

LTspice Model

Automotive ground sense comparator

ROHM

BA2903YFVM-M

Model Information

Model	A macro model
Call Name	MDC_BA2903YFVM-M_LT
Pin Assign	1:OUT1 2:-IN1 3:+IN1 4:VEE 5:+IN2 6:-IN2 7:OUT2 8:VCC
File List	Model Library MDC_BA2903YFVM-M_LT.lib Model Report MDC_BA2903YFVM-M_LT.pdf(this file)

Verified Simulator Version LTspice(x64) 24.0.9

Note

References

The information which was used for modeling is as follow:

[Data Sheet]

●Date/Version	2013.9.13 Rev.002
●Product name	BA2903YFVM-M
●Company name	ROHM

[Characteristics listed]

●Characteristics	Normal operation Circuit current Input bias current Input offset current Input offset voltage Output saturation voltage Response time
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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

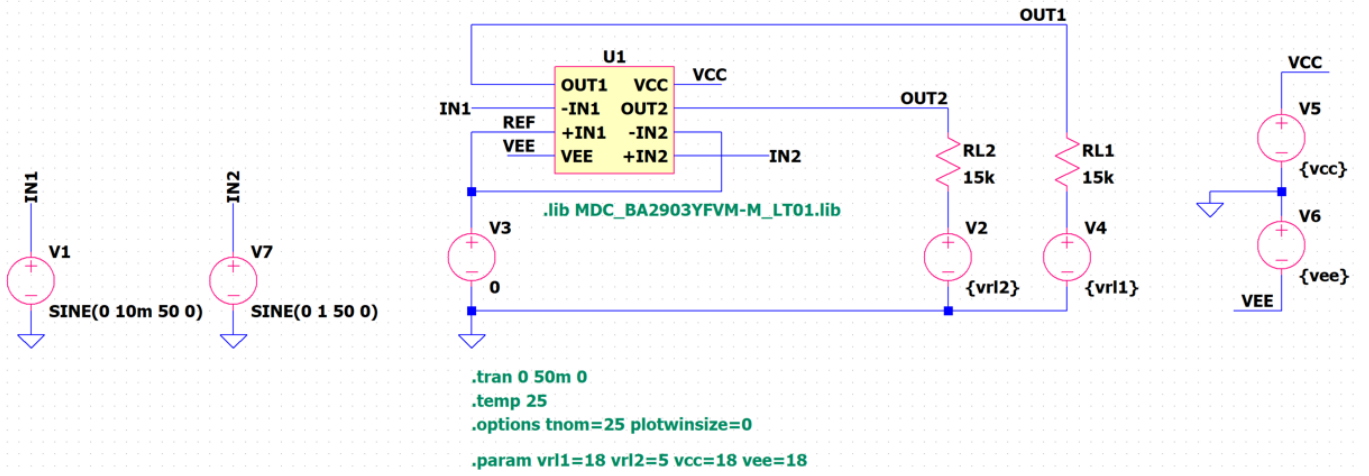
		RANK=1
Functions	RANK	Implemented
Normal operation	1	○
Circuit current	1	○
Input bias current	1	○
Input offset current	1	○
Input offset voltage	1	○
Output saturation voltage	1	○
Response time	1	○

Normal operation

Simulation results are following.

Explanatory notes — : simulated

Testbench

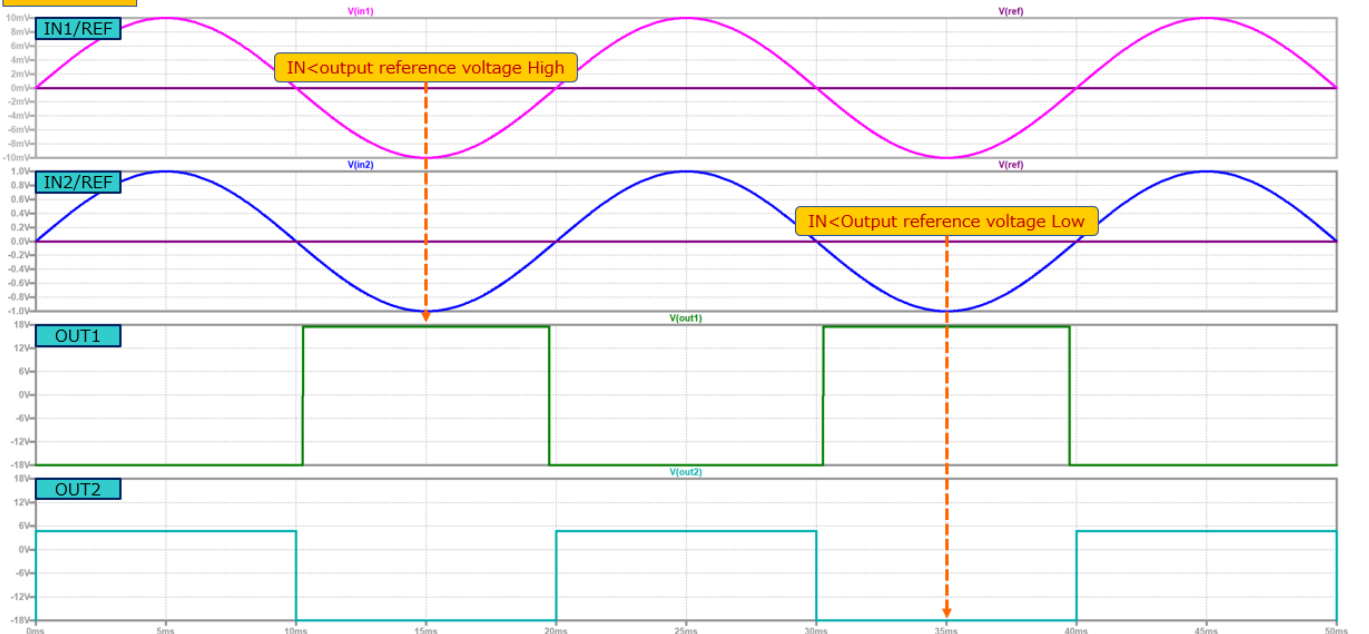


Normal operation

Simulation results are following.

