

Device Modeling Report

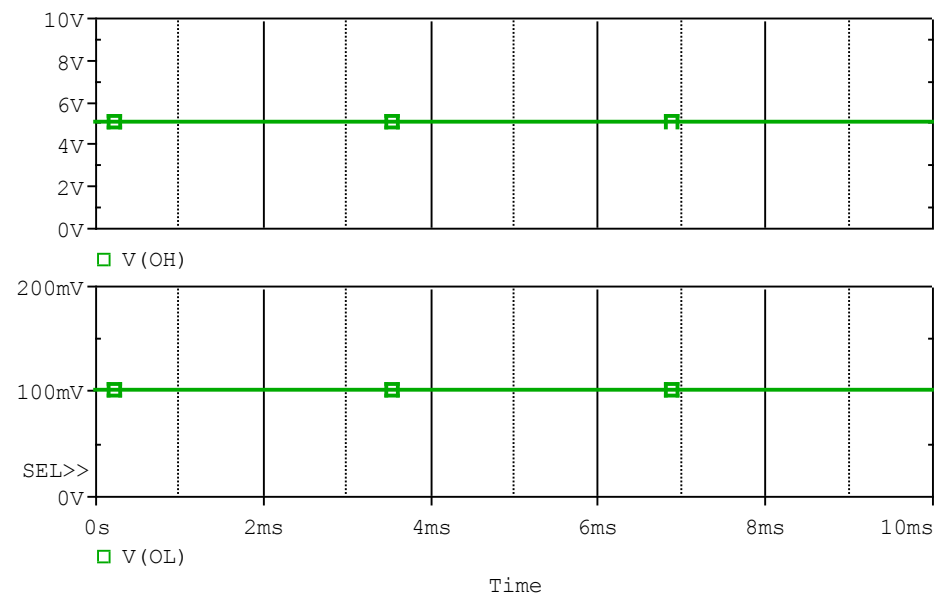
COMPONENTS: OPERATIONAL AMPLIFIER
PART NUMBER: LA6220PM
MANUFACTURER: SANYO



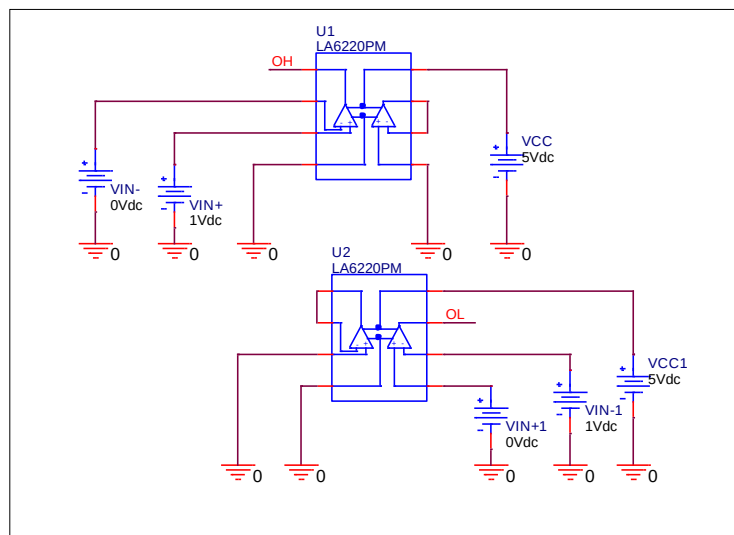
Bee Technologies Inc.

