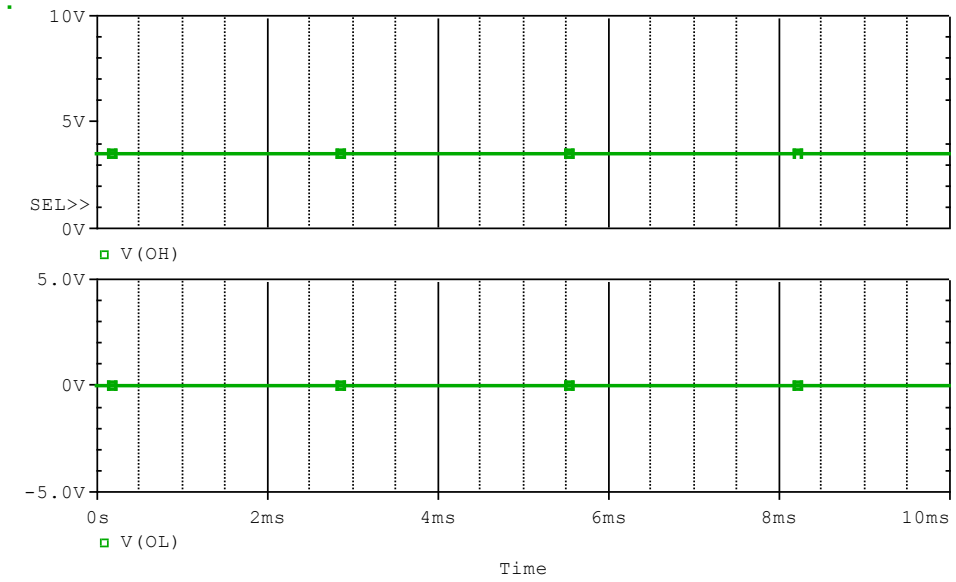
# Device Modeling Report

COMPONENTS: OPERATIONAL AMPLIFIER
PART NUMBER: LA6324N
MANUFACTURER: SANYO Semiconductors

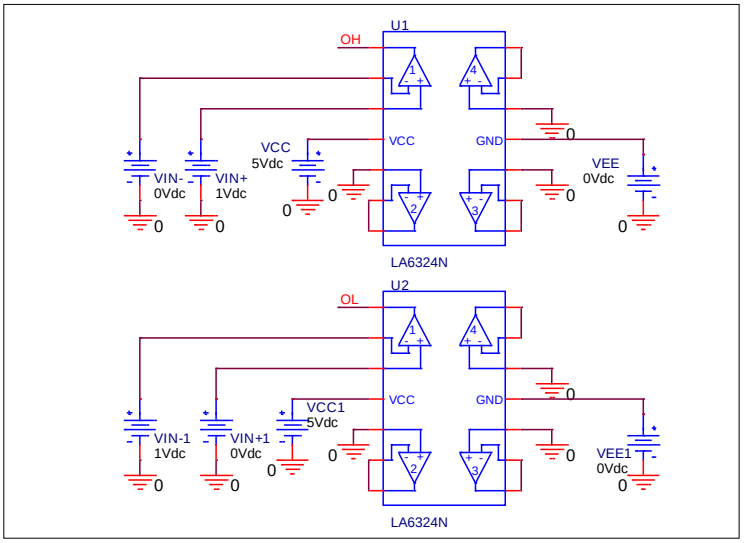
**Bee Technologies Inc.**

## Output Voltage Swing

Simulation result




Evaluation circuit

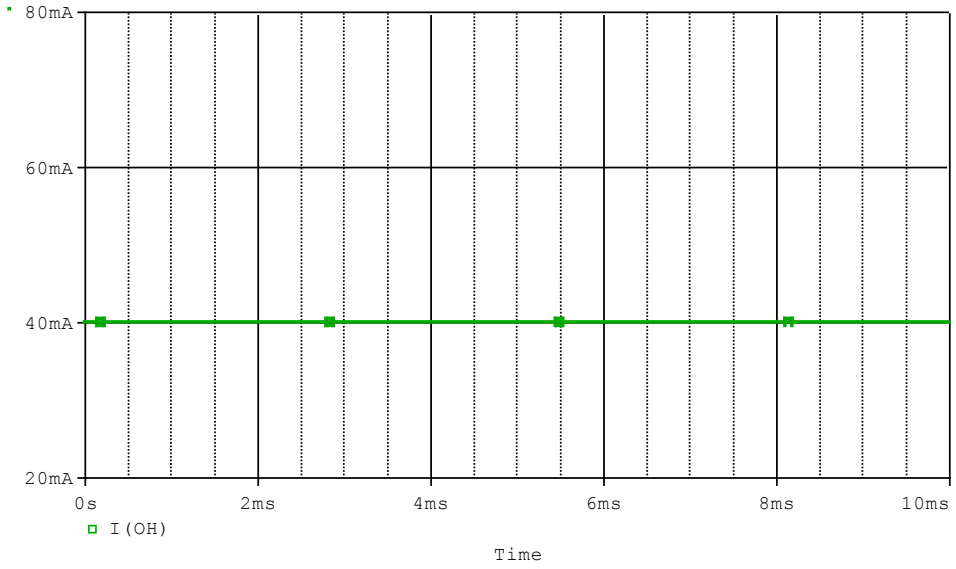



Comparison table

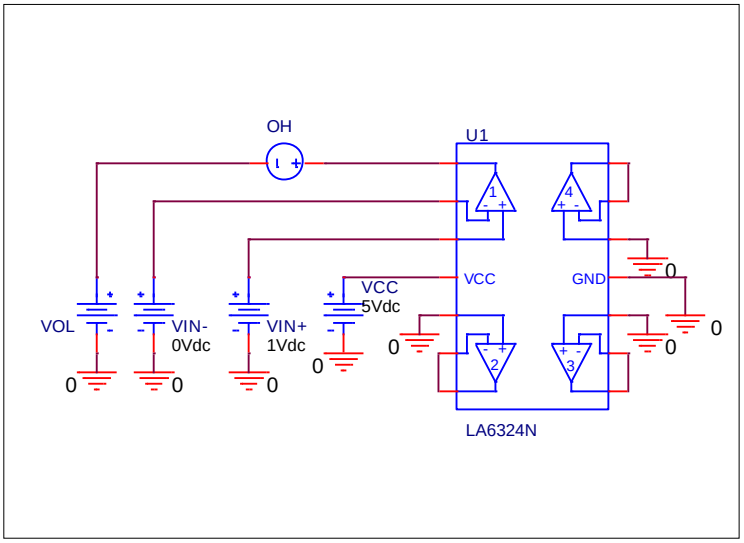
| Parameter | Measurement | Simulation | %Error |
|---|---|---|---|
| VOH (V) | 3.500 | 3.500 | 0.01 |
| VOL (V) | 0.000 | 0.000 | 0.00 |

