

LTspice Model

OpAmp

Texas Instruments

TLV4314IPWR

Model Information

Model A macro model
Call Name MDC_TLV4314IPWR_LT
Pin Assign 1:OUT A,2:-IN A,3:+IN A,4:V+,5:+IN B,6:-IN B,7:OUT B,
 8:OUT C,9:-IN C,10:+IN C,11:V-,12:+IN D,13:-IN D,14:OUT D
File List Model Library MDC_TLV4314IPWR_LTlib
 Model Report MDC_TLV4314IPWR_LT.pdf(this file)
Verified Simulator Version LTspice 17.1.15

Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version SBOS754A –MARCH 2016–REVISED MARCH 2016
- Product name TLVx314
- Company name Texas Instruments Incorporated.

[Characteristics listed]

- Characteristics
 - Open Loop Gain,Phase
 - Quiescent Current(per Ch)
 - Offset Voltage
 - Small-Signal Pulse Response
 - EMIRR (Reference Only)

Simulation Condition

This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Condition	Unit
Temperature	25	deg C

○ : Implemented
× : Not Implemented
— : Not applicable

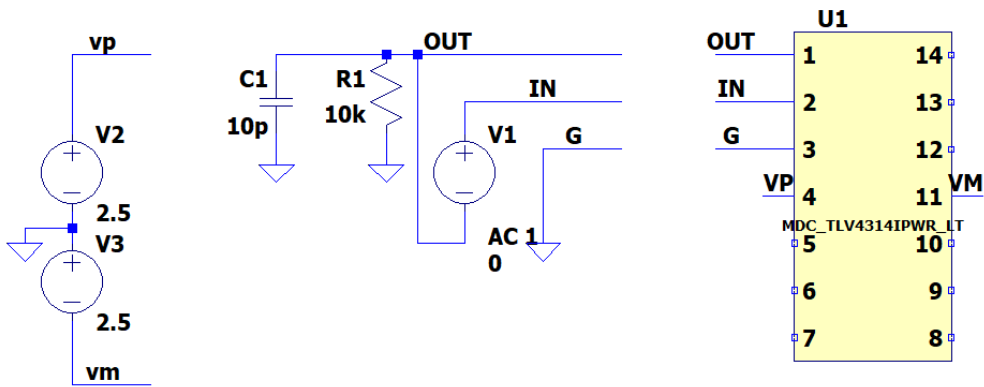
Model Functions Table
RANK=1

Functions	RANK	Implemented
Open Loop Gain	1	○
Unity Frequency	1	○
Phase Margin	1	○
Input Offset Voltage	1	○
Input Offset Current	1	○
Bias Current	1	—
Maximum output amplitude voltage	1	○
Slew Rate	1	○
Equivalent Input Noise Voltage	2	×
Equivalent Input Noise Current	2	×

Open Loop Gain,Phase Testbench
 Referred to Data Sheet

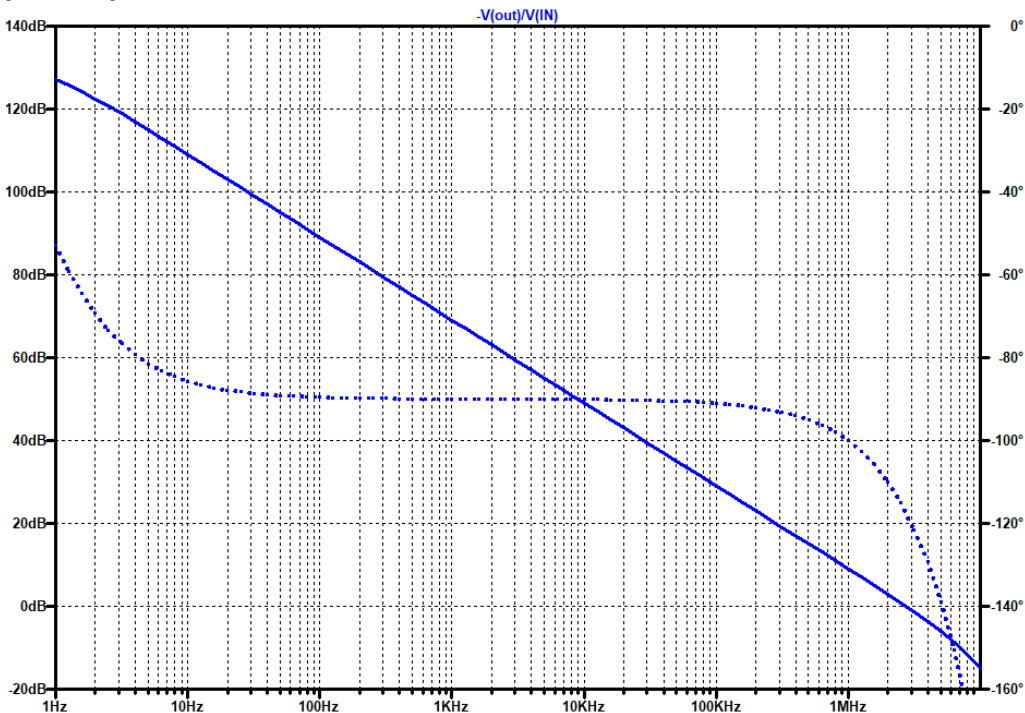
```
.OPTION TNOM=25
.TEMP 25

.ac dec 10 1 10Meg
```



