

# **Device Modeling Report**

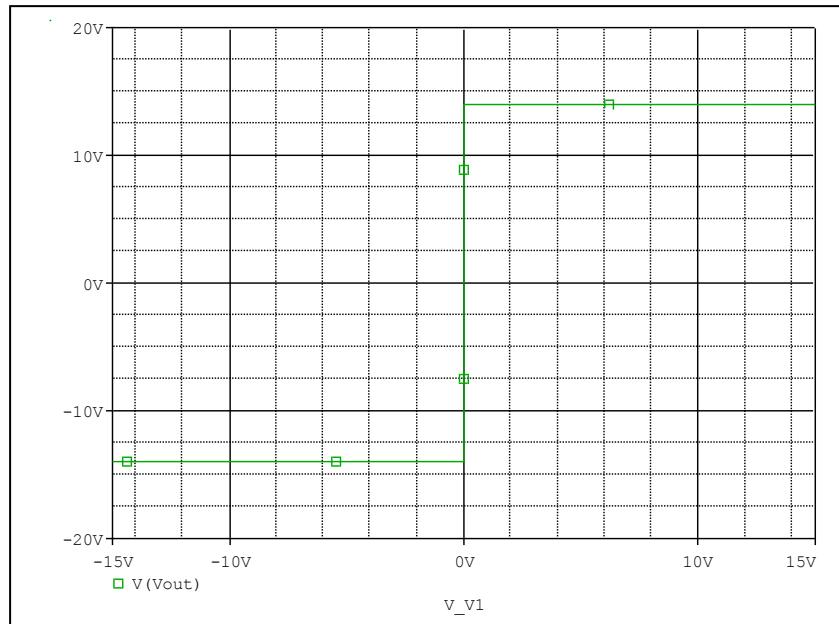
COMPONENTS:MOSFET: OPERATIONAL AMPLIFIER  
PART NUMBER: TA75558F  
MANUFACTURER: TOSHIBA