## Short Circuit Current

Simulation result




Evaluation circuit

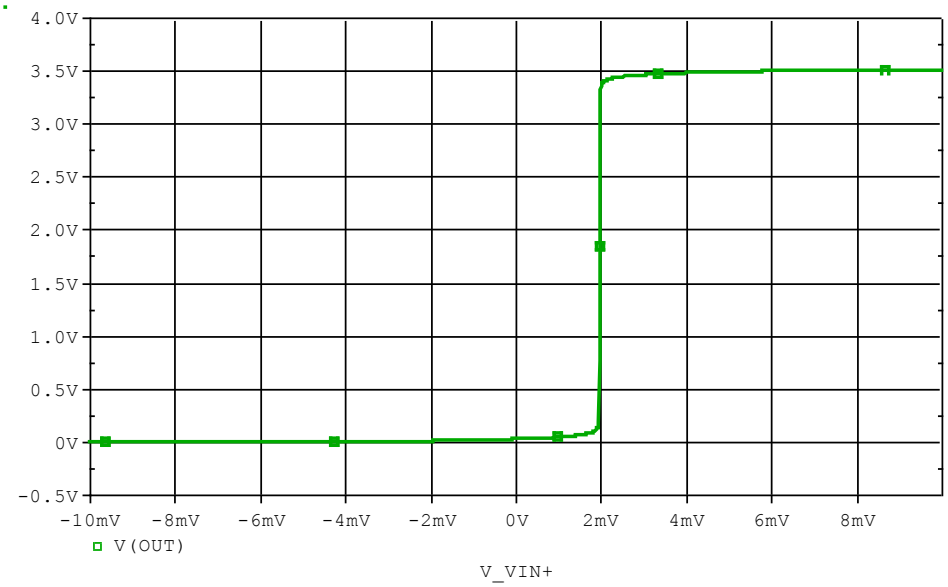



Comparison table

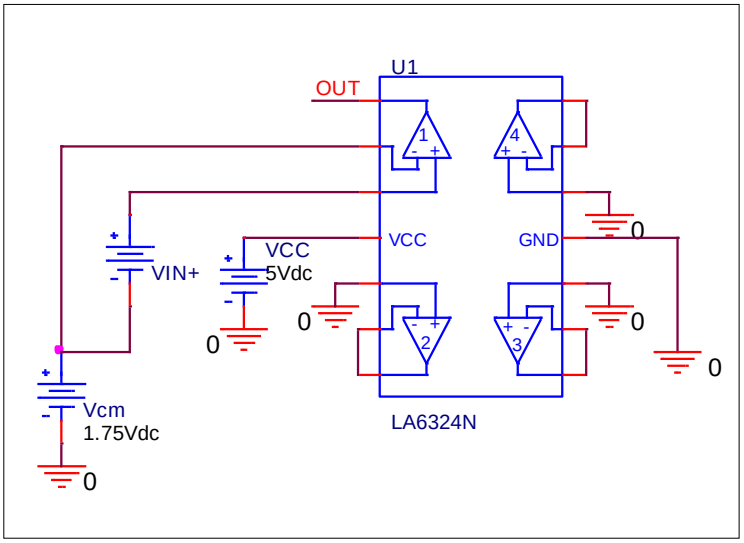
| Parameter | Measurement | Simulation | %Error |
|---|---|---|---|
| IOS (mA) | 40.000 | 40.095 | 0.24 |

