

Device Modeling Report

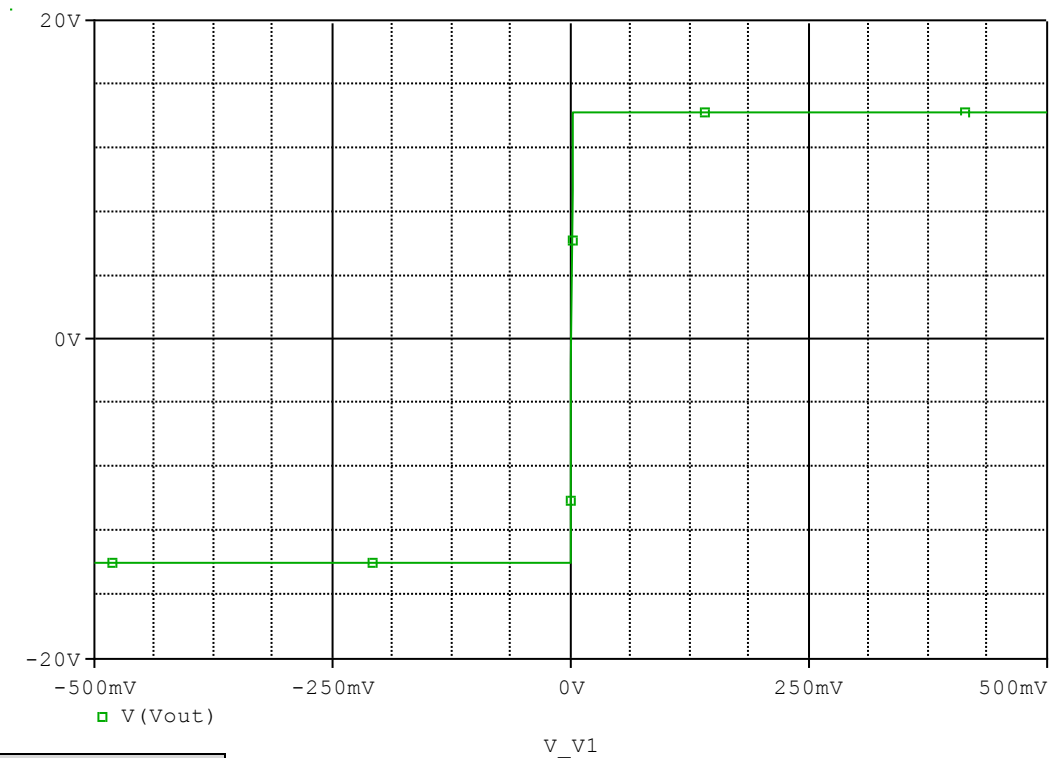
COMPONENTS: OPERATIONAL AMPLIFIER
PART NUMBER: MC33172
MANUFACTURER: STMicroelectronics



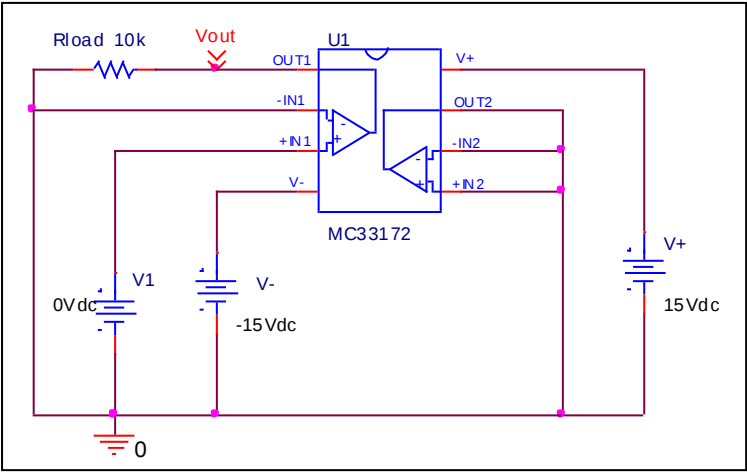
Bee Technologies Inc.

