

Device Modeling Report

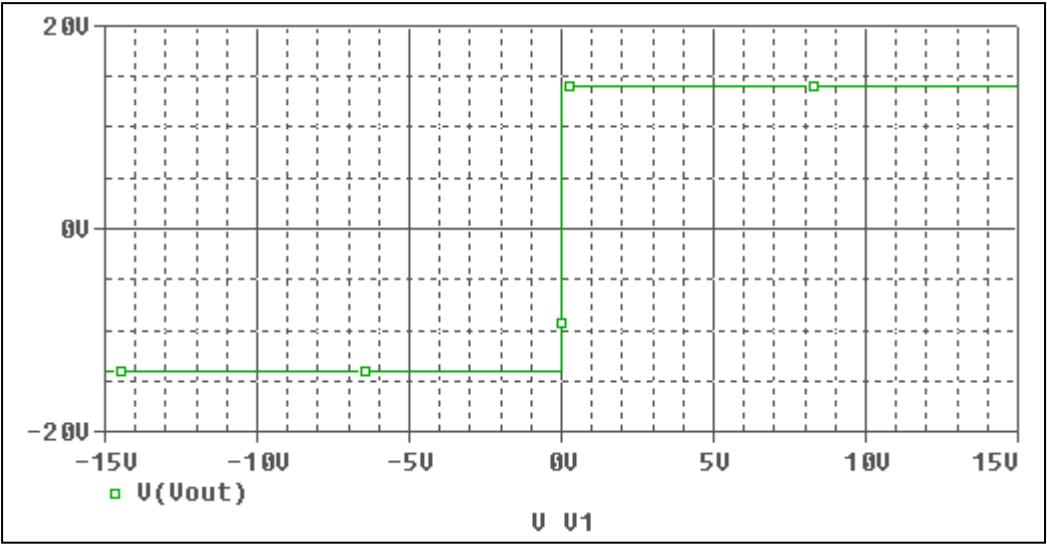
COMPONENTS:MOSFET: OPERATIONAL AMPLIFIER
PART NUMBER:NJM2041M
MANUFACTURER: NEW JAPAN RADIO CO.,LTD



Bee Technologies Inc.