Simulation results are following.
 Explanatory notes — : simulated

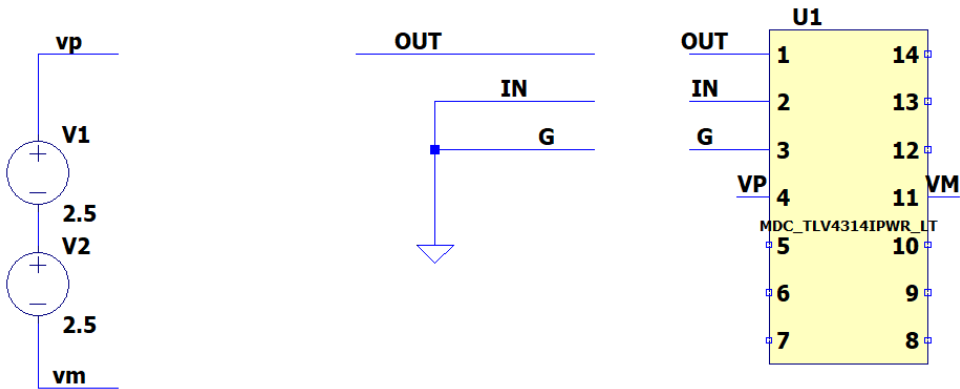
Open Loop Gain,Phase



Quiescent Current(per Ch) Testbench
Referred to Data Sheet

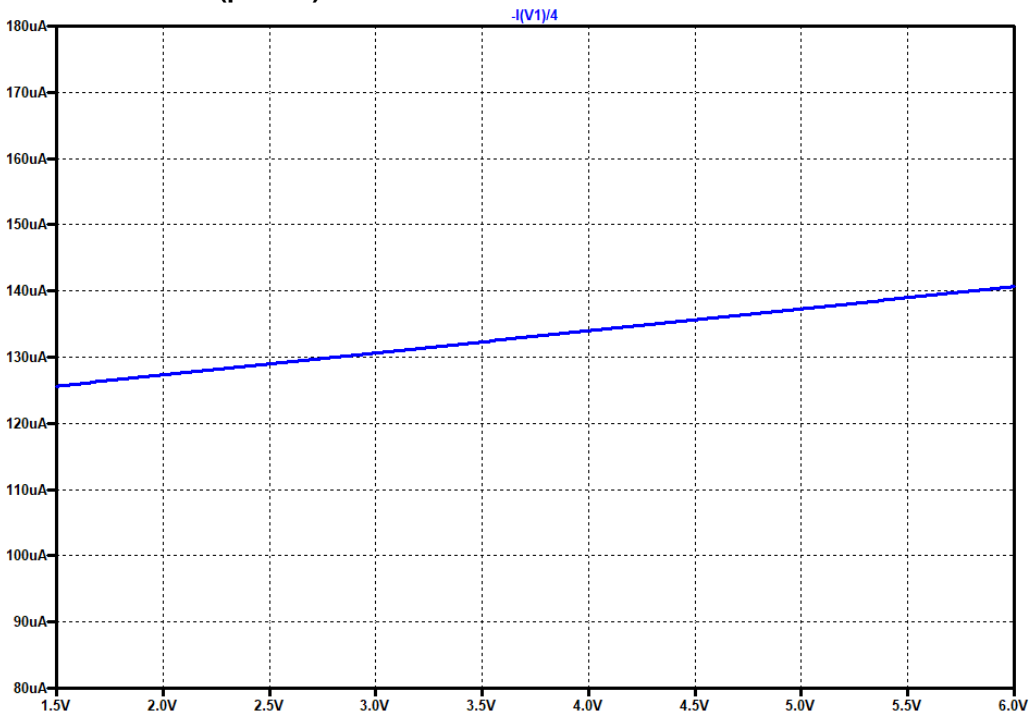
```
.OPTION TNOM=25
.TEMP 25

.dc V1 1.5 6 0.1
```