## Input Offset Voltage

Simulation result




Evaluation circuit

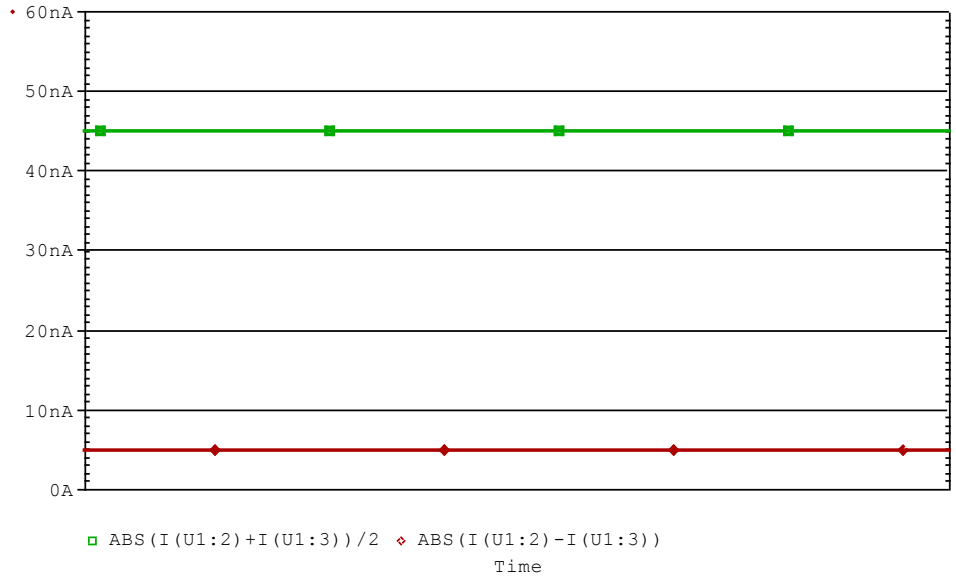



Comparison table

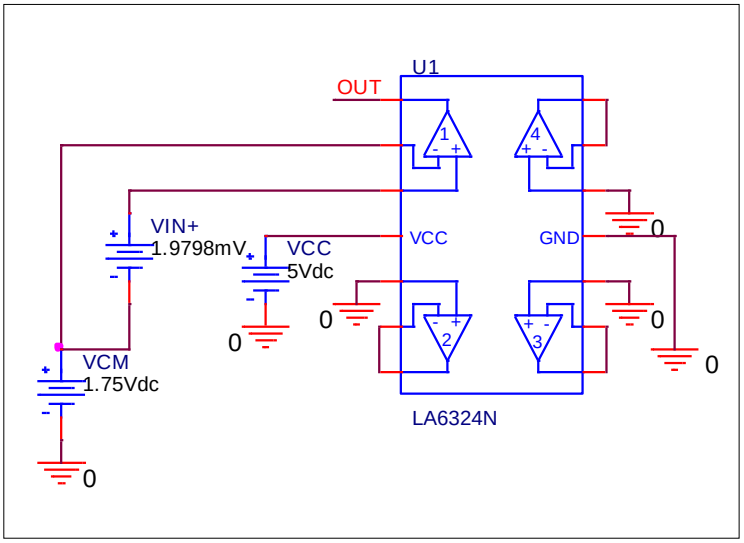
| Parameter | Measurement | Simulation | %Error |
|---|---|---|---|
| **Vio (mV)** | **2.000** | **1.980** | **-1.01** |