Output Voltage Swing

Simulation result



Evaluation circuit

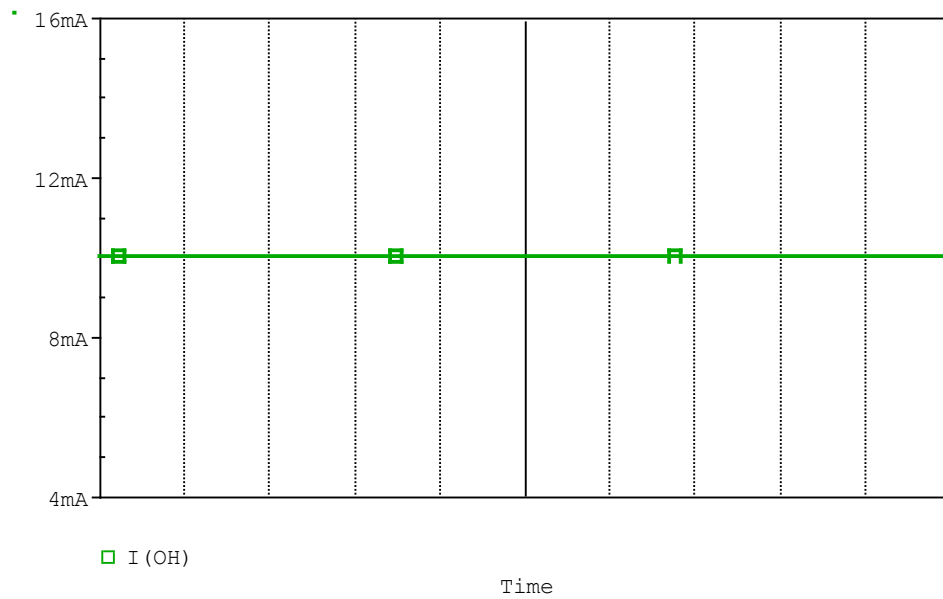


Comparison table

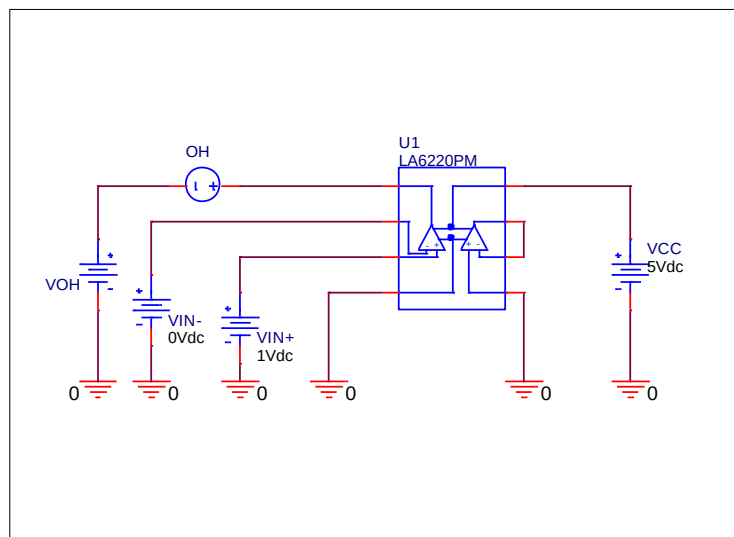
Parameter	Measurement	Simulation	%Error
VOH (V)	4.900	4.902	0.03
VOL (V)	0.100	0.101	0.89