Simulation results are following.
 Explanatory notes — : simulated

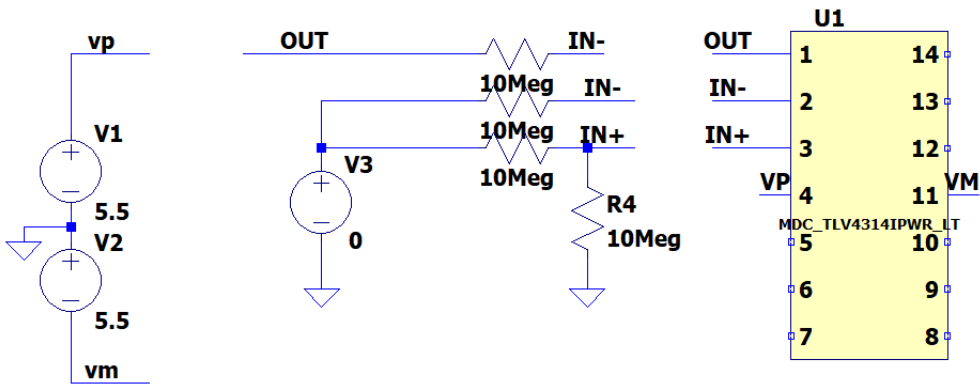
Quiescent Current(per Ch)



Offset Voltage Testbench
Referred to Data Sheet

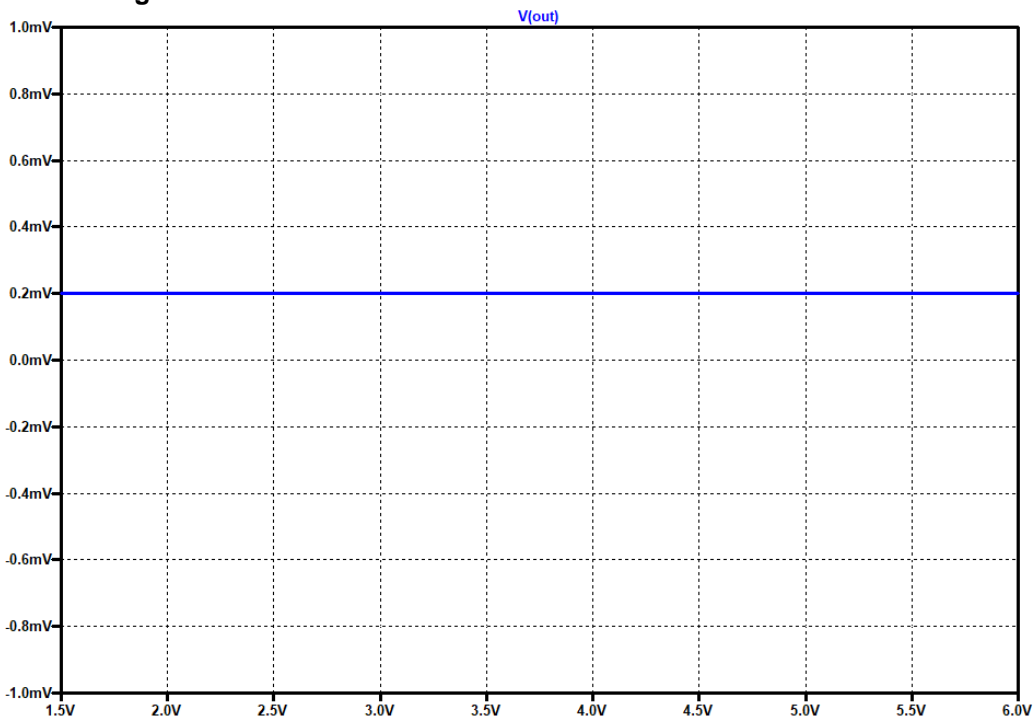
```
.OPTION TNOM=25
.TEMP 25

.dc V3 1.5 6 0.1
```

