

# **Device Modeling Report**

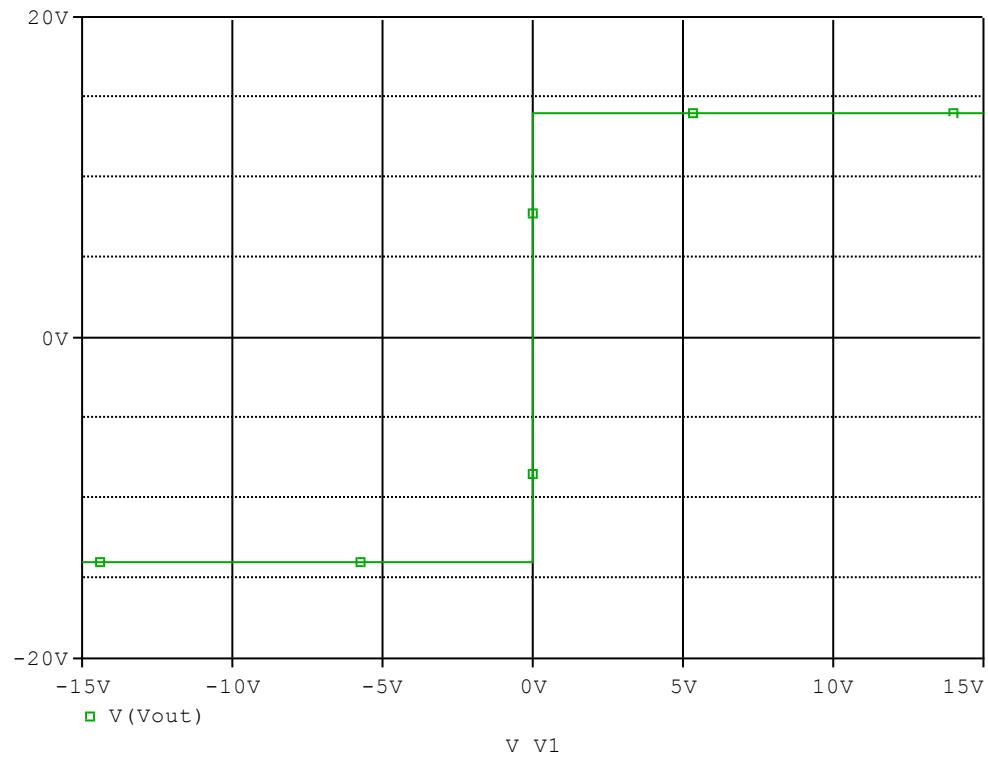
COMPONENTS: OPERATIONAL AMPLIFIER  
PART NUMBER:NJM2041  
MANUFACTURER: NEW JAPAN RADIO CO.,LTD