Output Short Circuit Current

Simulation result



Evaluation circuit

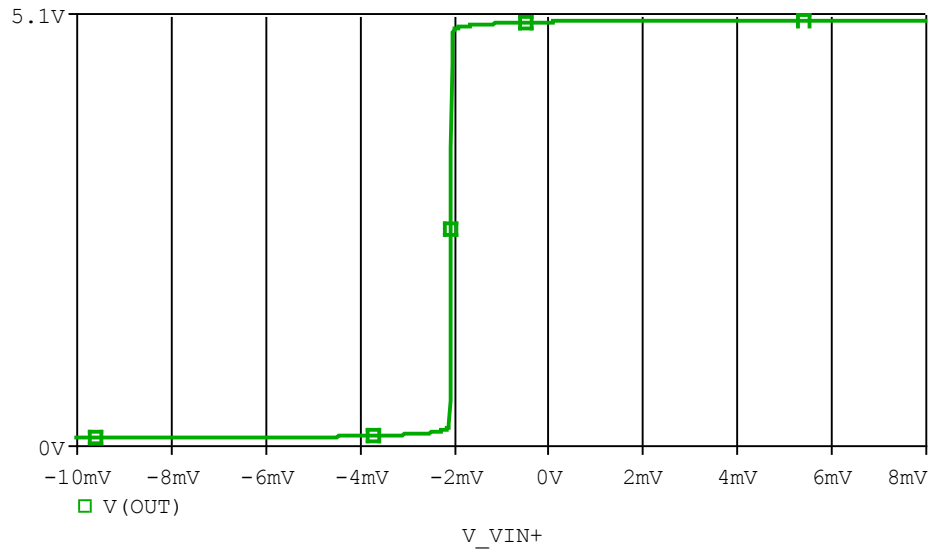


Comparison table

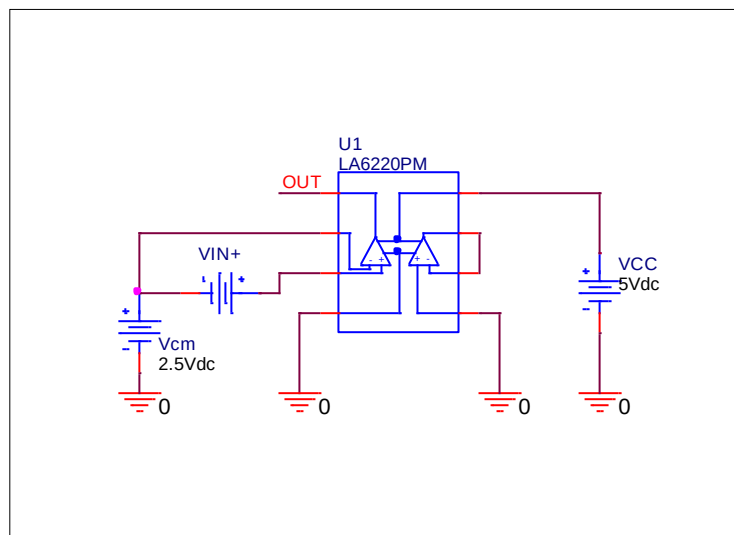
Parameter	Measurement	Simulation	%Error
IOH (mA)	10.000	10.003	0.03

Input Offset Voltage

Simulation result



Evaluation circuit

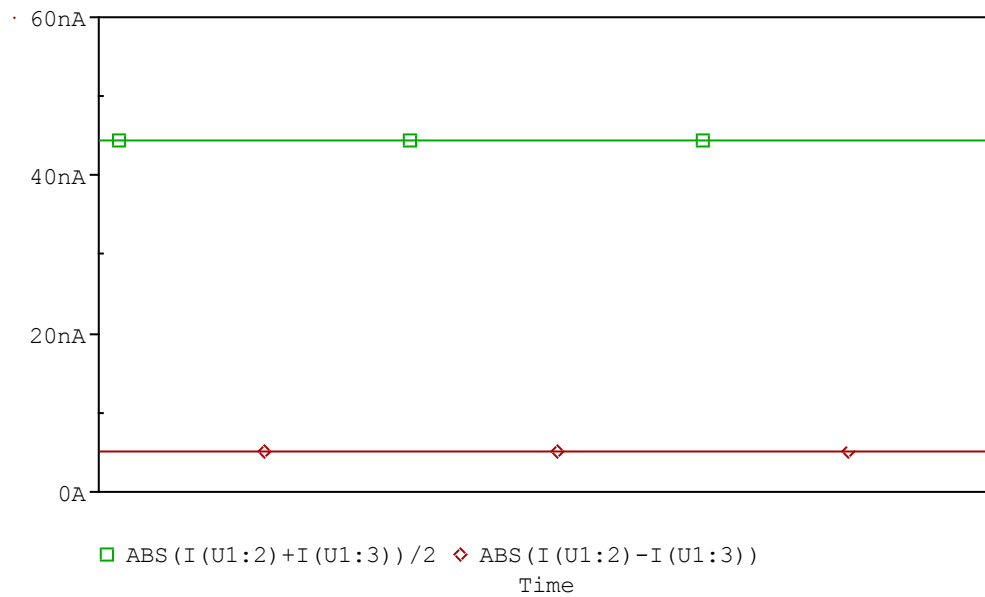


Comparison table

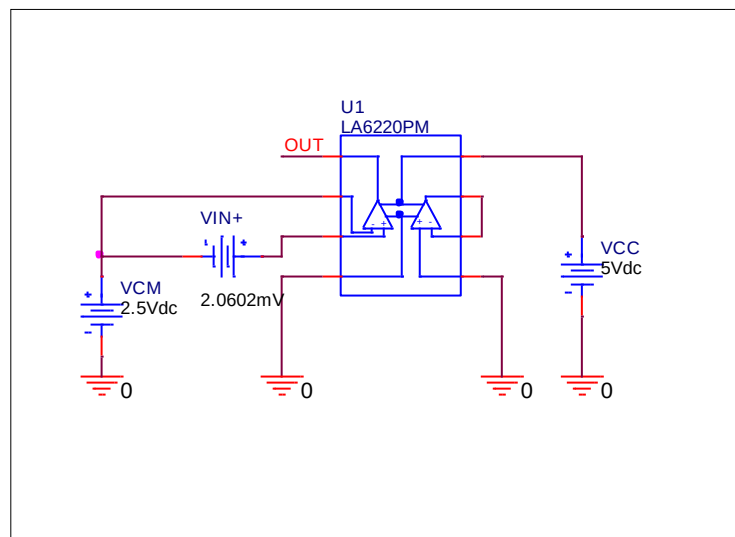
Parameter	Measurement	Simulation	%Error
Vio (mV)	2.000	2.060	3.01