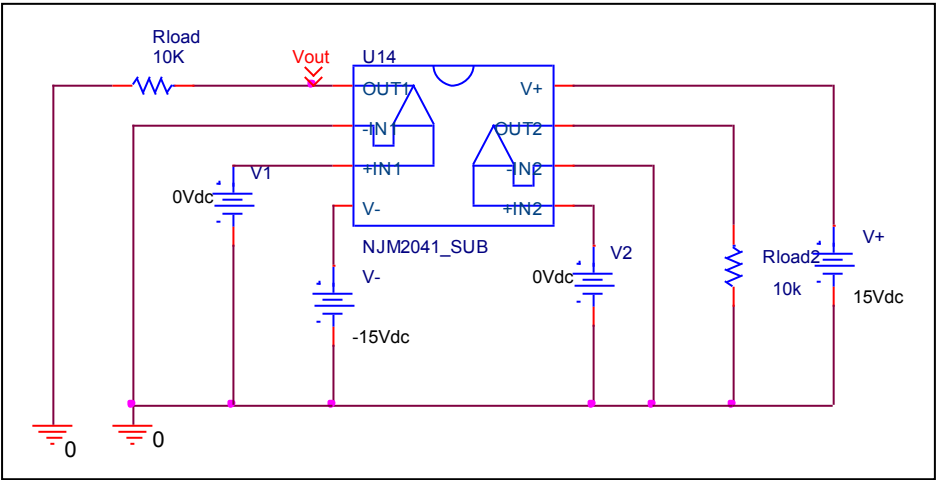
Output Voltage Swing, +Vout and –Vout

Simulation result



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

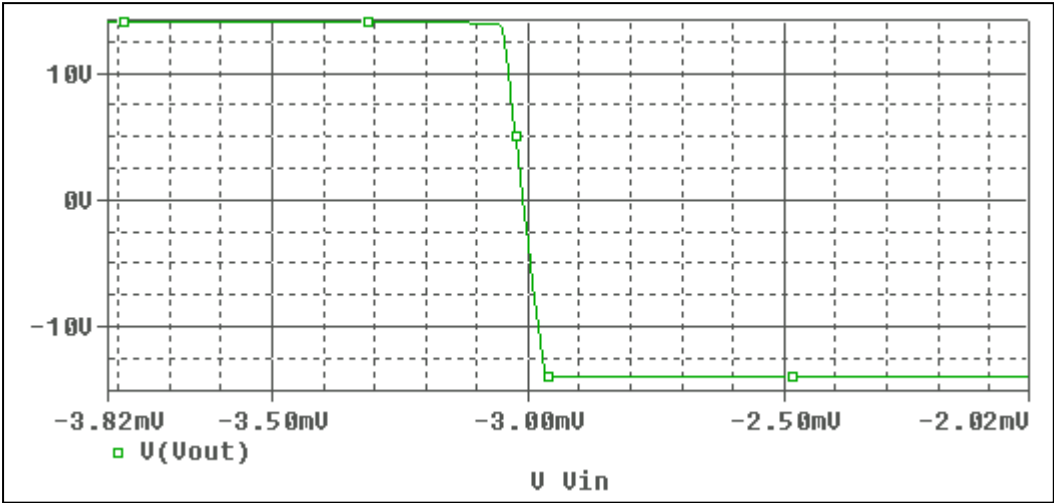
Evaluation circuit



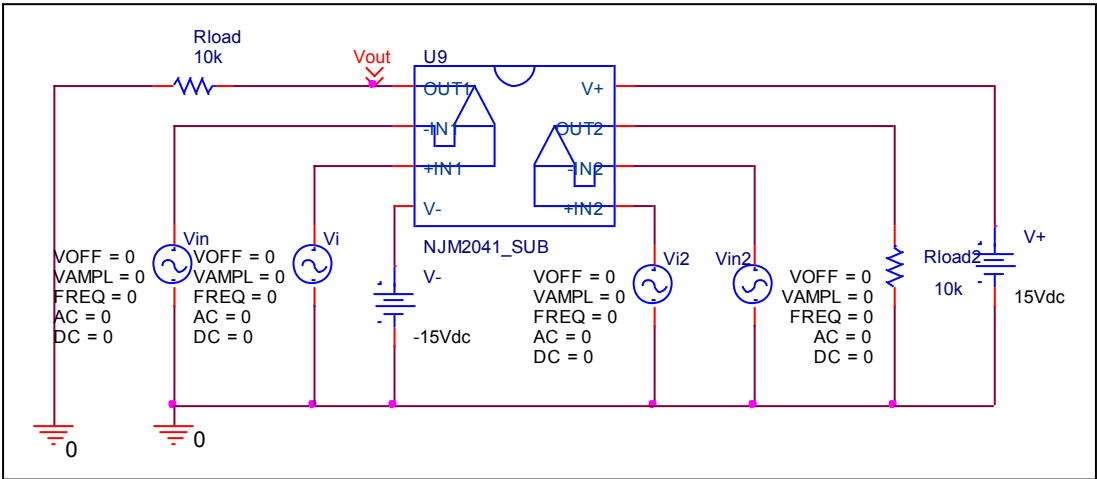
Output Voltage Swing	Data sheet	Simulation	%Error
+Vout(V)	+14	13.996	0.028
-Vout(V)	-14	-13.996	0.028