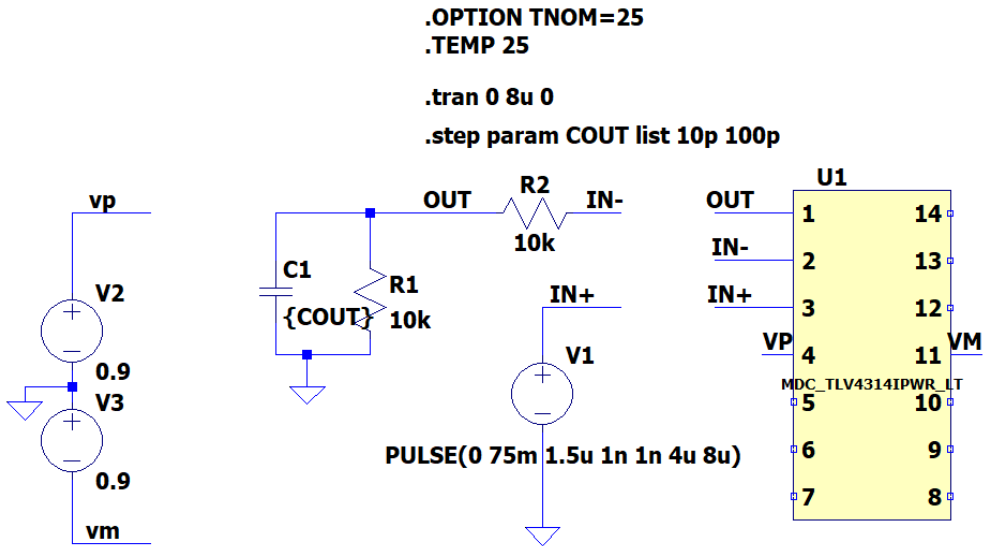


Simulation results are following.
 Explanatory notes — : simulated

Offset Voltage

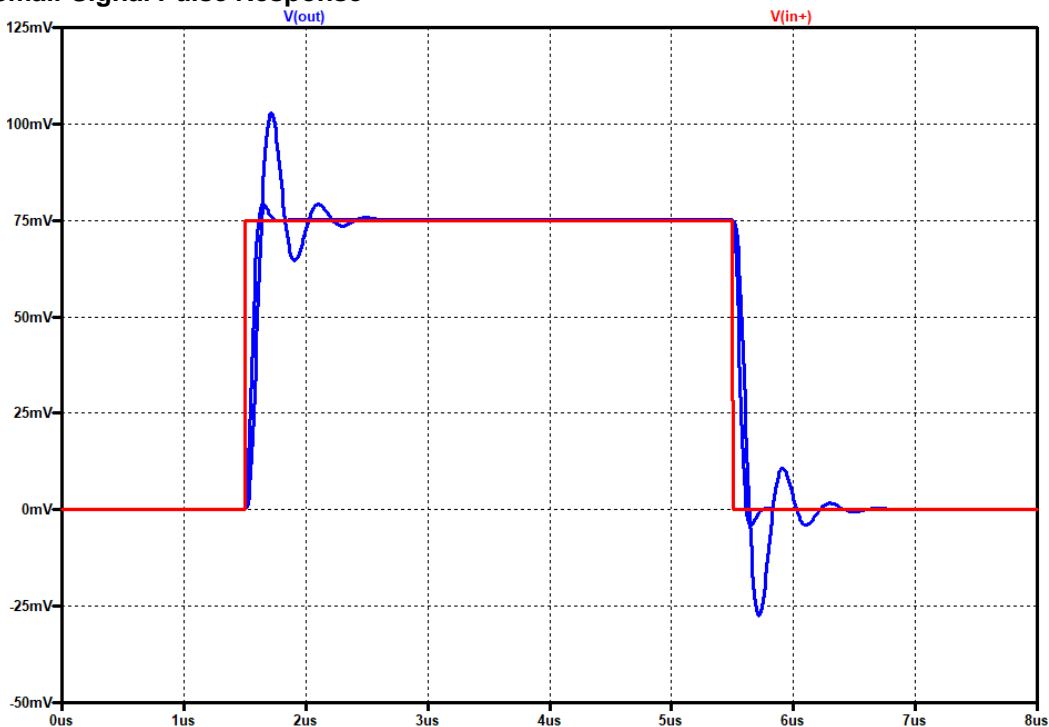


Small-Signal Pulse Response Testbench
 Referred to Data Sheet



Simulation results are following.
 Explanatory notes — : simulated

Small-Signal Pulse Response

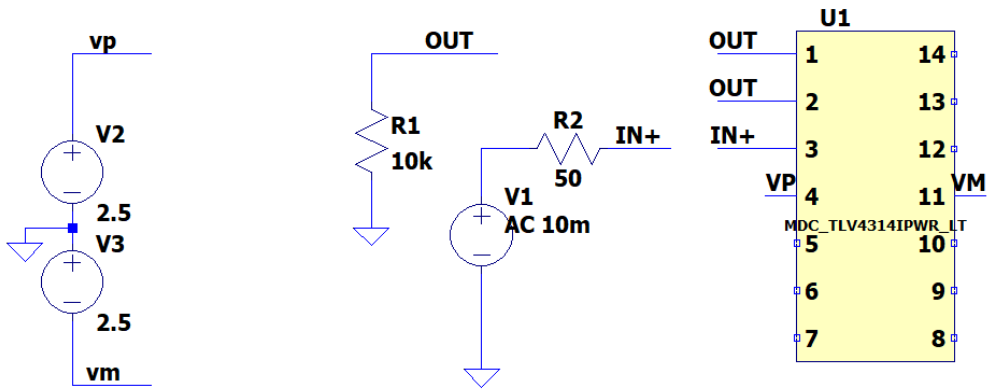


