

# **Device Modeling Report**

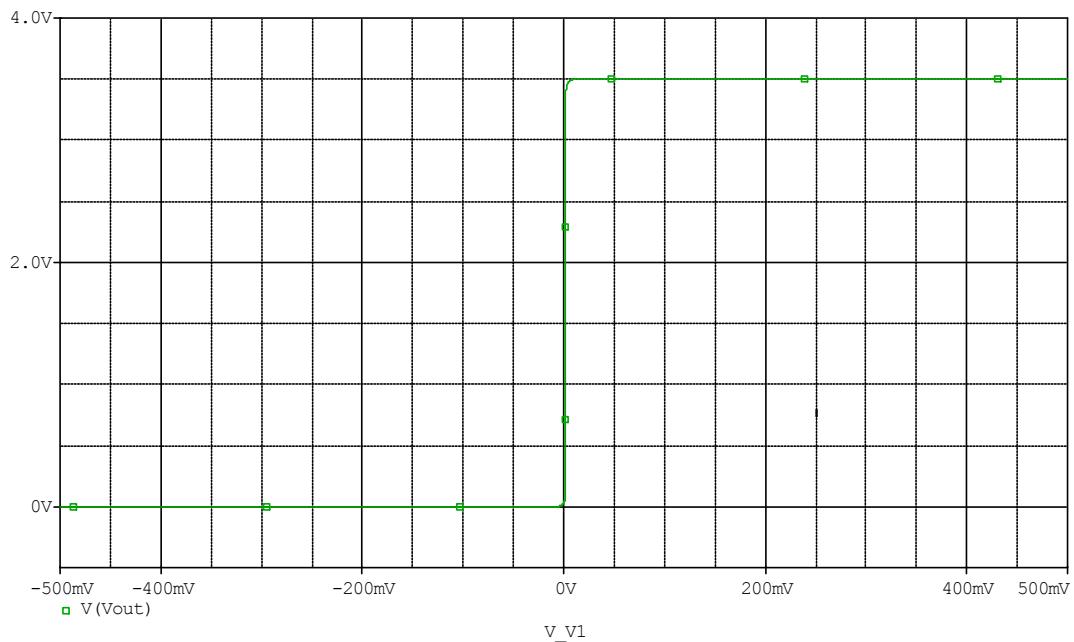
COMPONENTS:MOSFET: OPERATIONAL AMPLIFIER  
PART NUMBER: TA75358F  
MANUFACTURER: TOSHIBA