Output Voltage Swing

Simulation result



Evaluation circuit

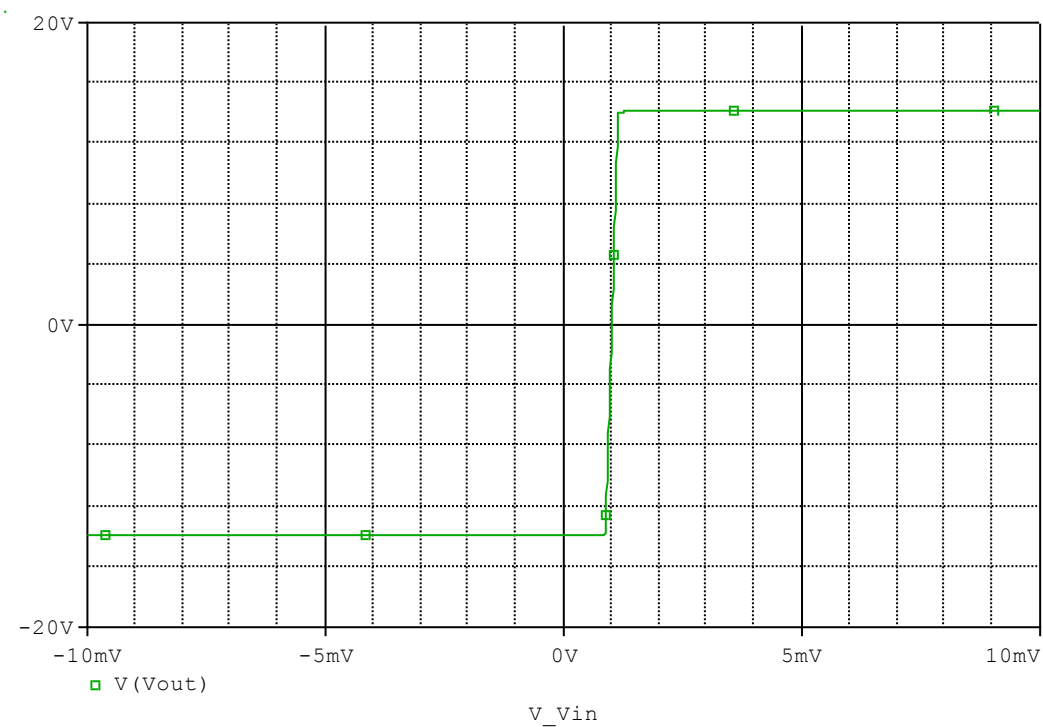


Comparison table

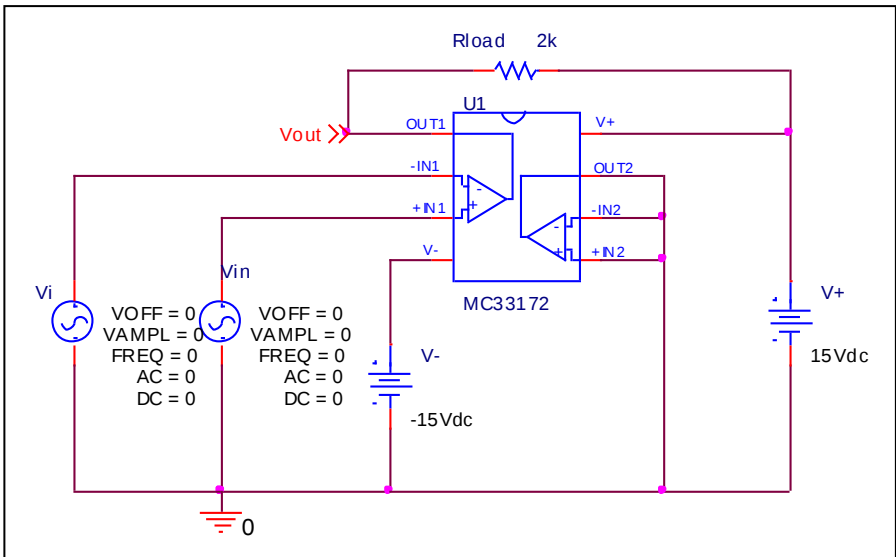
Output Voltage Swing	Measurement	Simulation	%Error
VOH (V)	14.200	14.199	-0.007
VOL (V)	-14.000	-13.999	-0.007