Input Offset Voltage

Simulation result



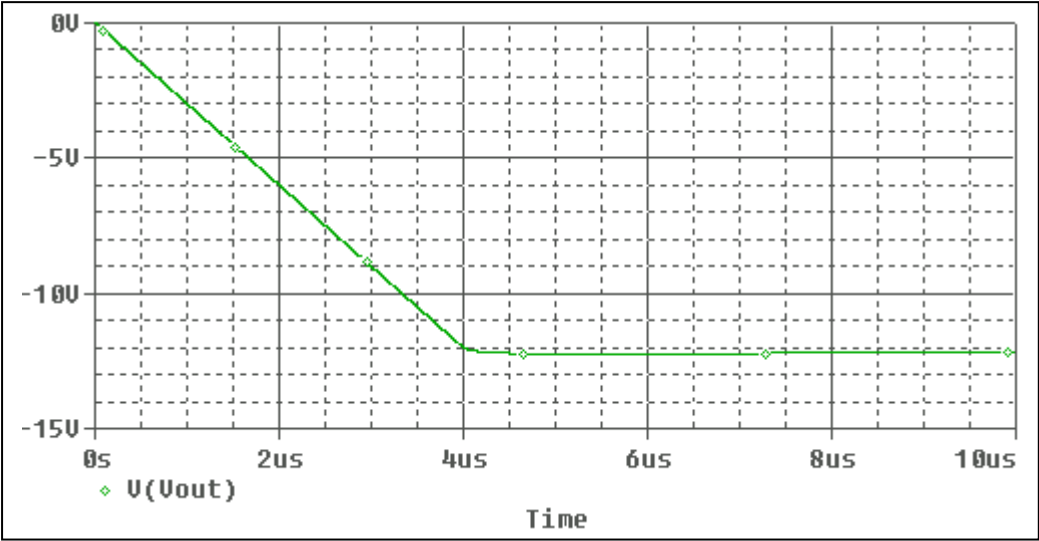
Evaluation circuit



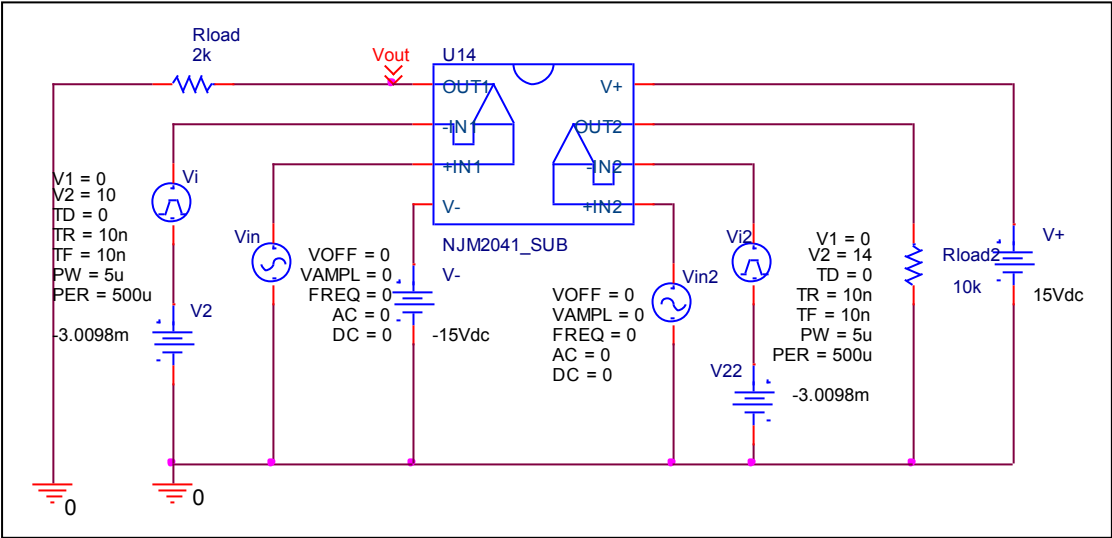
Vos	Measurement		Simulation		Error	
	3	mV	3.0098	mV	0.326	%