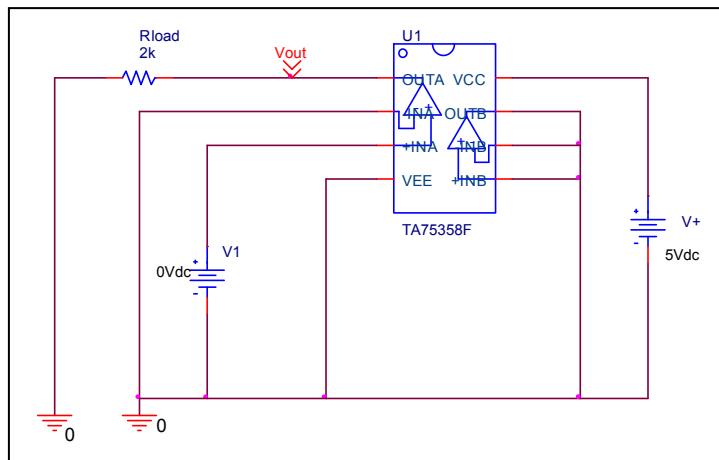
**Bee Technologies Inc.**

## Output Voltage Swing

### Simulation result



### Evaluation circuit



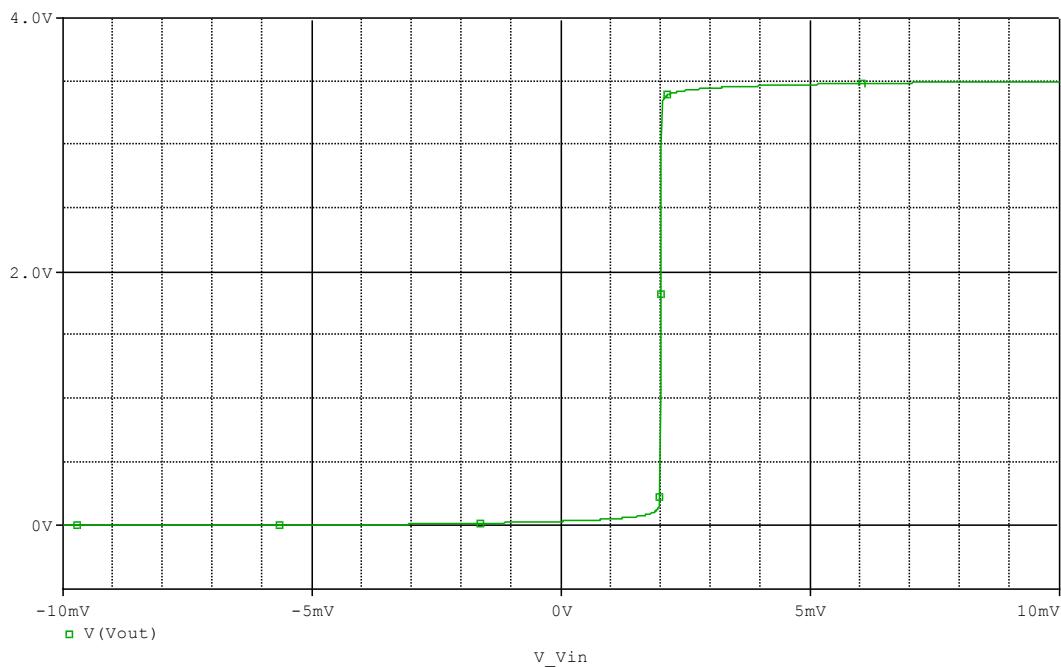
### Comparison table

$$* V_{out} = V_{cc} - 0.5$$

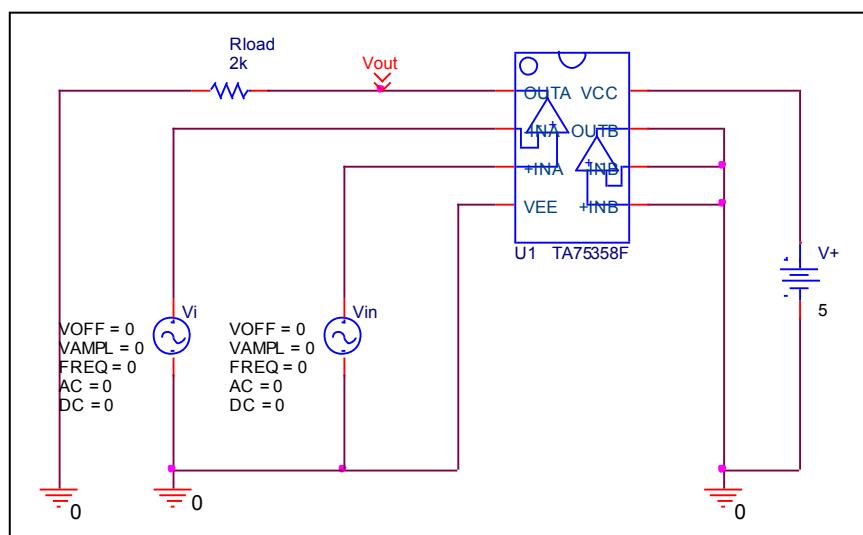
Output Voltage Swing	Measurement	Simulation	%Error
$V_{out}(V)$	3.500	3.500	-0.029