Input Offset Voltage

Simulation result



Evaluation circuit

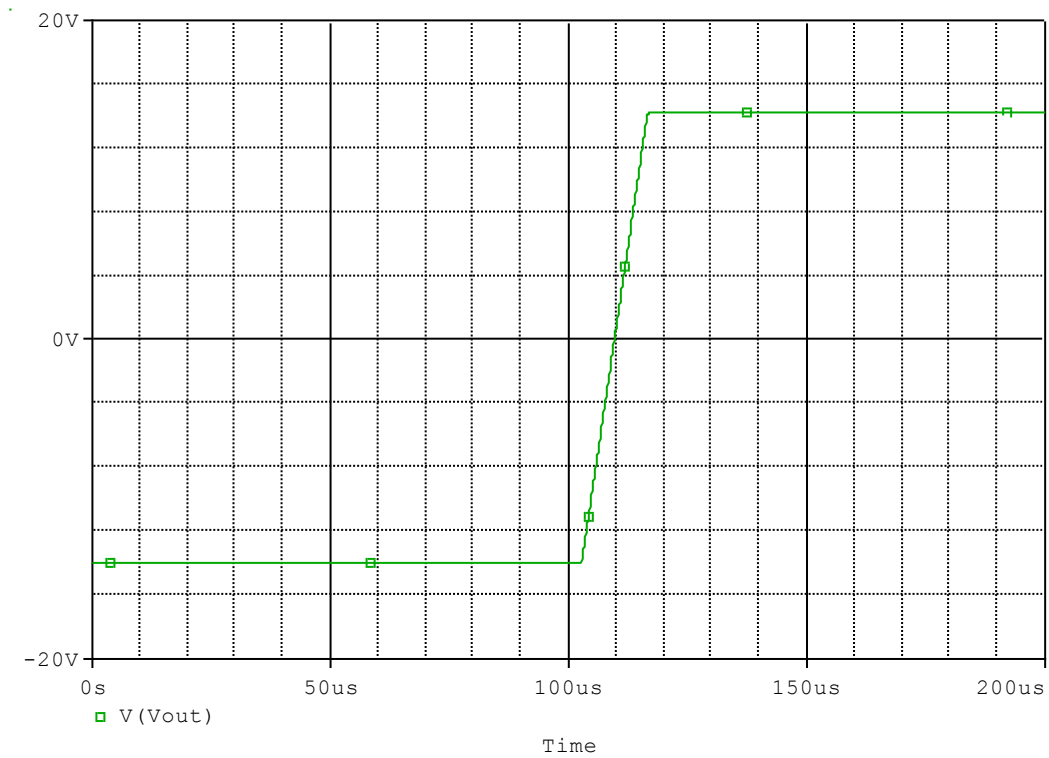


Comparison table

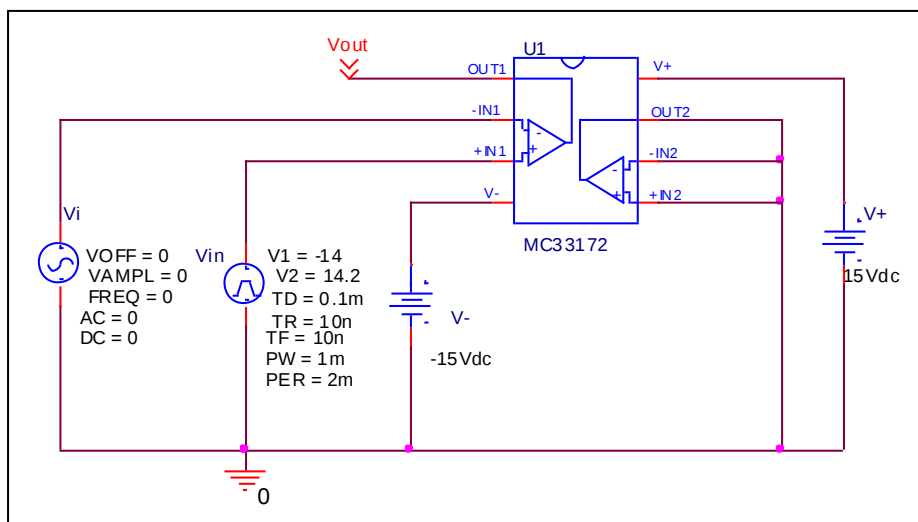
Vos(mV)	Measurement	Simulation	%Error
	1.000	1.008	0.790