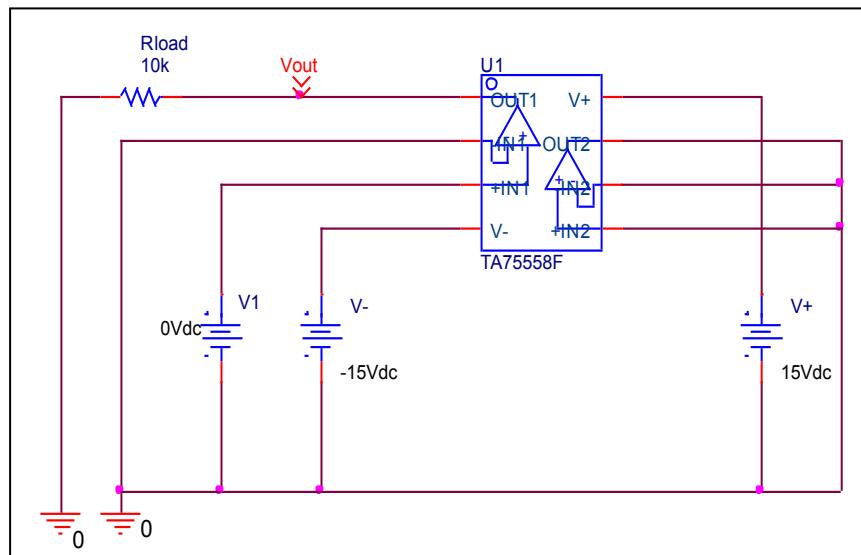
**Bee Technologies Inc.**

## Output Voltage Swing

### Simulation result



### Evaluation circuit

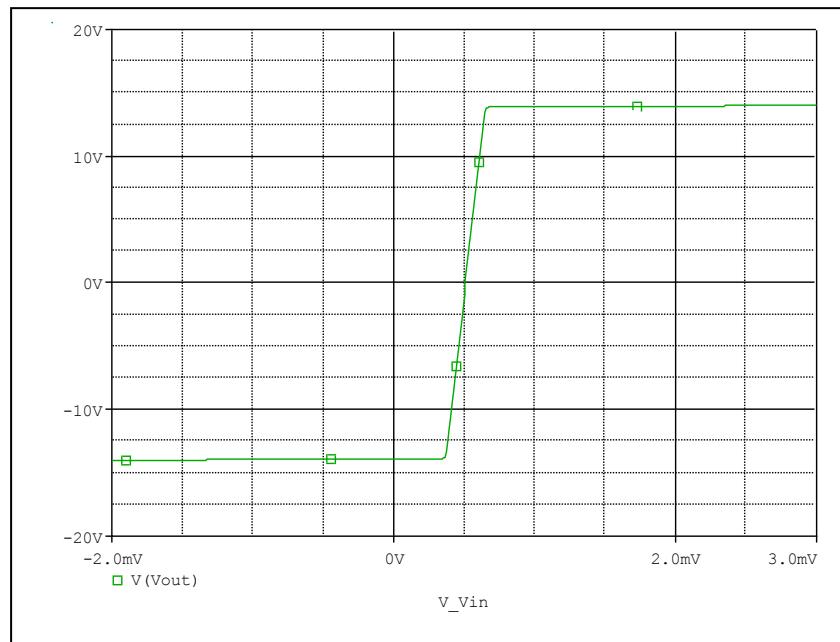


### Comparison table

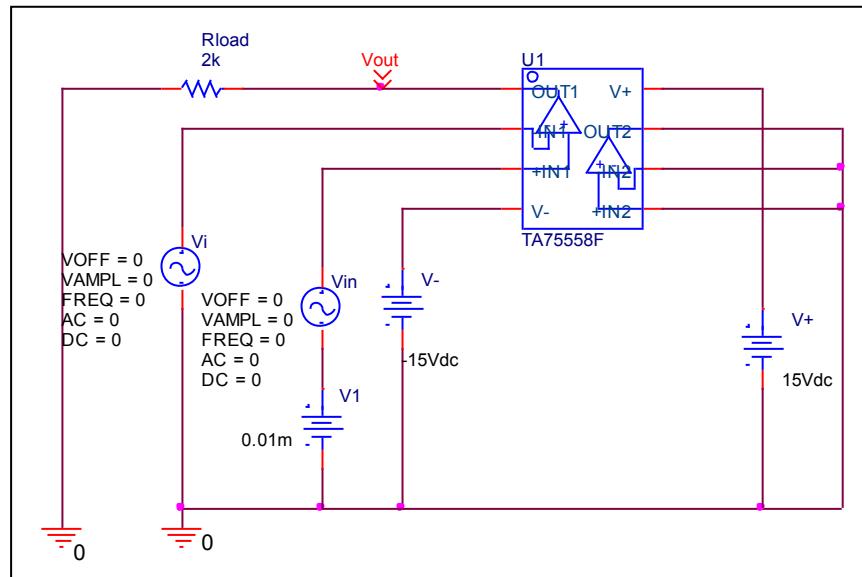
	Measurement	Simulation	%Error
+Vout(V)	14.000	13.999	-0.007
-Vout(V)	14.000	13.999	-0.007