## Input Current Ib, Ibos

Simulation result




Evaluation circuit

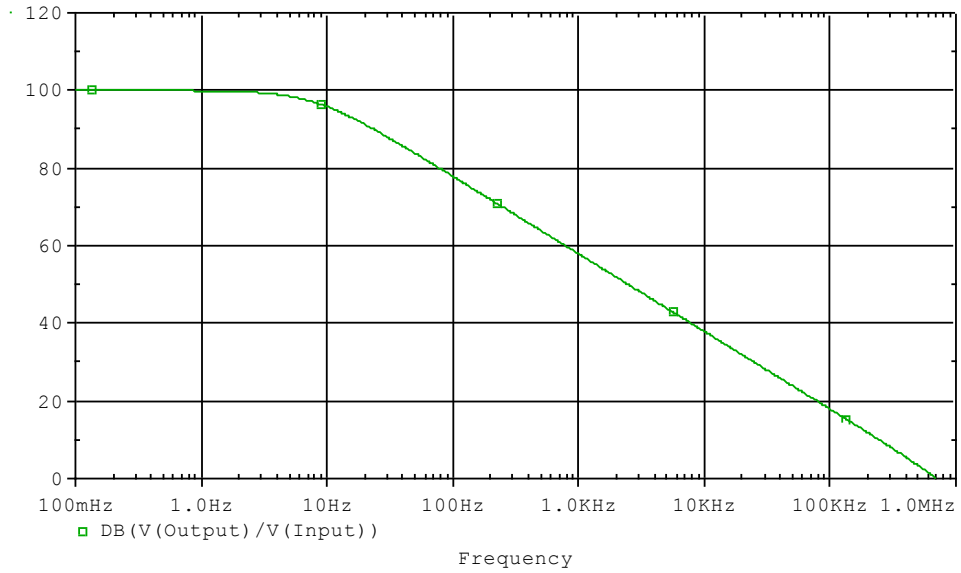



Comparison table

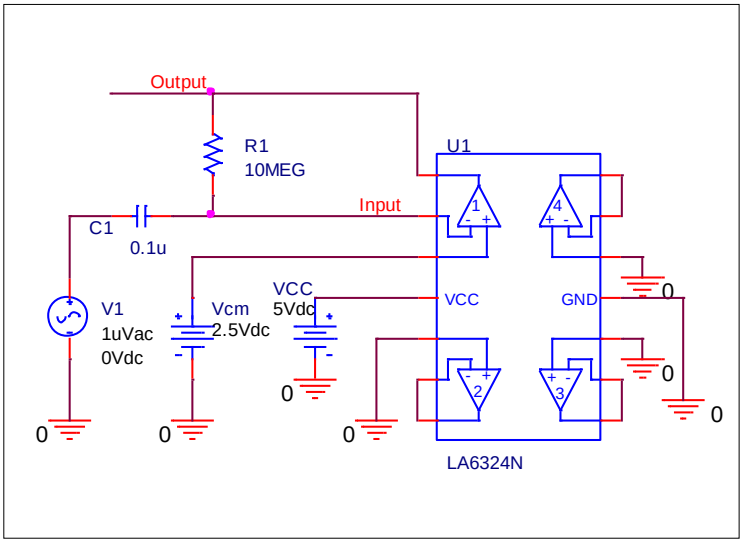
| Parameter | Measurement | Simulation | %Error |
|---|---|---|---|
| Iio (nA) | 5.000 | 4.972 | -0.56 |
| Ib (nA) | 45.000 | 45.036 | 0.08 |

