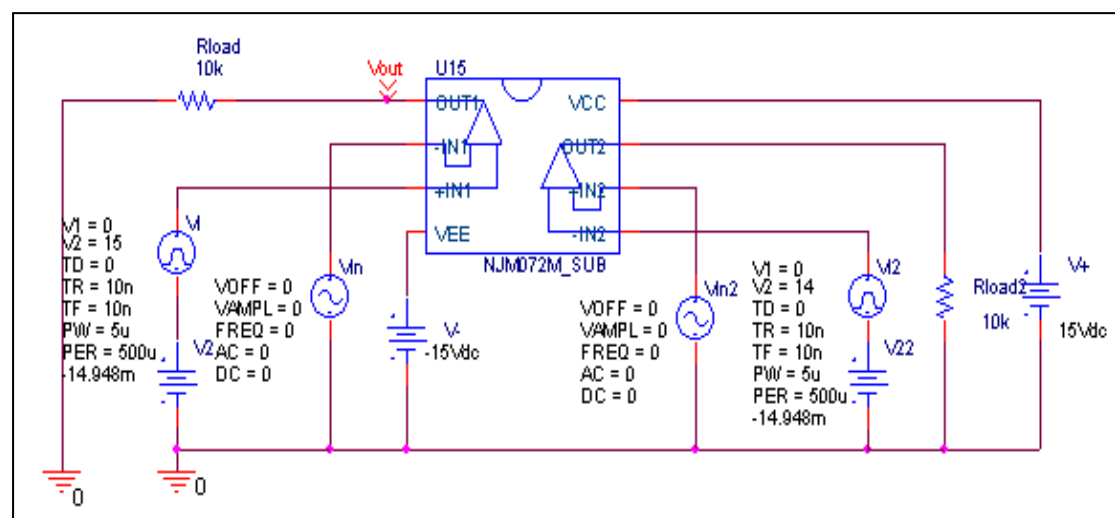
Vos	Measurement		Simulation		Error	
	15	mV	14.948	mV	0.34	%