Slew Rate

Simulation result



Evaluation circuit

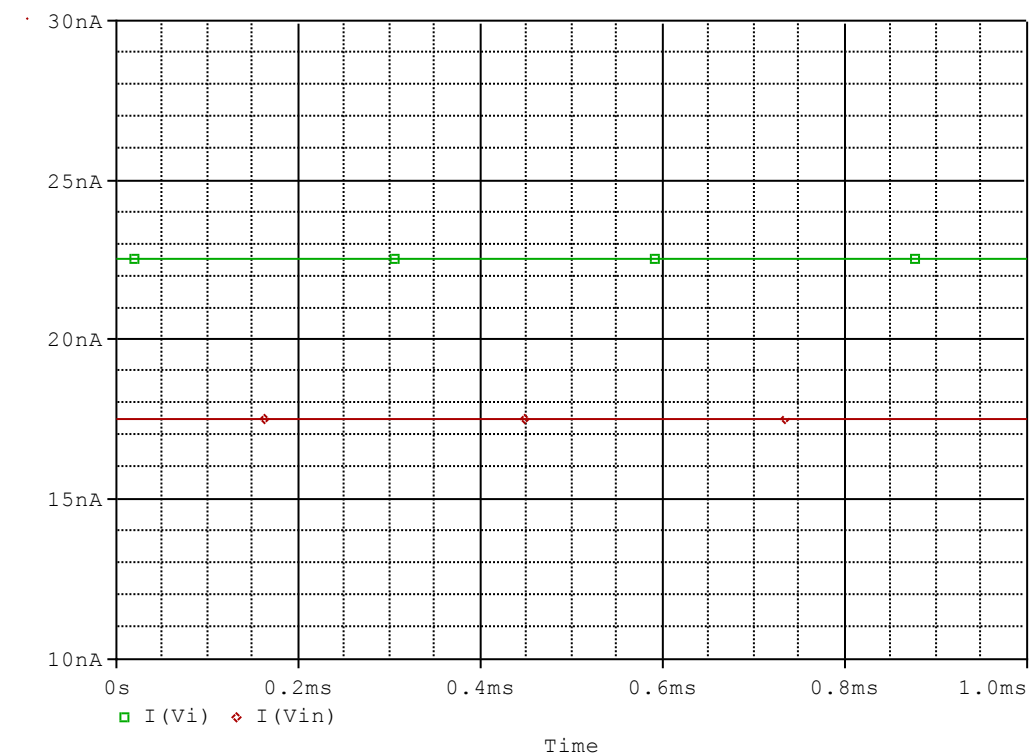


Comparison table

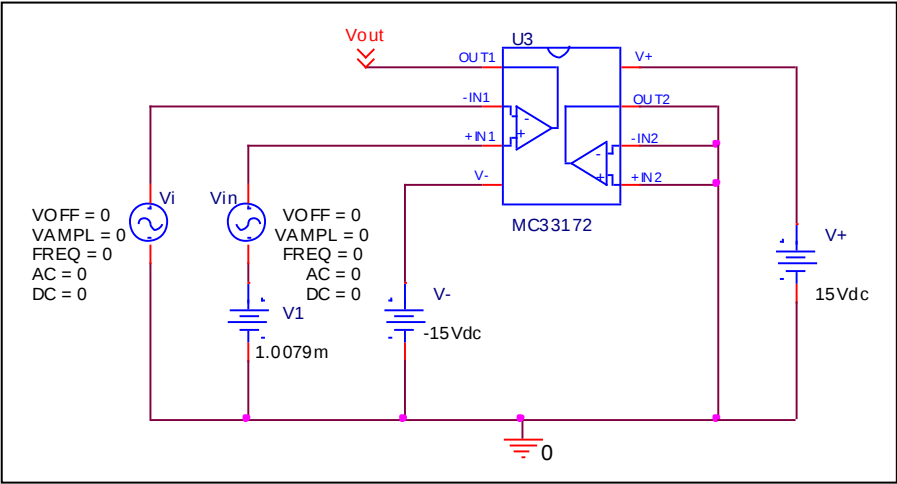
Slew Rate(v/us)	Measurement	Simulation	%Error
	2.000	2.041	2.050