Input Current Ib, Ibos

Simulation result



Evaluation circuit

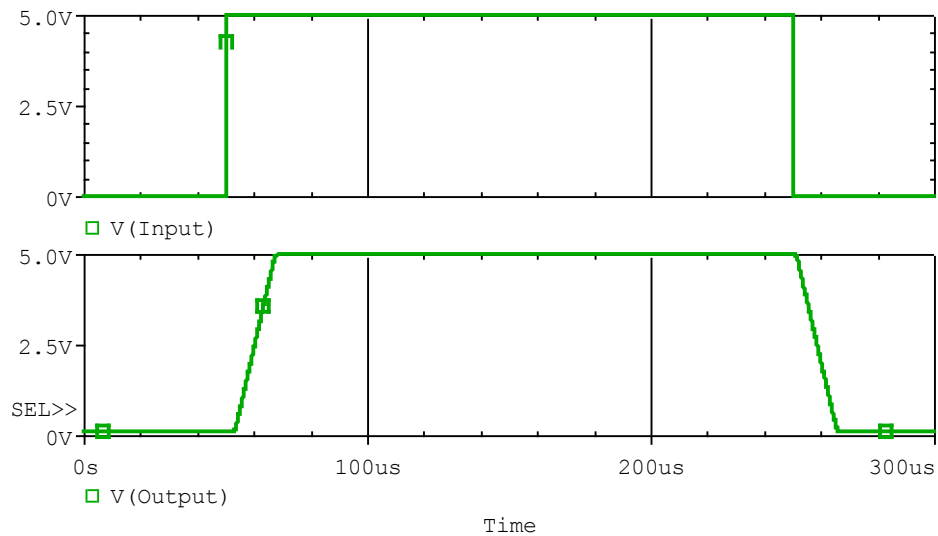


Comparison table

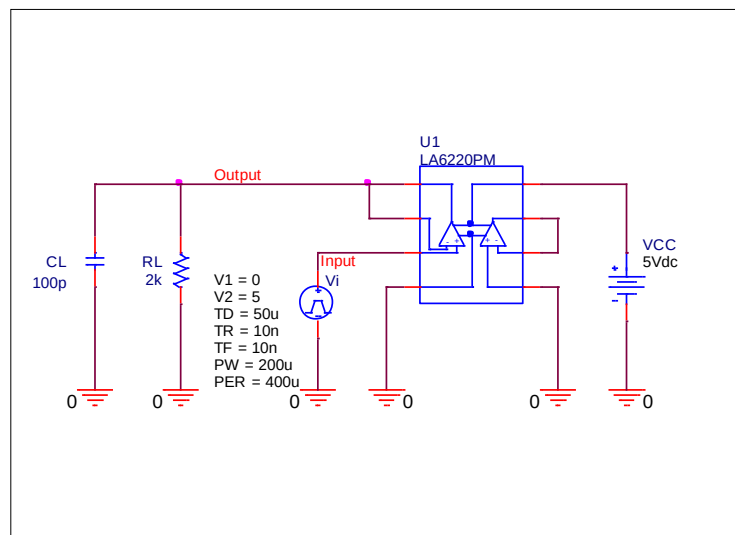
Parameter	Measurement	Simulation	%Error
Iio (nA)	5.000	5.059	1.18
Ib (nA)	45.000	44.415	-1.30