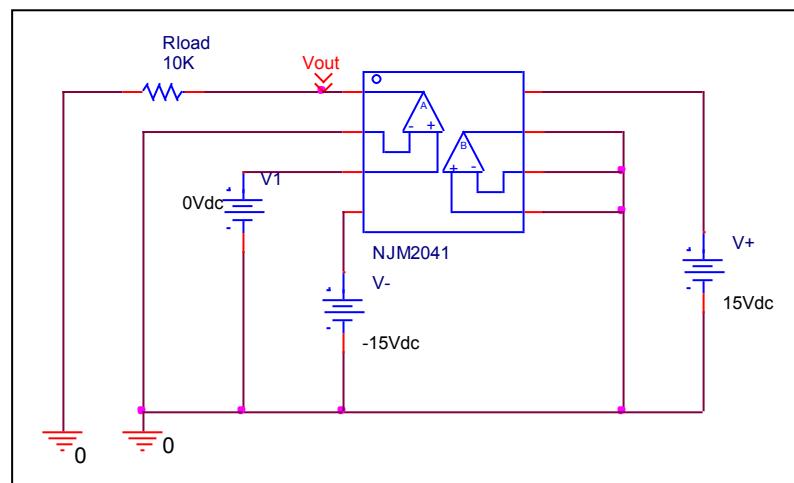
**Bee Technologies Inc.**

## Output Voltage Swing

### Simulation result



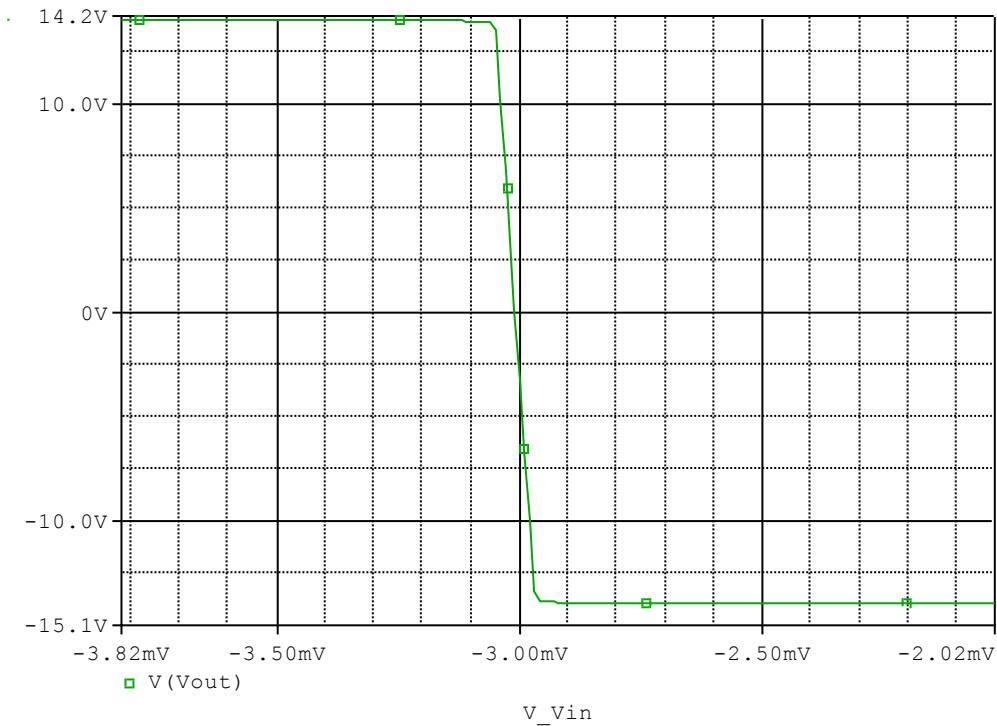
### Evaluation circuit



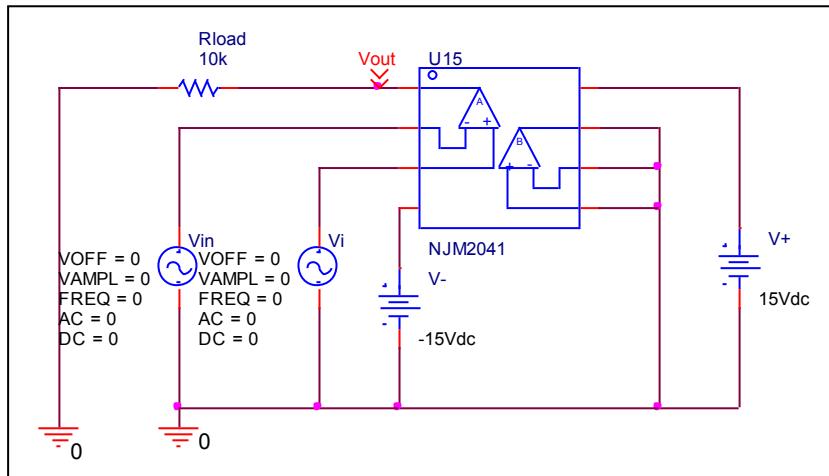
Output Voltage Swing	Data sheet	Simulation	%Error
+Vout(V)	+14.000	13.996	0.028
-Vout(V)	-14.000	-13.996	0.028