EMIRR Testbench

Referred to Data Sheet

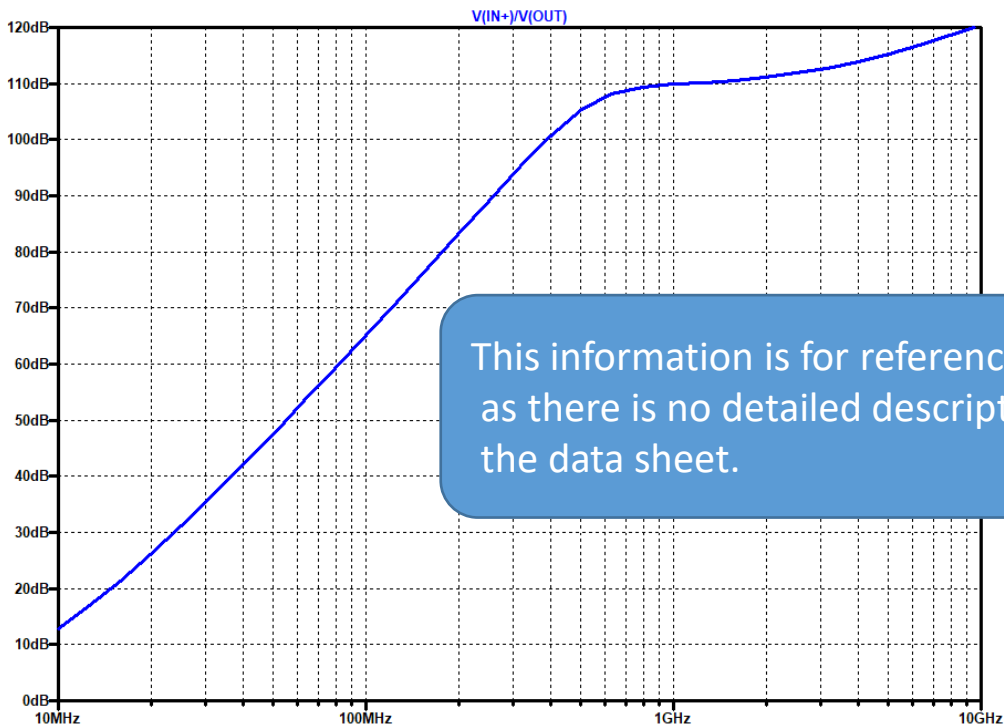
```
.OPTION TNOM=25
.TEMP 25

.ac dec 10 10Meg 10G
```



Simulation results are following.
 Explanatory notes — : simulated

EMIRR



This information is for reference only as there is no detailed description in the data sheet.

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