## Input Offset Voltage

### Simulation result



### Evaluation circuit

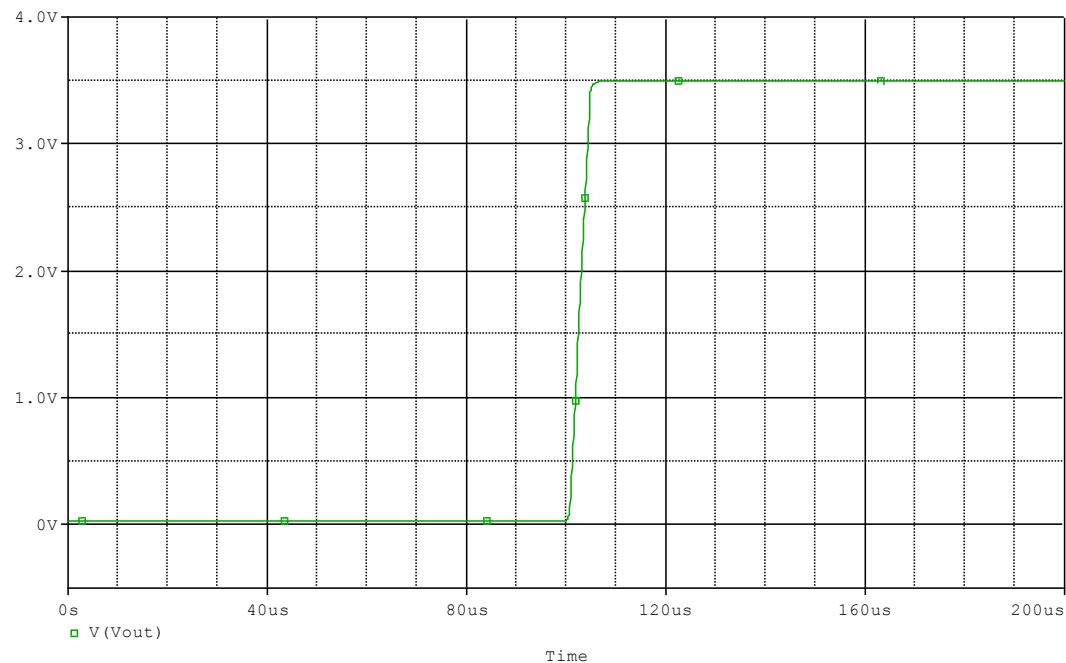


### Comparison table

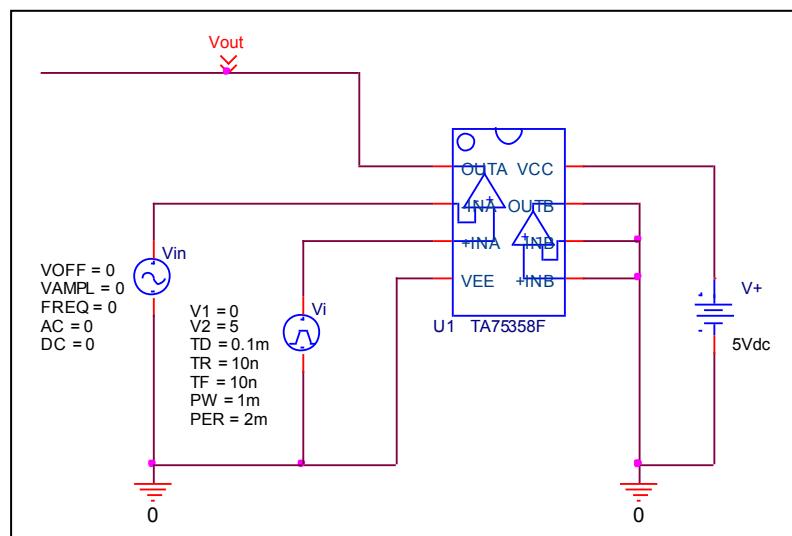
Vos(mV)	Measurement	Simulation	%Error
	2.000	1.985	-0.75