## Input Offset Voltage

### Simulation result



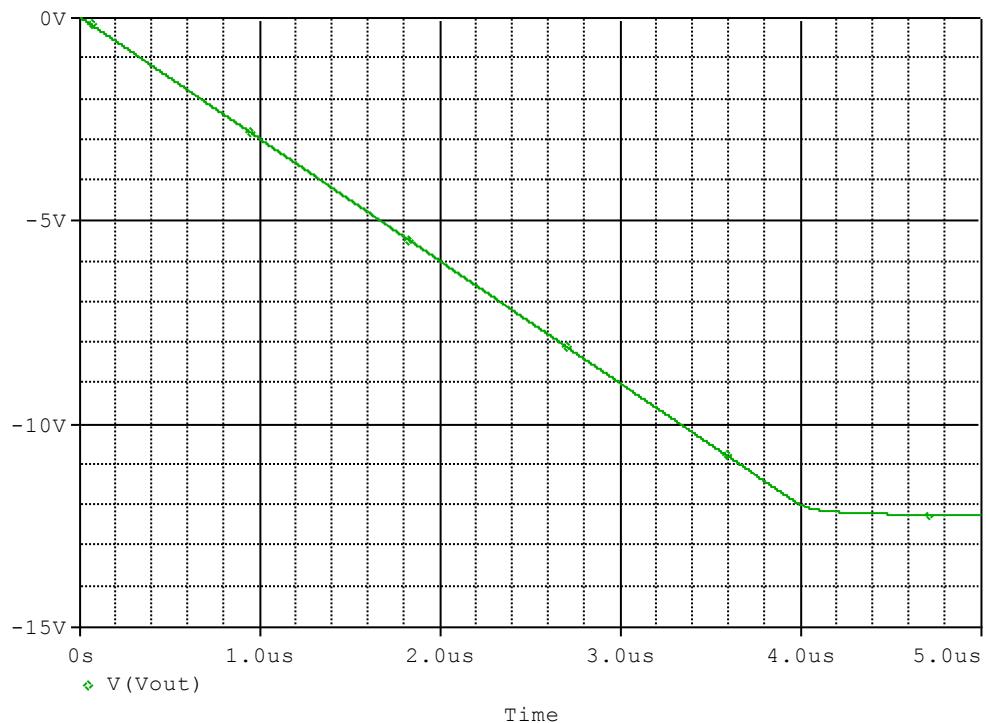
### Evaluation circuit



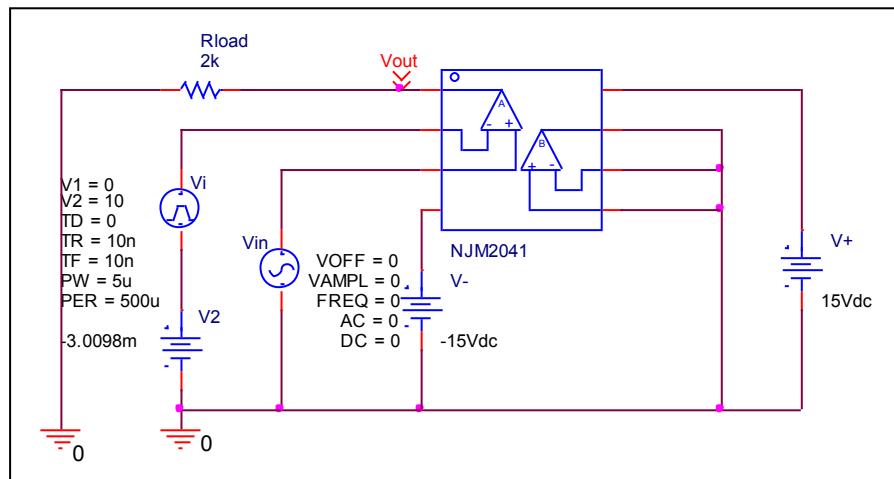
Vos	Measurement		Simulation		Error	
	3.000	mV	3.009	mV	0.326	%