Input current Ib, Ibos

Simulation result



Evaluation circuit

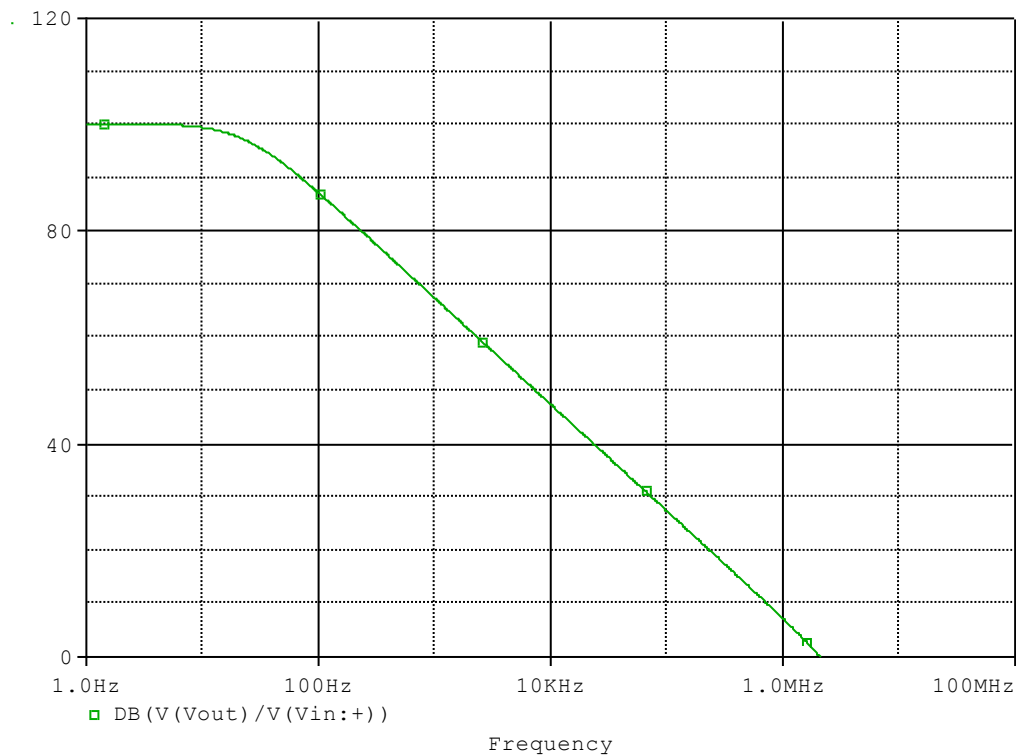


Comparison table

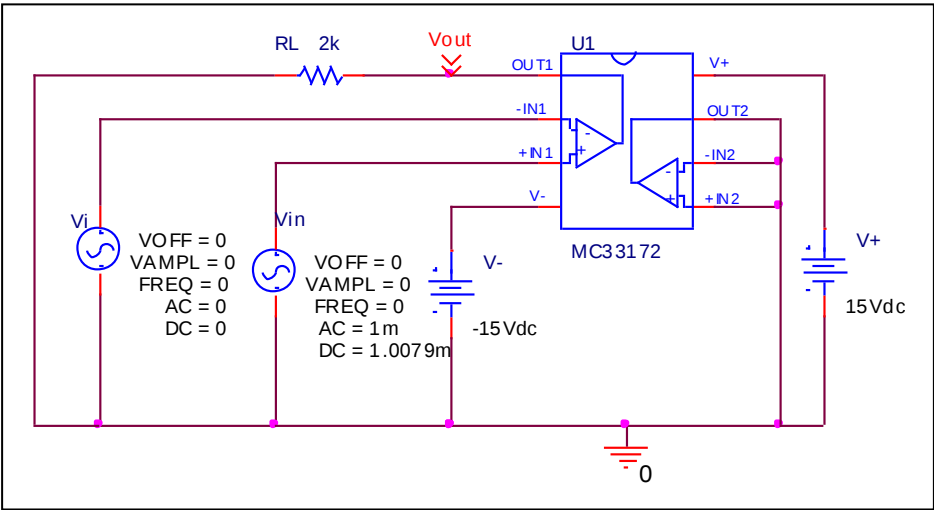
	Measurement	Simulation	%Error
Ib(nA)	20.000	20.017	0.085
Ibos(nA)	5.000	5.004	0.084