## Open loop voltage gain

Simulation result




Evaluation circuit

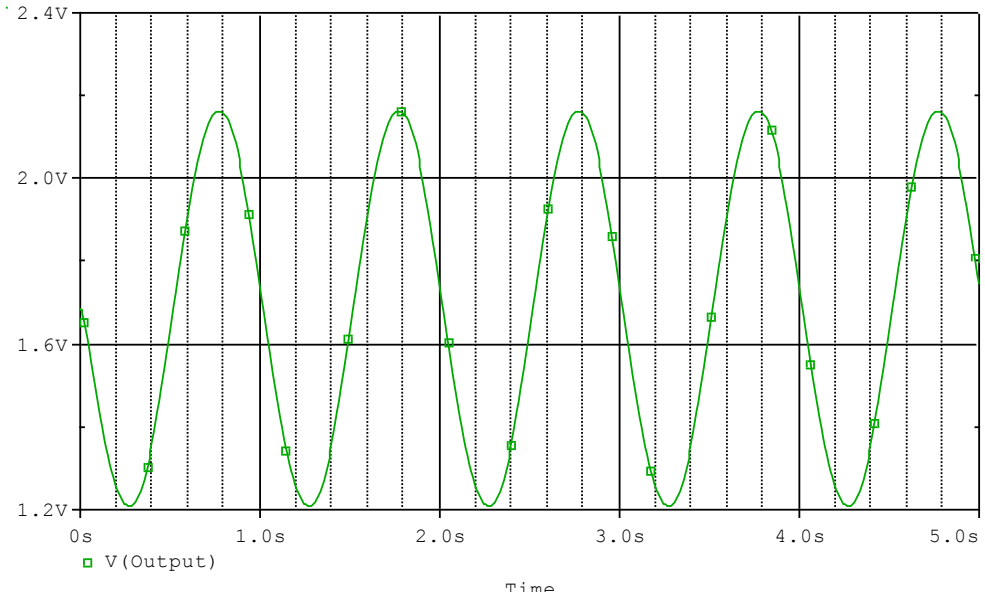



Comparison table

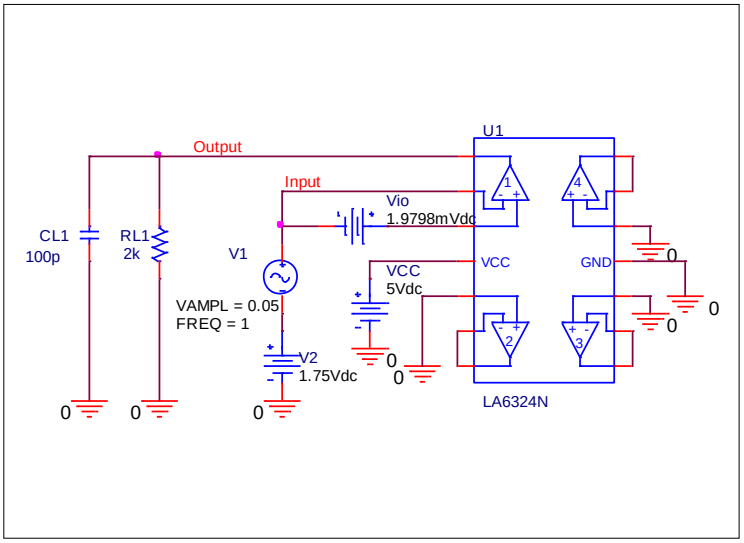
| Parameter | Measurement | Simulation | %Error |
|---|---|---|---|
| Ft (MHz) | 0.700 | 0.698 | -0.23 |
| AV (db) | 100.000 | 99.975 | -0.03 |