## Slew Rate

### Simulation result



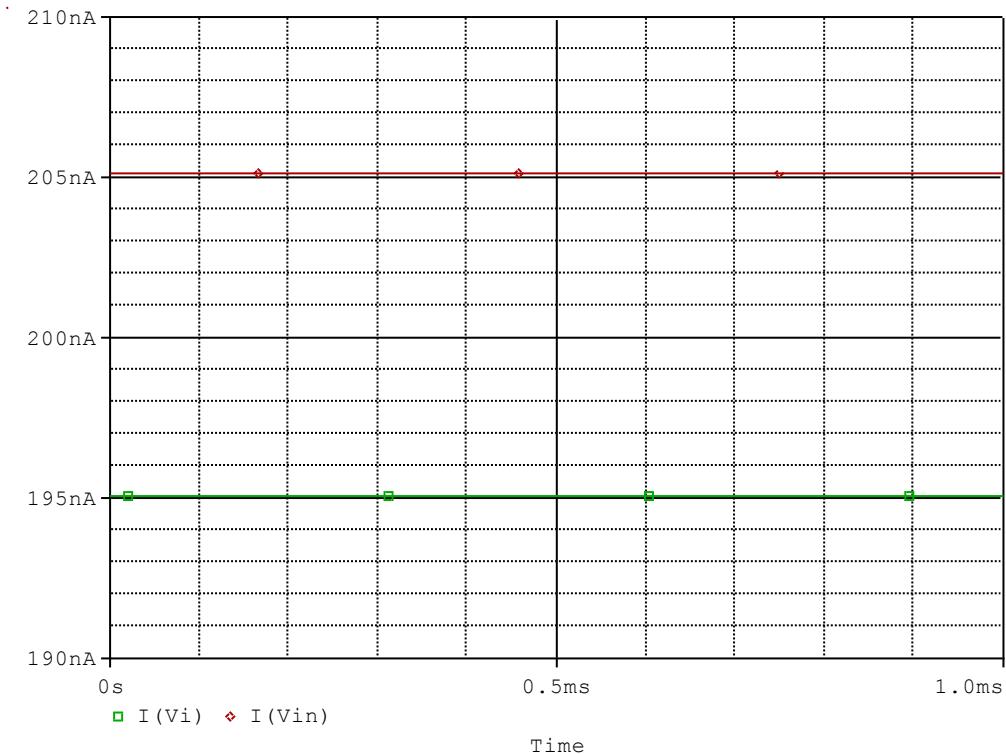
### Evaluation circuit



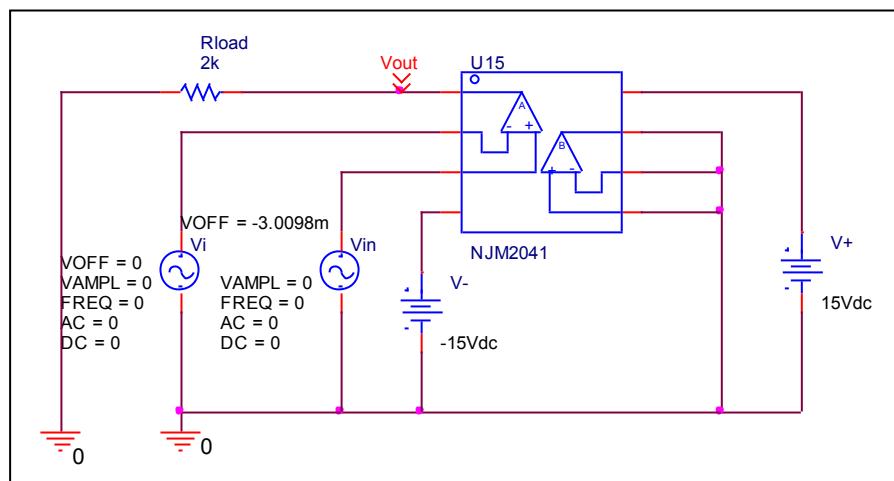
Slew Rate(v/us)	Data sheet	Simulation	%Error
	3.000	3.009	0.300