## Input Offset Voltage

### Simulation result



### Evaluation circuit

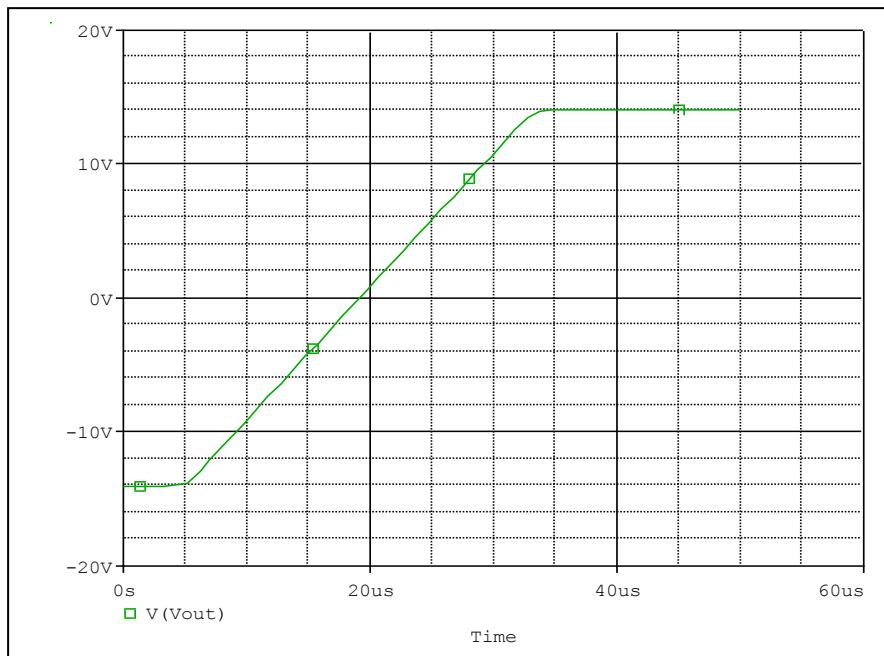


### Comparison table

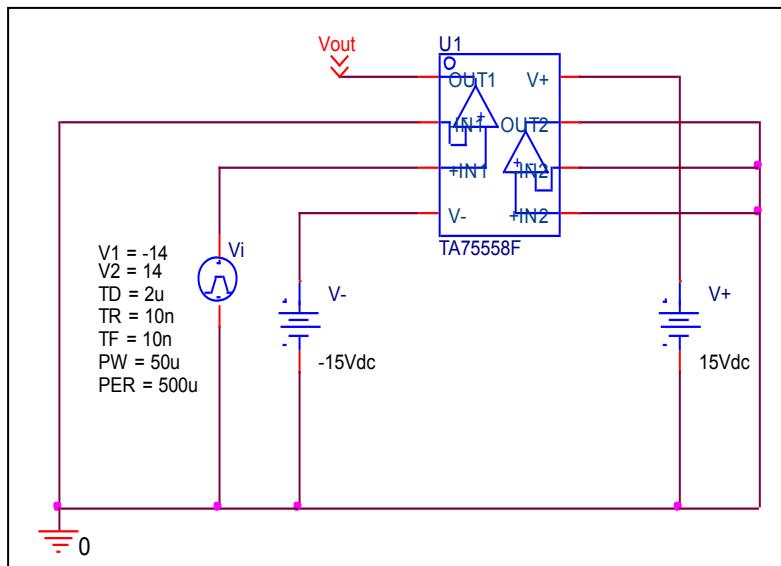
	Measurement	Simulation	%Error
<b>V<sub>os</sub> (mV)</b>	0.500	0.509	1.800