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

Simulation result



Evaluation circuit

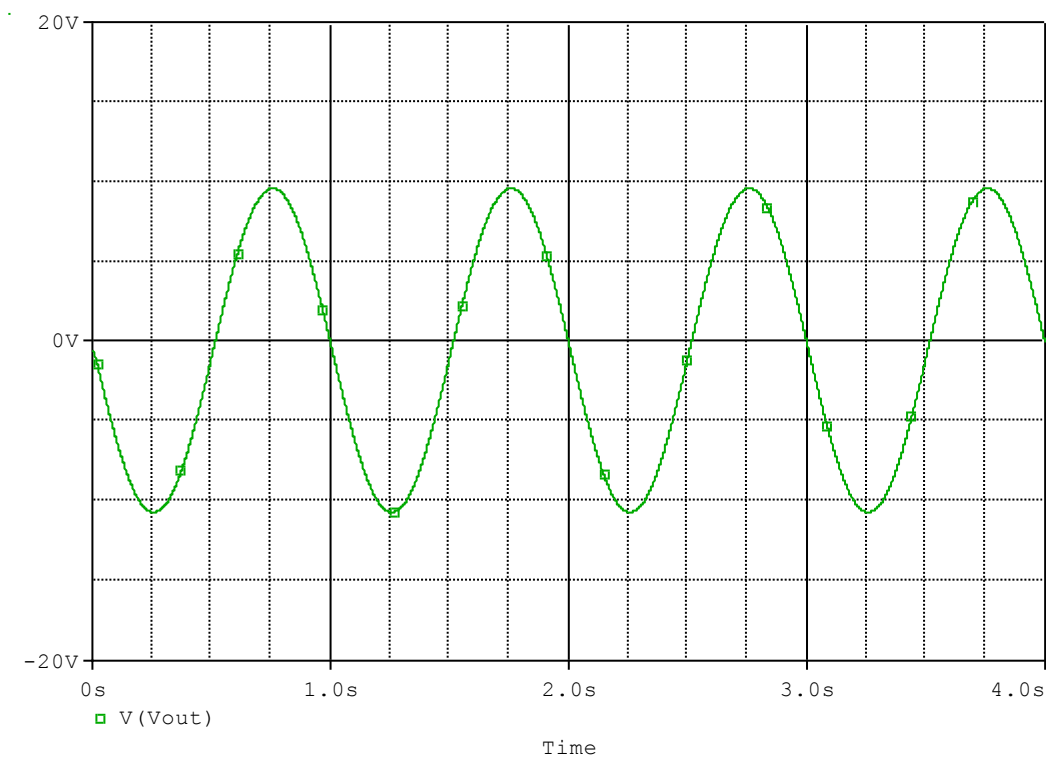


Comparison table

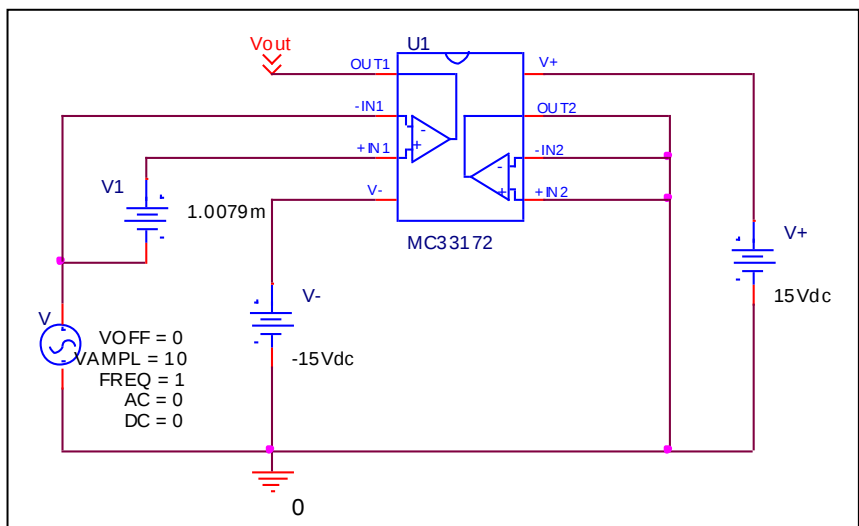
	Measurement	Simulation	%Error
f-0dB(MHz)	2.100	2.105	0.224
Av-dc(dB)	100.000	100.224	0.224

Common-Mode Rejection Voltage gain

Simulation result



Evaluation circuit



Common Mode Reject Ratio = $20 \cdot \text{LOG}(102612.4365 / (20.277 / 20))$
= 100.1045 dB

CMRR (dB)	Measurement	Simulation	%Error
	100.000	100.105	0.105