## Input current

### Simulation result



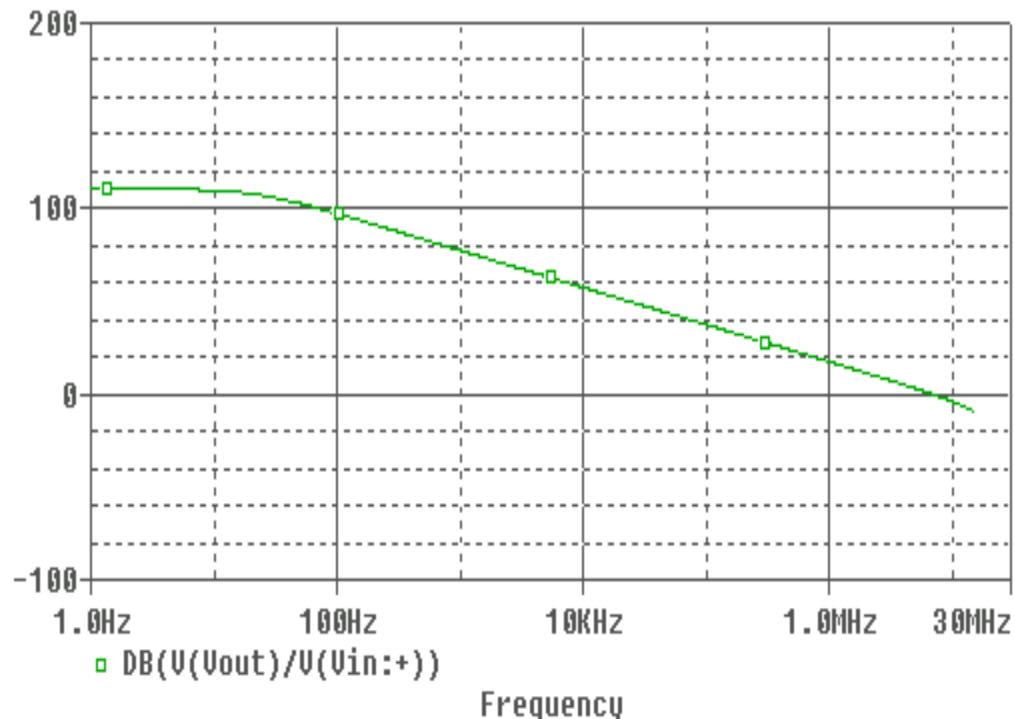
### Evaluation circuit



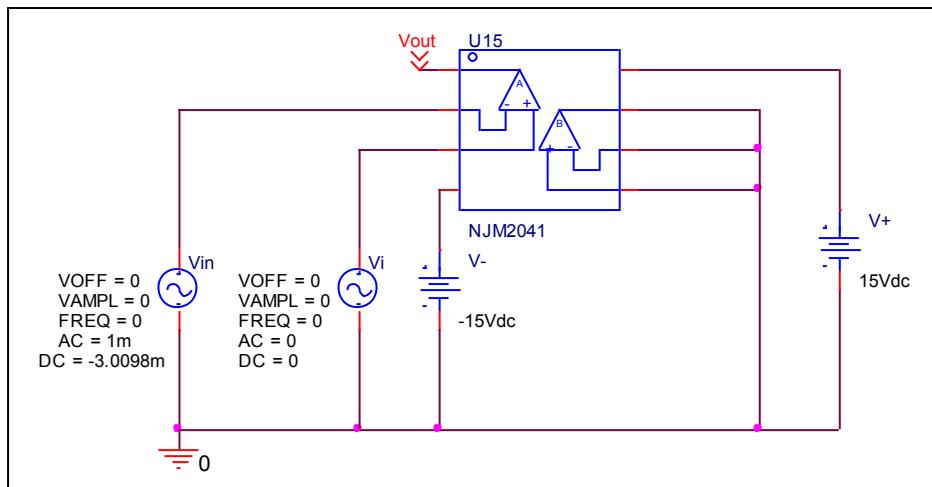
	Data sheet	Simulation	%Error
Ib(nA)	200.000	200.085	0.042
Ibos(nA)	10.000	10.037	0.370