Slew Rate

Simulation result



Evaluation circuit

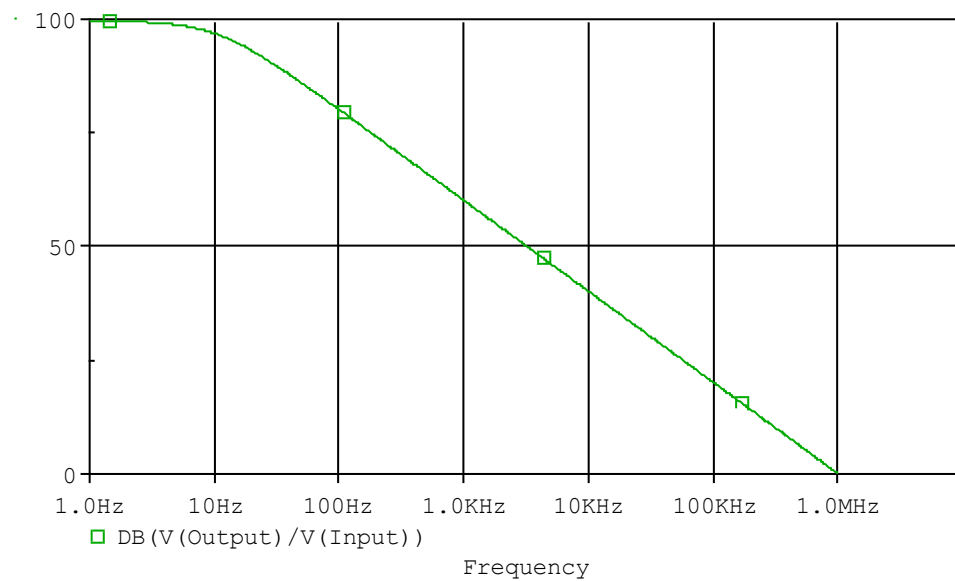


Comparison table

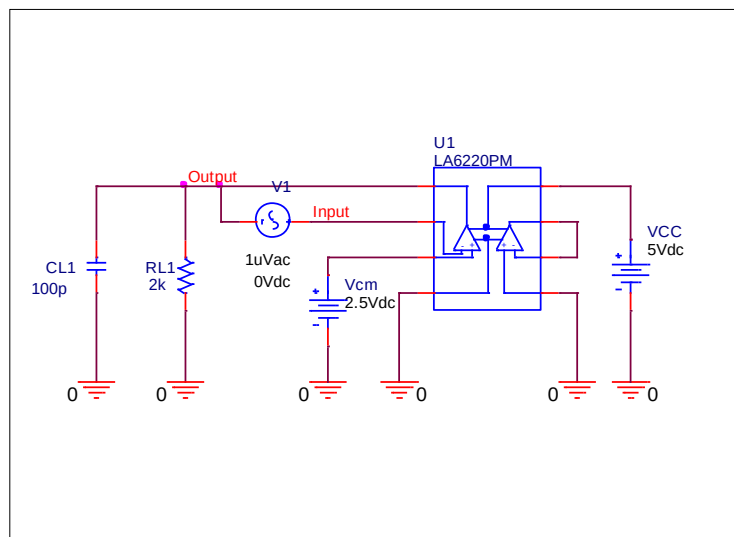
Parameter	Measurement	Simulation	%Error
Slew Rate (V/us)	0.350	0.344	-1.80