## Slew Rate

### Simulation result



### Evaluation circuit

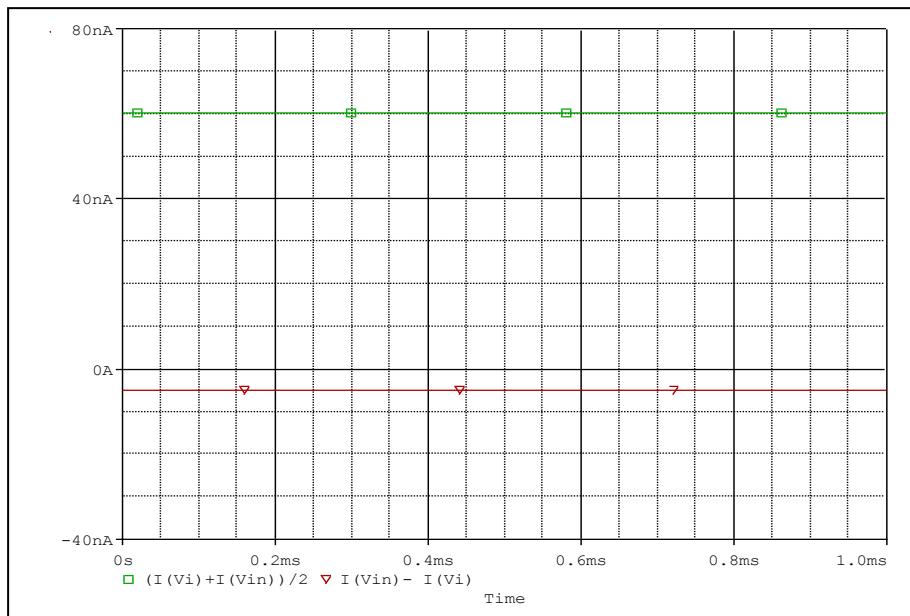


### Comparison table

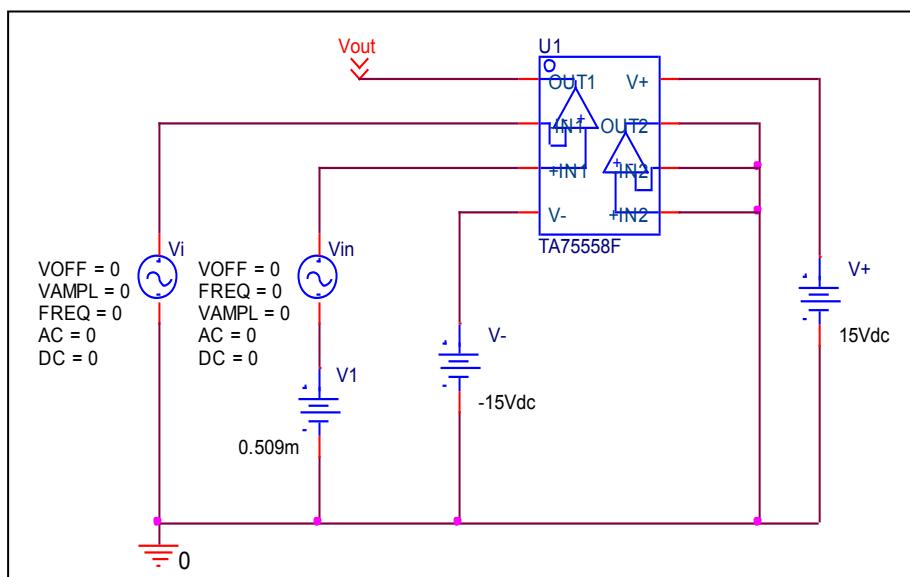
	Measurement	Simulation	%Error
<b>Slew Rate(v/us)</b>	1.000	0.996	-0.400

## Input current

### Simulation result



### Evaluation circuit

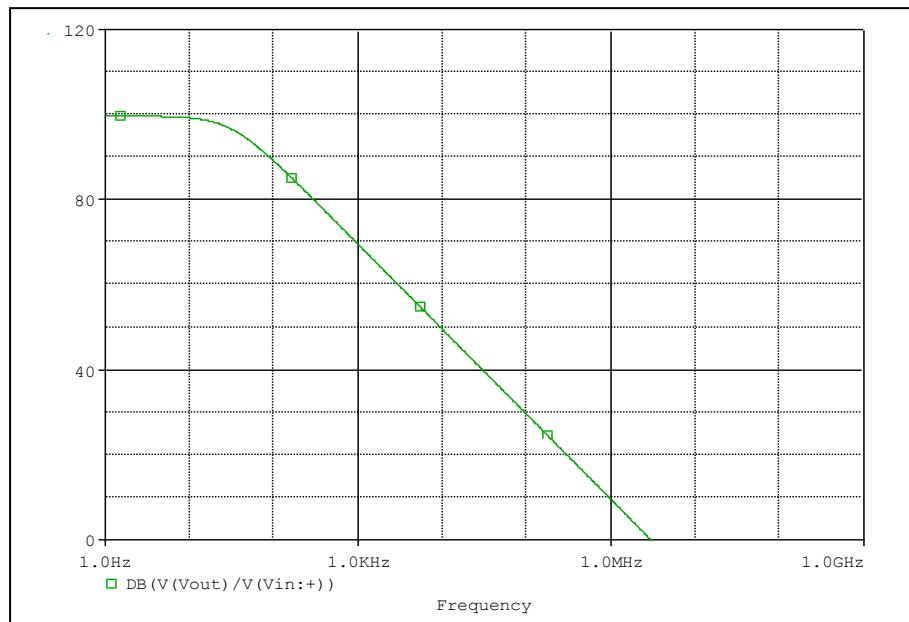


### Comparison table

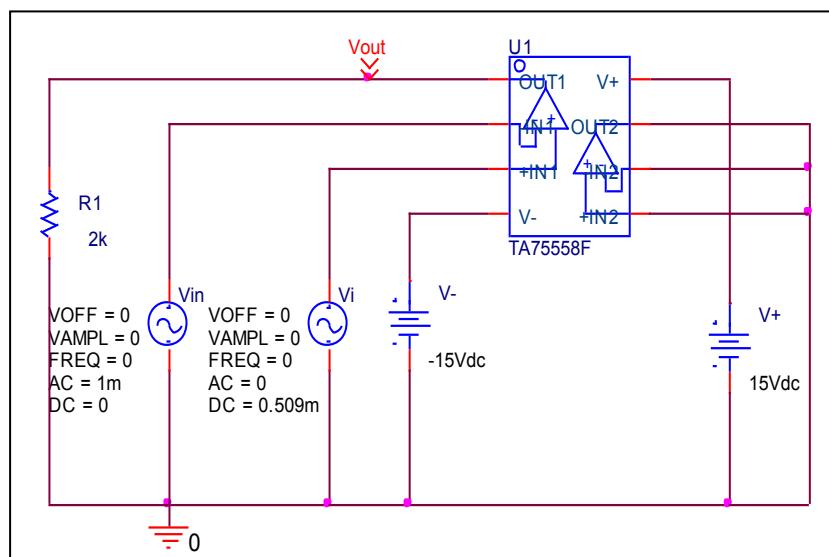
	Measurement	Simulation	%Error
<b>I<sub>b</sub> (nA)</b>	60.000	60.300	0.500
<b>I<sub>bos</sub> (nA)</b>	5.000	5.004	0.080