## Open Loop Voltage Gain vs. Frequency

Simulation result



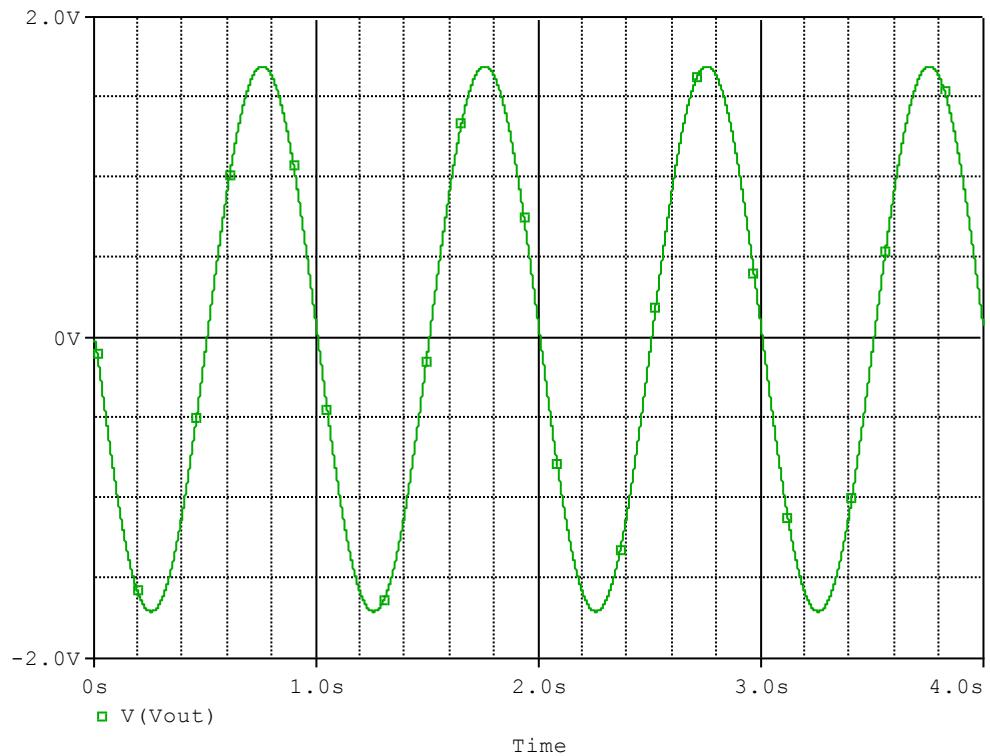
Evaluation circuit



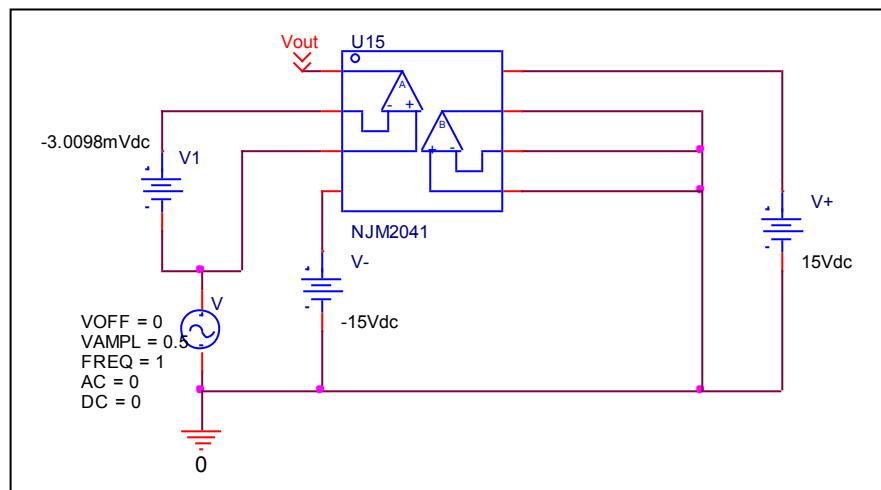
	Data sheet	Simulation	%Error
f-0dB(MHz)	7.000	6.960	0.571
Av-dc(dB)	110.000	110.062	0.056

## Common-Mode Rejection Voltage gain

### Simulation result



### Evaluation circuit



CMRR	Data sheet	Simulation	%Error
	100.000	99.417	-0.583