Slew Rate, +SR, -SR

Simulation result



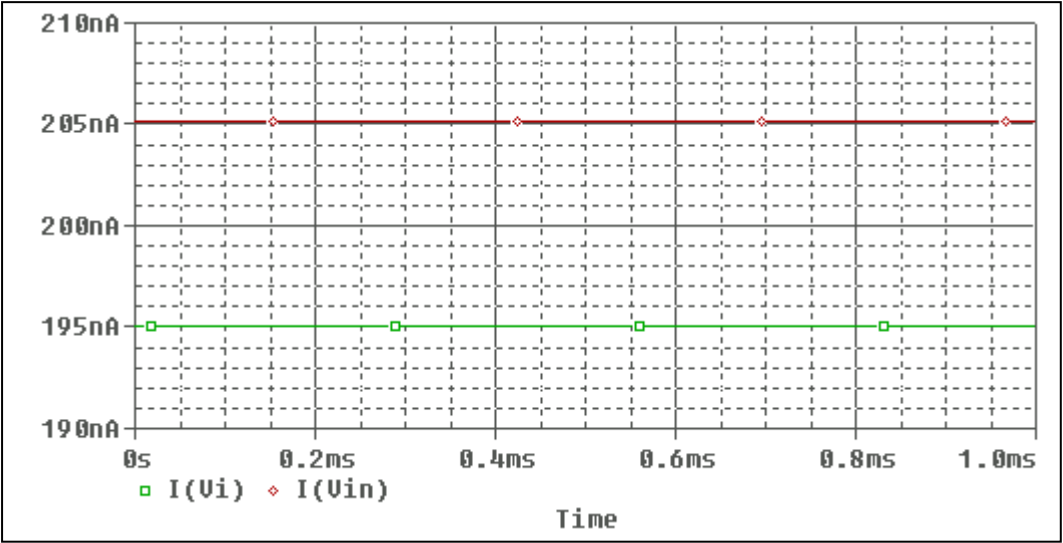
Evaluation circuit



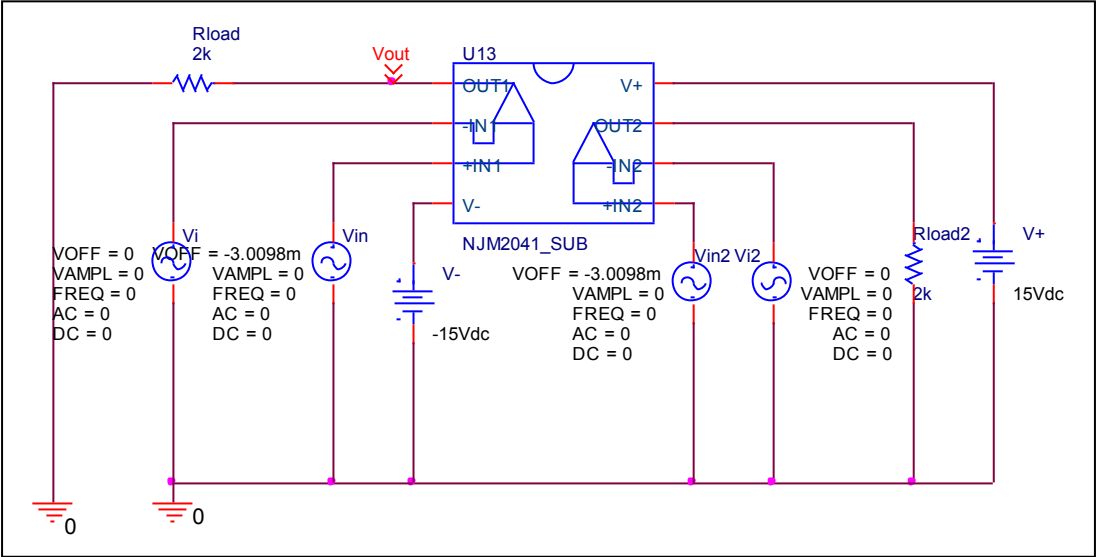
Slew Rate(v/us)	Data sheet	Simulation	%Error
	3V/us	3.009V/us	0.3