Slew Rate, +SR, -SR

Simulation result



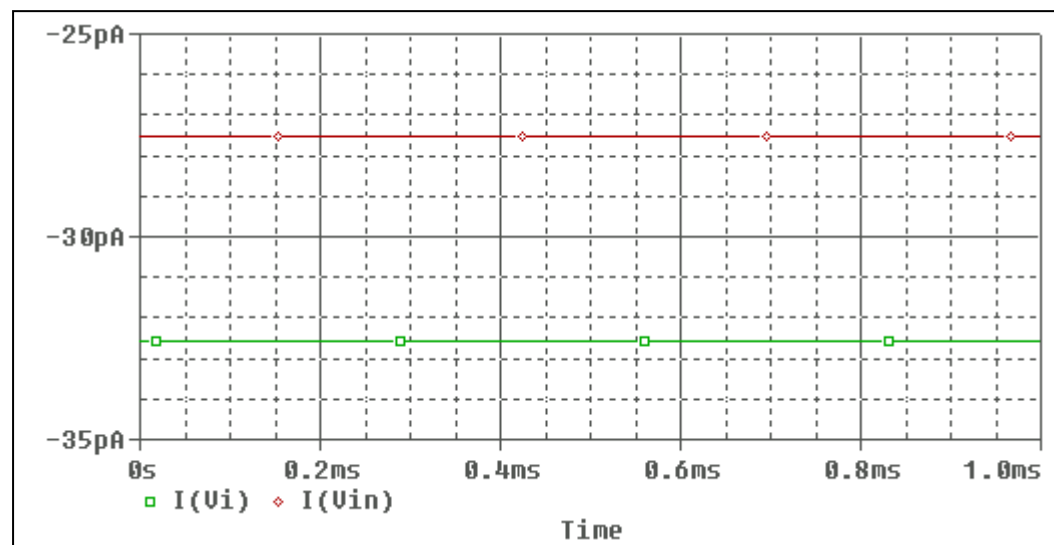
Evaluation circuit



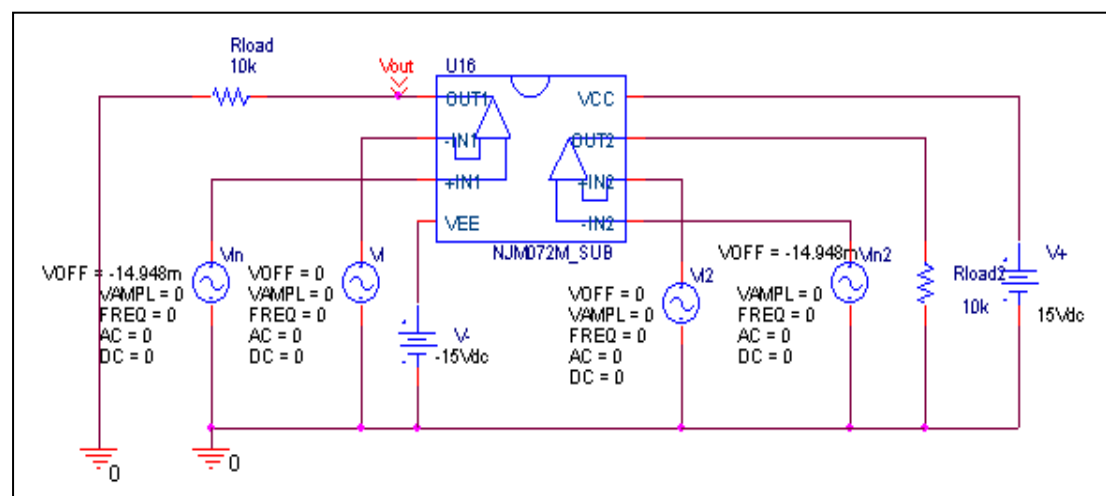
Slew Rate(v/us)	Data sheet	Simulation	%Error
	20V/us	20.023V/us	0.115

Input current I_b , I_{bos}

Simulation result



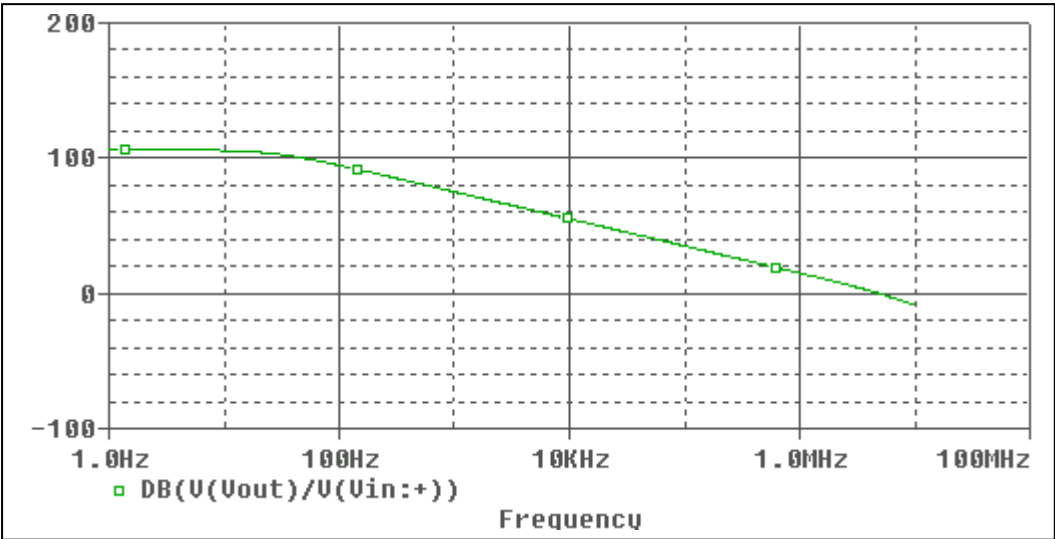
Evaluation circuit



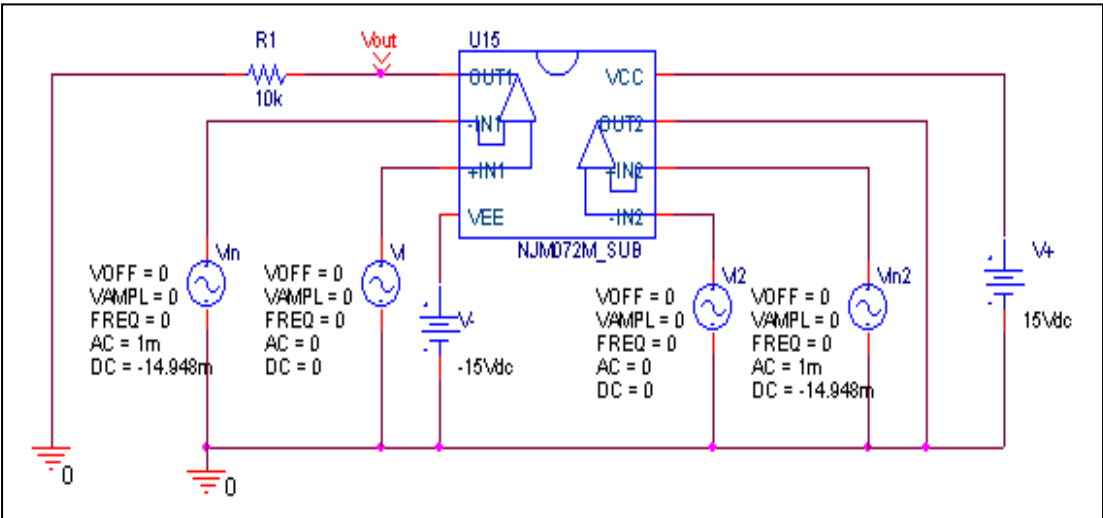
	Data sheet	Simulation	%Error
$I_b(\text{nA})$	30	30.05	0.166
$I_{bos}(\text{nA})$	5	5.06	1.2