## Common-mode rejection voltage gain

Simulation result




Evaluation circuit



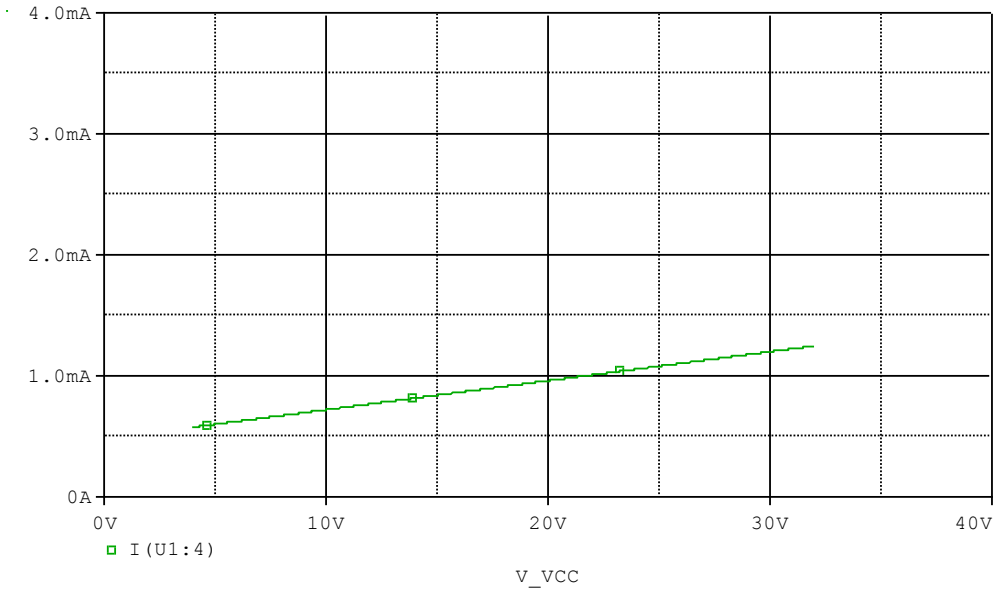

Comparison table

Common mode gain = 0.00954 V/mV
CMRR = 20log(100/0.00954) = 80.406

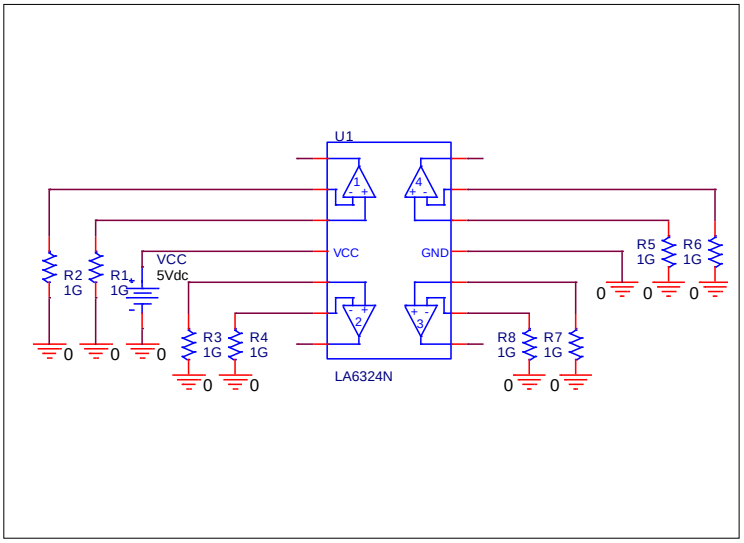
| Parameter | Measurement | Simulation | %Error |
|---|---|---|---|
| **CMRR(dB)** | **80.000** | **80.406** | **0.51** |