## Slew Rate

### Simulation result



### Evaluation circuit

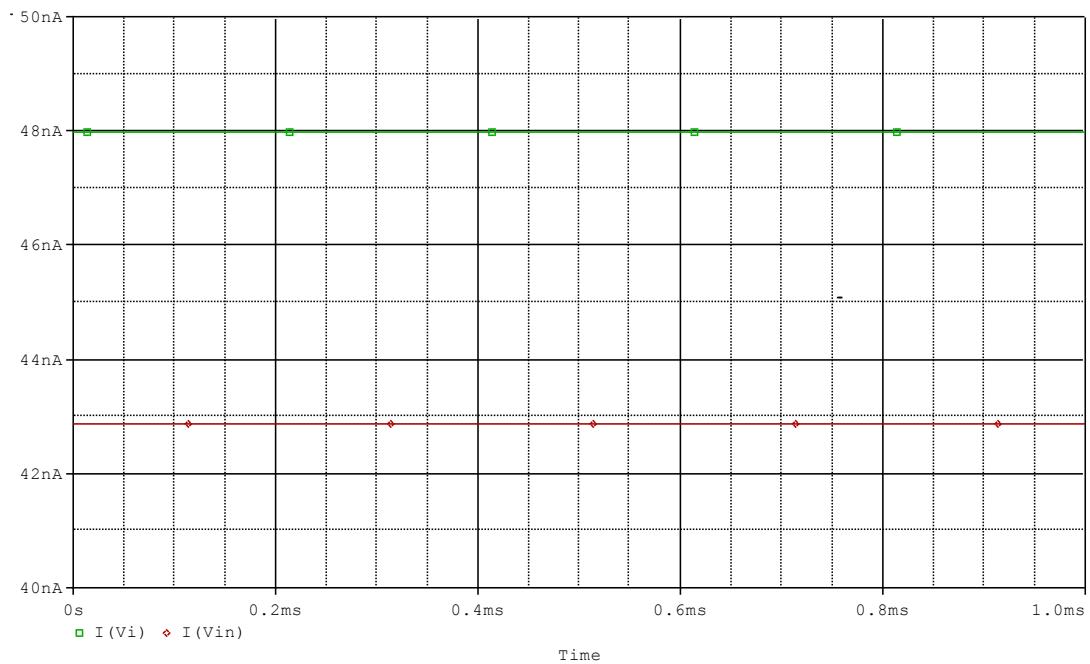


### Comparison table

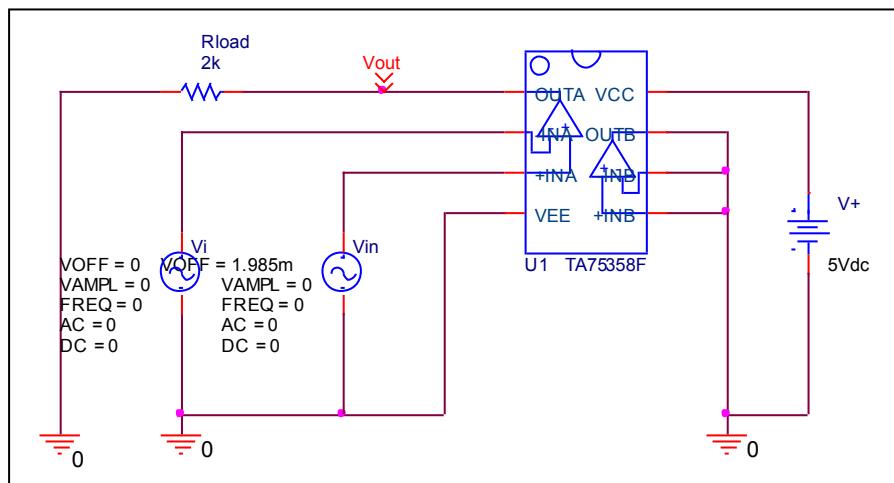
Slew Rate(v/us)	Measurement	Simulation	%Error
	0.800	0.810	1.25