Open loop voltage gain

Simulation result



Evaluation circuit

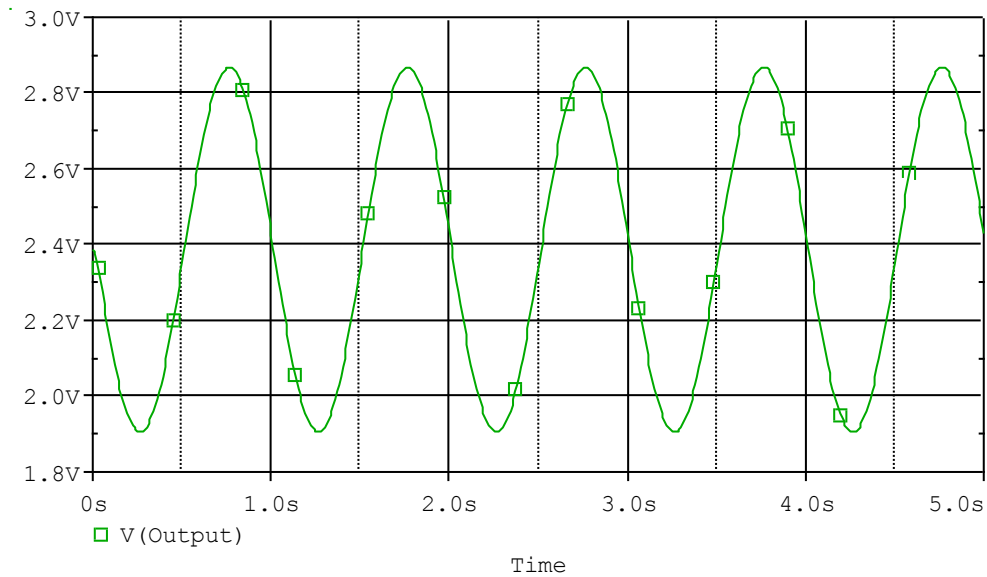


Comparison table

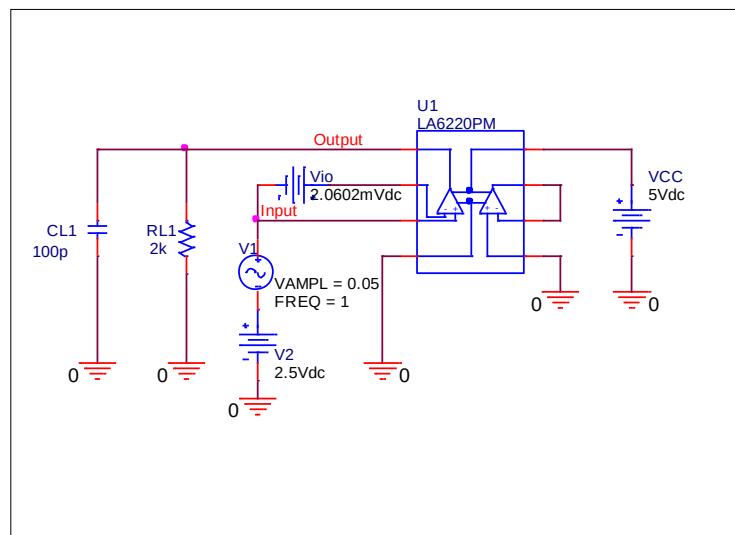
Parameter	Measurement	Simulation	%Error
Ft (MHz)	1.000	1.006	0.60
AV (dB)	100.000	99.613	-0.39