Input current Ib, Ibos

Simulation result



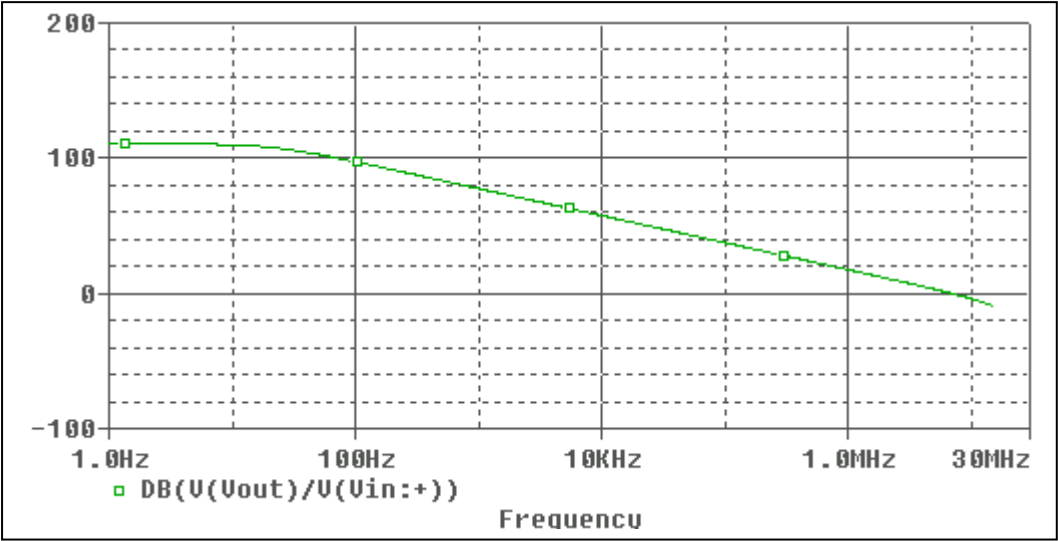
Evaluation circuit



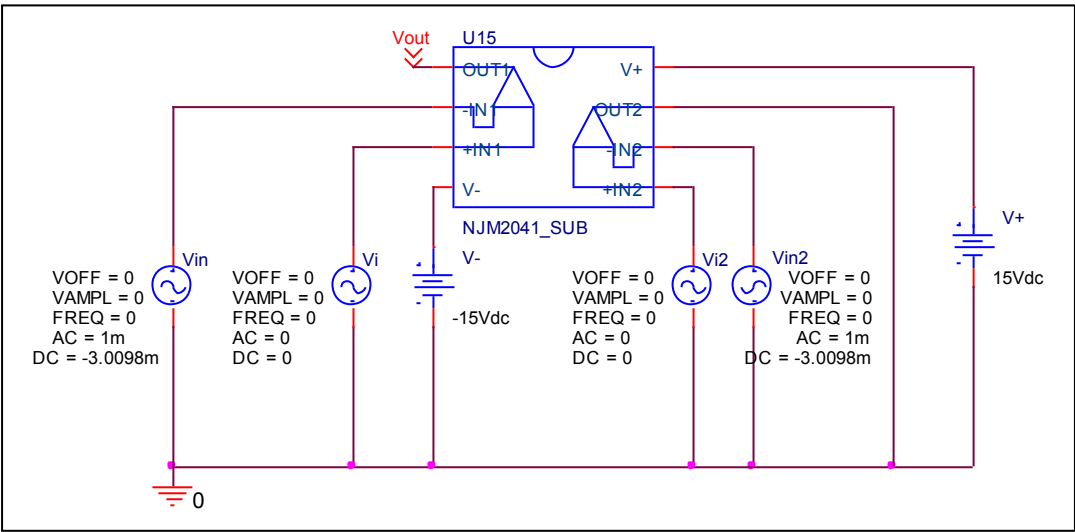
	Data sheet	Simulation	%Error
Ib(nA)	200	200.085	0.042
Ibos(nA)	10	10.037	0.37