## Input current Ib, Ibos

### Simulation result



### Evaluation circuit

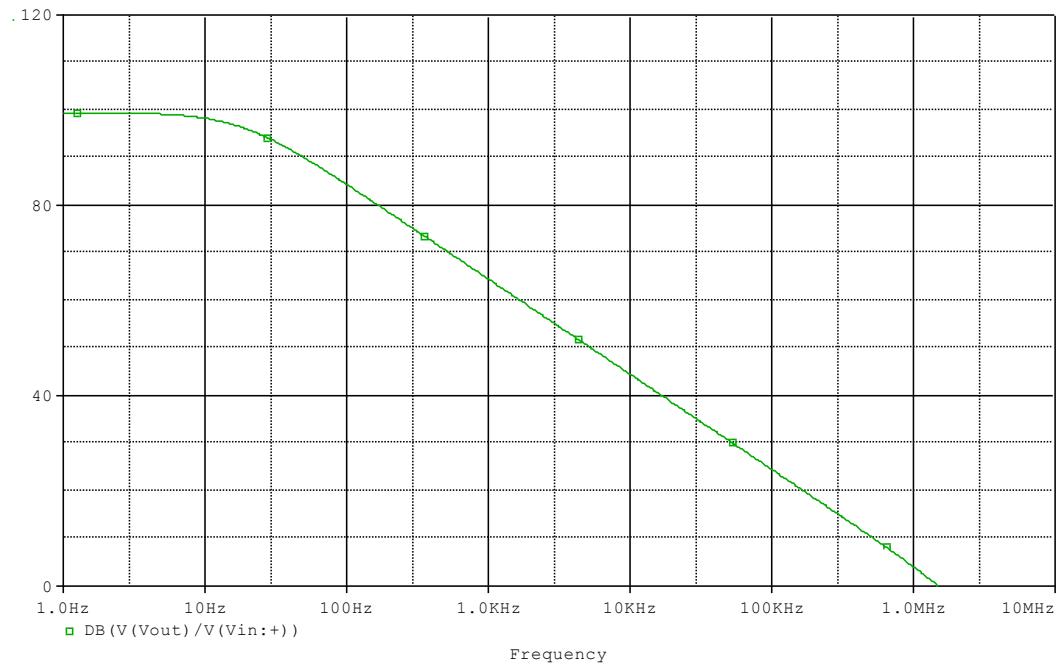


### Comparison table

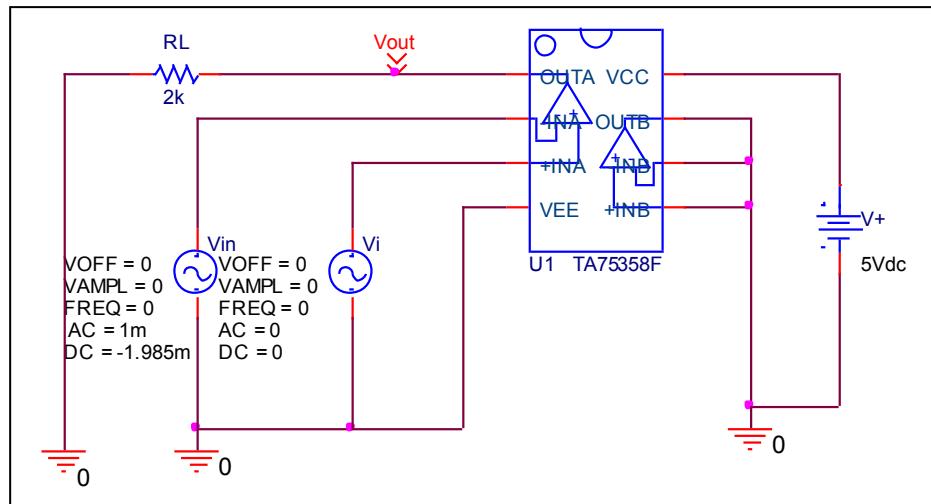
	Measurement	Simulation	%Error
Ib(nA)	45.000	45.420	0.933
Ibos(nA)	5.000	5.091	1.828