Common-mode rejection voltage gain

Simulation result



Evaluation circuit



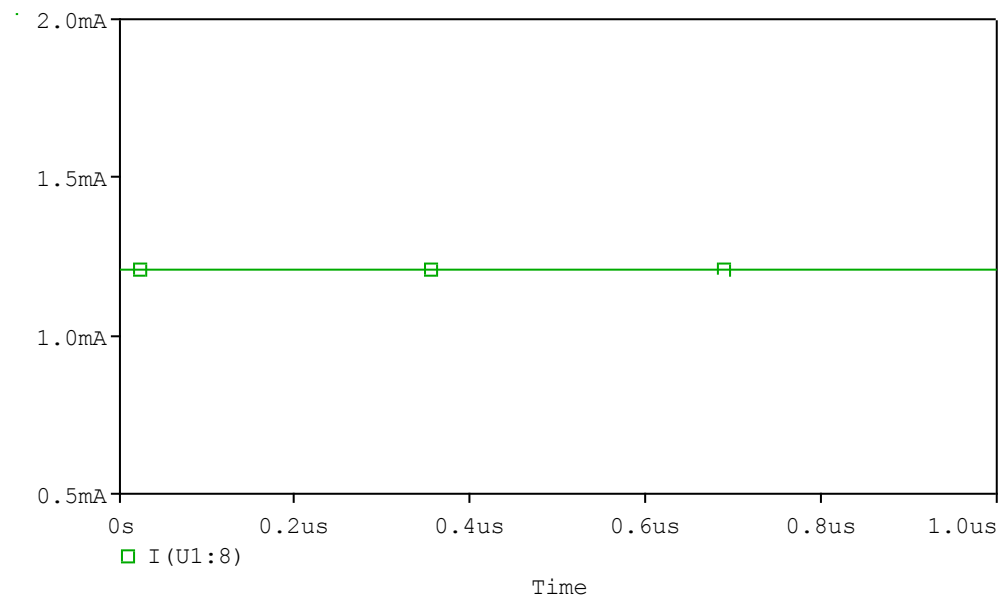
Comparison table

Common mode gain = 0.009616 V/mV
 CMRR = $20\log(100/0.009616) = 80.340$

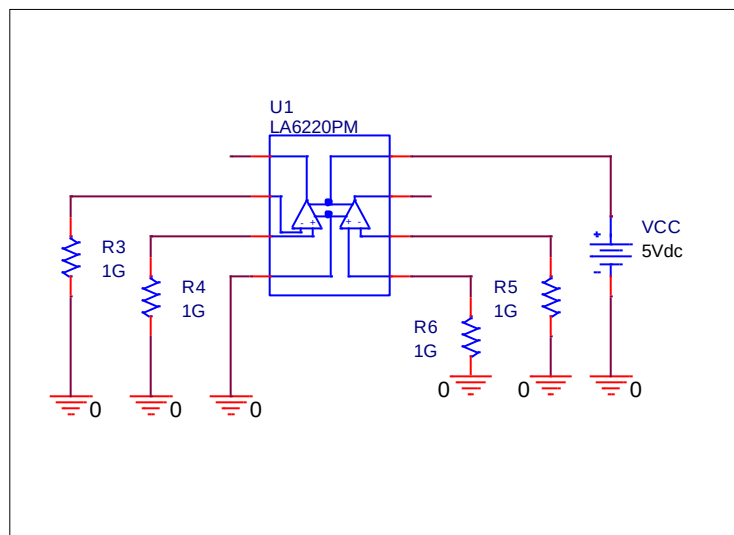
Parameter	Measurement	Simulation	%Error
CMRR(dB)	80.000	80.340	0.43

Supply Current

Simulation result



Evaluation circuit

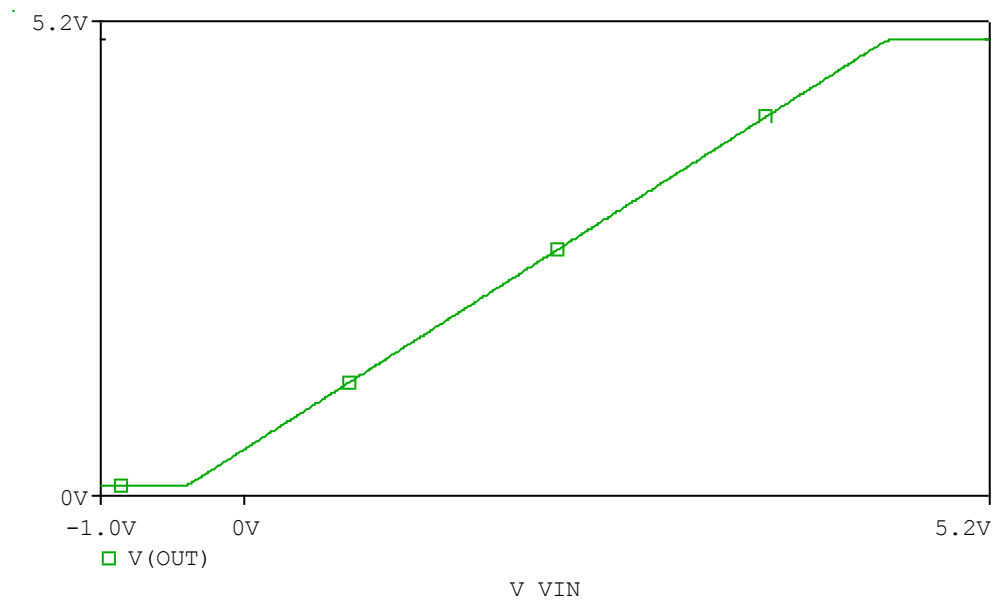


Comparison table

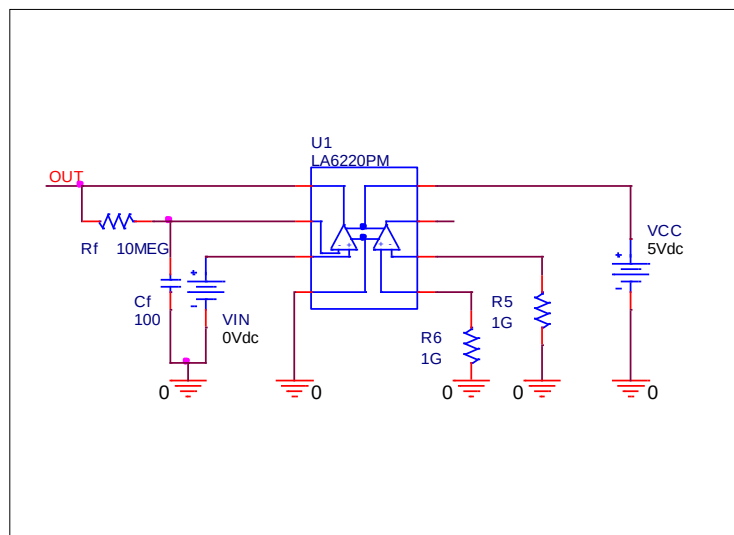
Parameter	Measurement	Simulation	%Error
ICC (mA)	1.200	1.208	0.70