## Open Loop Voltage Gain vs. Frequency

Simulation result



Evaluation circuit

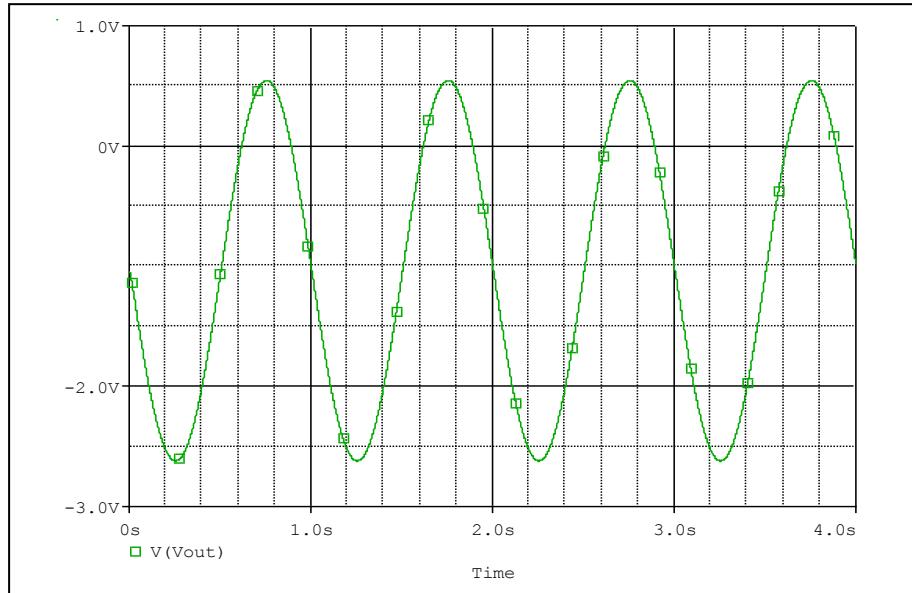


Comparison table

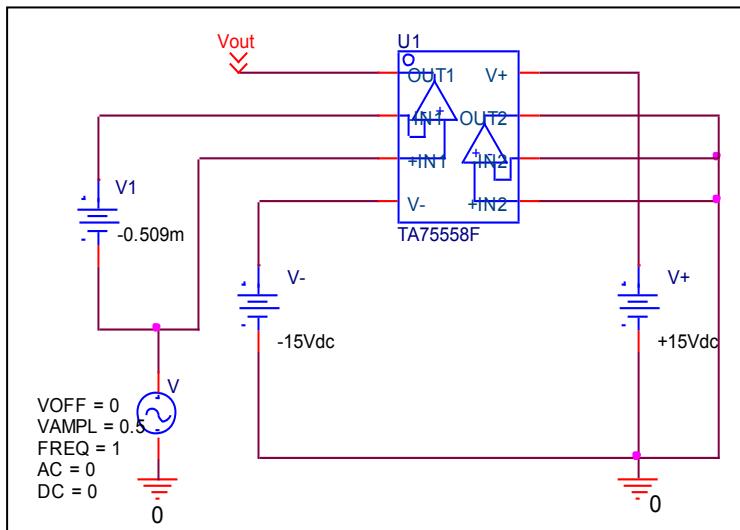
	Measurement	Simulation	%Error
f-0dB(MHz)	3.000	2.967	-1.100
Av-dc(dB)	100.000	99.648	-0.352

## Common-Mode Rejection Voltage gain

### Simulation result



### Evaluation circuit



$$CMRR = 20 \cdot \log(96028.46792 / 3.1646) = 89.642 \text{ dB}$$

### Comparison table

	Measurement	Simulation	%Error
CMRR(dB)	90.000	89.642	-0.398