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

### Simulation result



### Evaluation circuit

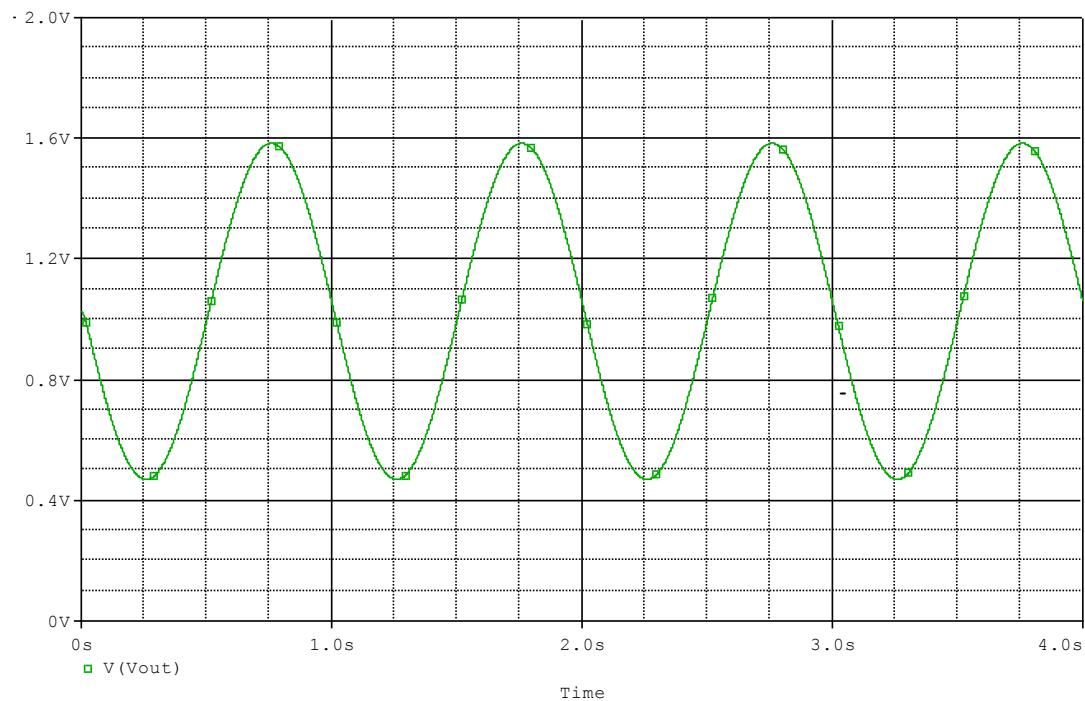


### Comparison table

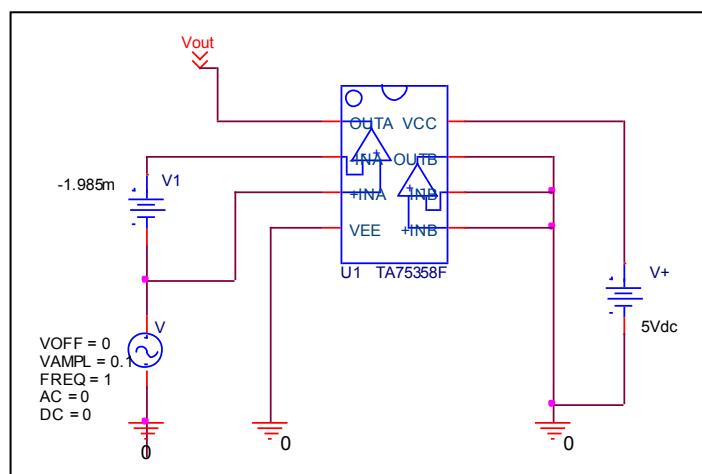
	Measurement	Simulation	%Error
f-0dB(MHz)	1.500	1.501	0.047
Av-dc(dB)	100.000	99.477	-0.523

## Common-Mode Rejection Voltage gain

### Simulation result



### Evaluation circuit



Common Mode Reject Ratio=199,434/1.9837 =100,536

CMRR (dB)	Measurement	Simulation	%Error
	85.000	84.562	-0.515