## Supply Current

Simulation result




Evaluation circuit

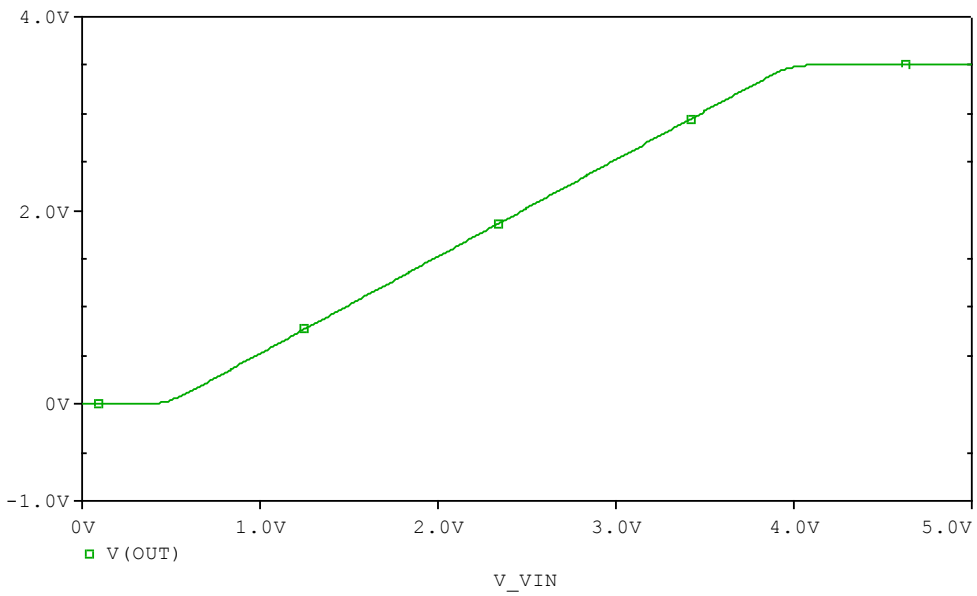



Comparison table

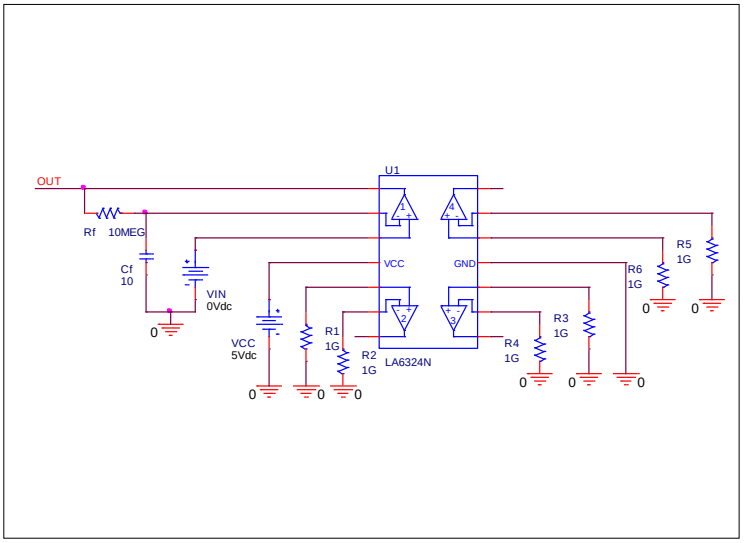
| Parameter | Measurement | Simulation | %Error |
|---|---|---|---|
| ICC (mA) | 1.200 | 1.200 | 0.00 |

## Input common-mode voltage range

Simulation result




Evaluation circuit




Comparison table

| Parameter | Measurement | Simulation | %Error |
|---|---|---|---|
| Vicm (V) | 3.500 | 3.635 | 3.85 |