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

Simulation result



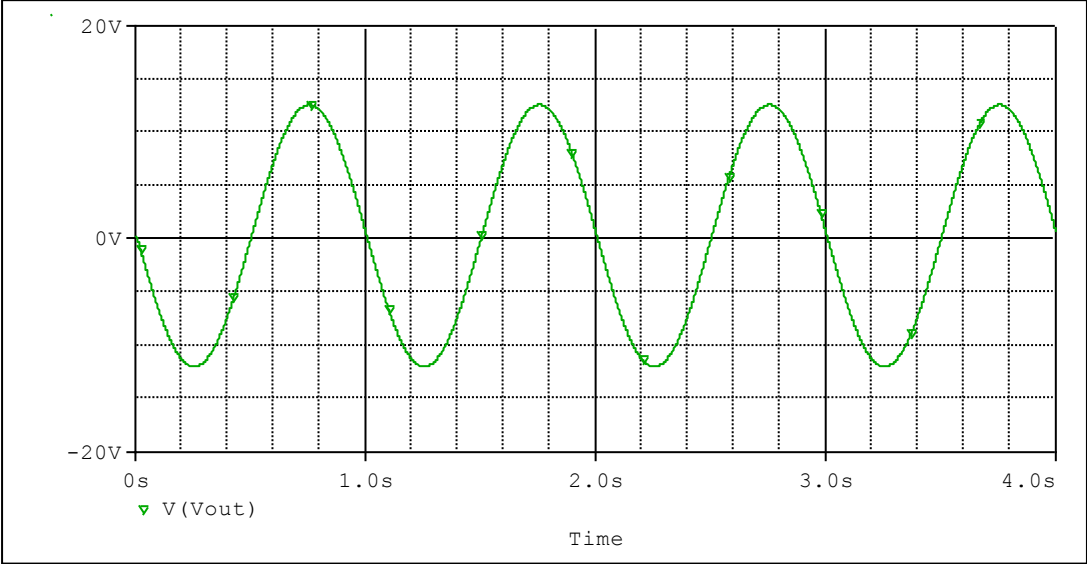
Evaluation circuit



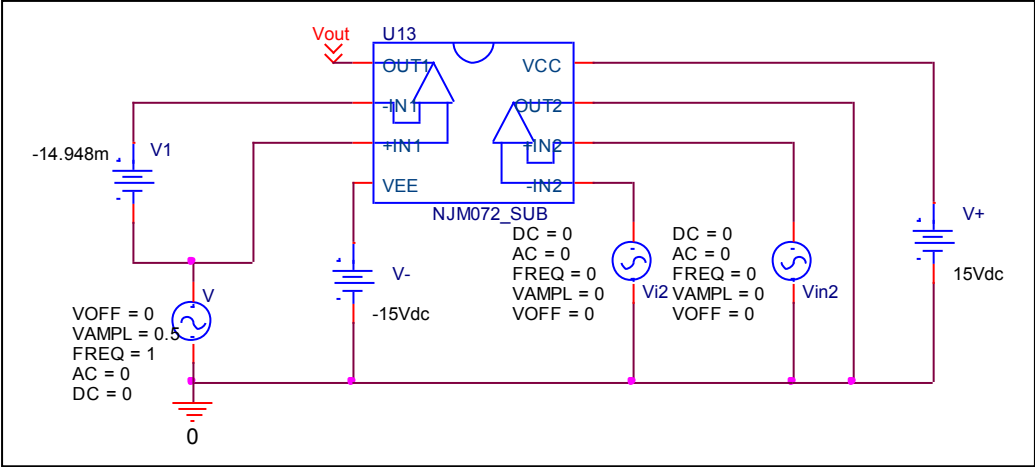
	Data sheet	Simulation	%Error
f-0dB(MHz)	5	4.87	2.6
Av-dc	106	106.1	0.094

Common-Mode Rejection Voltage gain

Simulation result



Evaluation circuit



Common Mode Rejection Ratio= $201836/24.587=8209.053$

CMRR	Data sheet	Simulation	%Error
	76	78.285	3.007