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

Simulation result



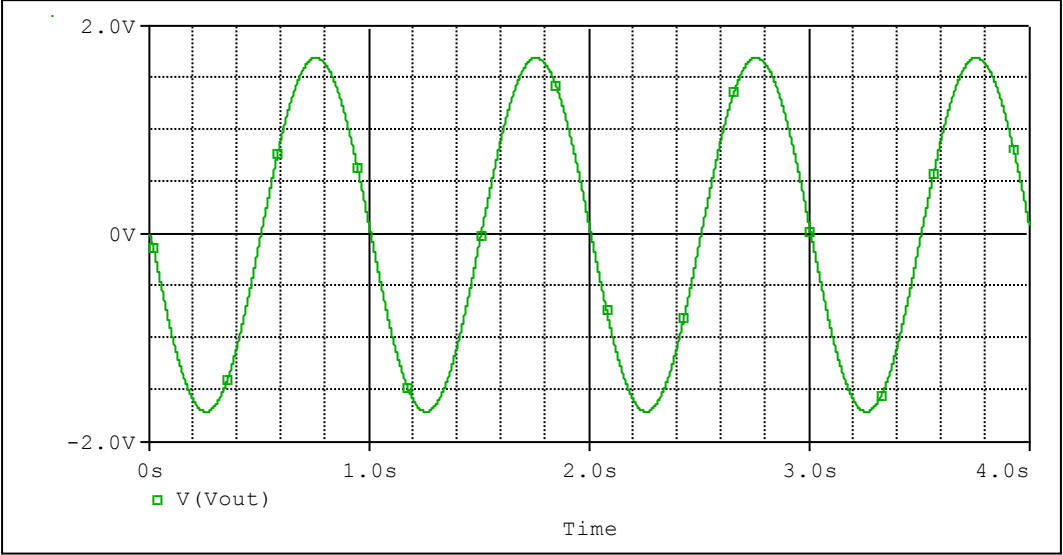
Evaluation circuit



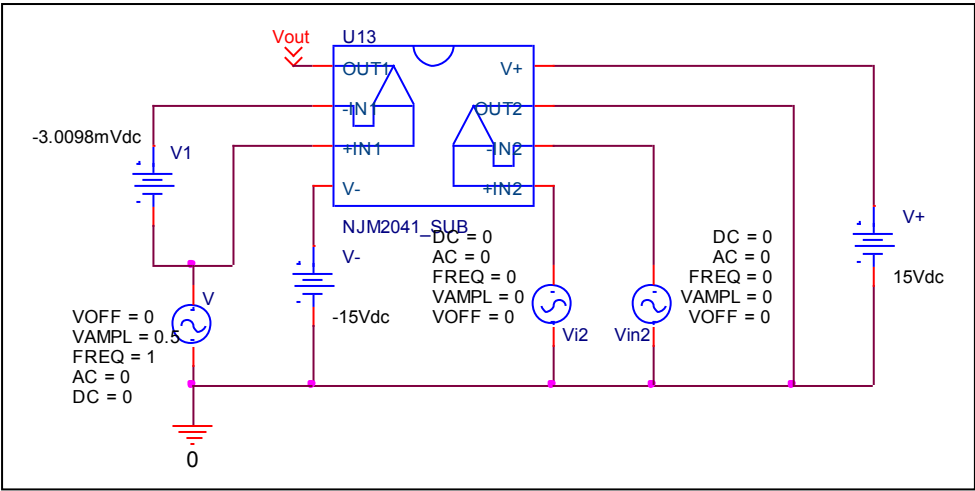
	Data sheet	Simulation	%Error
f-0dB(MHz)	7	6.96	0.571
Av-dc(dB)	110	110.062	0.056

Common-Mode Rejection Voltage gain

Simulation result



Evaluation circuit



Common Mode Reject Ratio= $317760/3.401=93431.343$

CMRR	Data sheet	Simulation	%Error
	100	99.409	-0.591