Input common-mode voltage range

Simulation result



Evaluation circuit

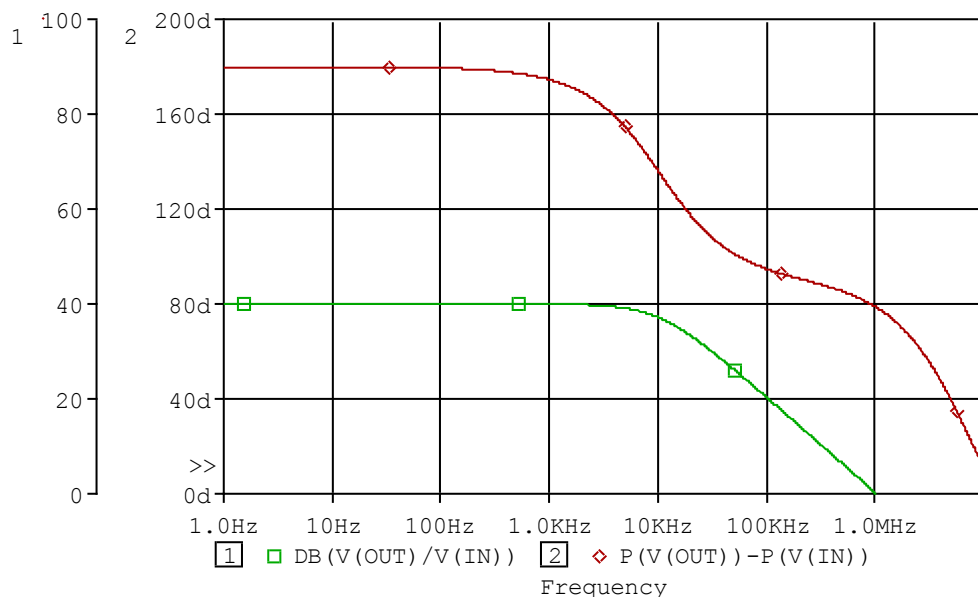


Comparison table

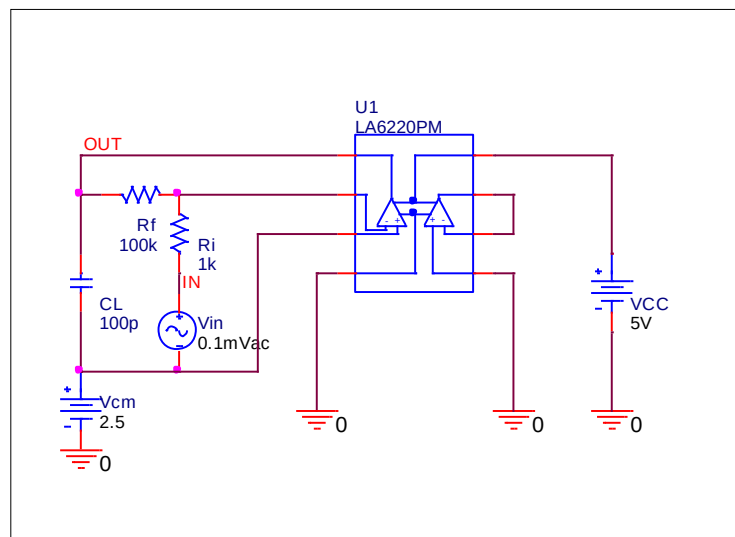
Parameter	Measurement	Simulation	%Error
V_{icm} (V)	5.000	4.774	-4.53

Gain Bandwidth Product

Simulation result



Evaluation circuit



Comparison table

VCC= 5 [V], VEE= 0 [V], Av= 40 [dB]

Parameter	Measurement	Simulation	%Error
Ft (MHz)	1.000	1.032	3.16
Phase margin θ (°)	80.000	78.601	-1.75