Explanatory notes — : simulated

Sim result

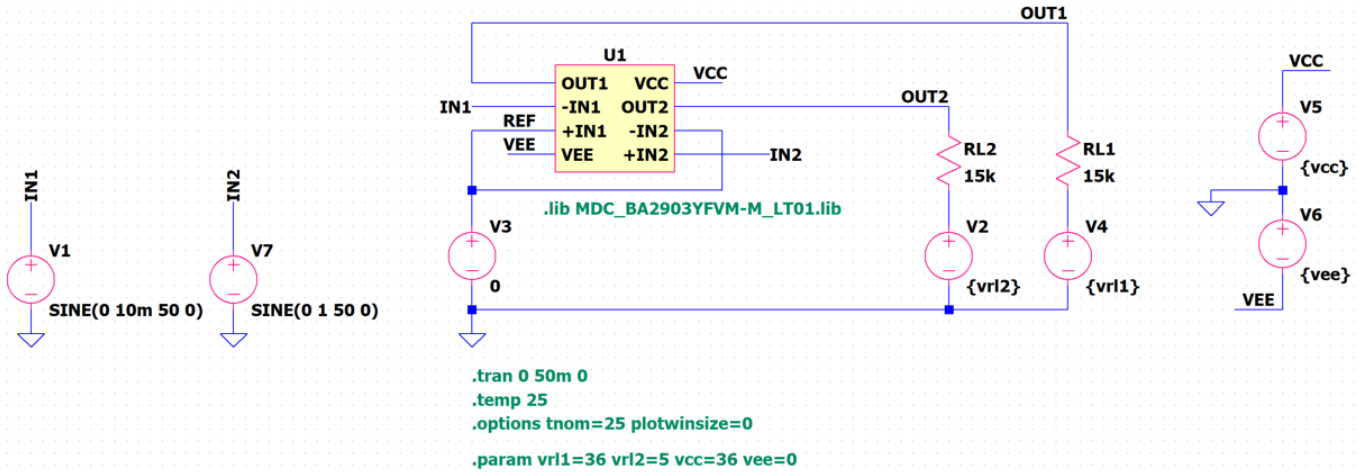


Normal operation

Simulation results are following.

Explanatory notes — : simulated

Testbench

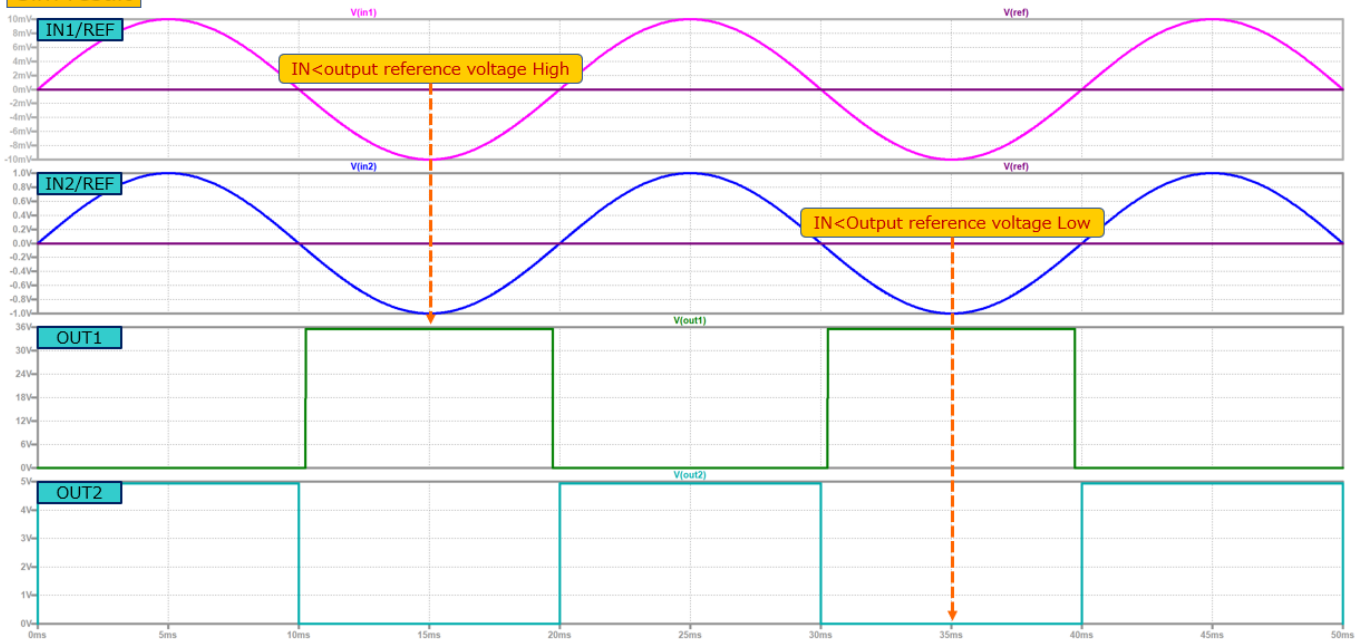


Normal operation

Simulation results are following.

Explanatory notes — : simulated

Sim result

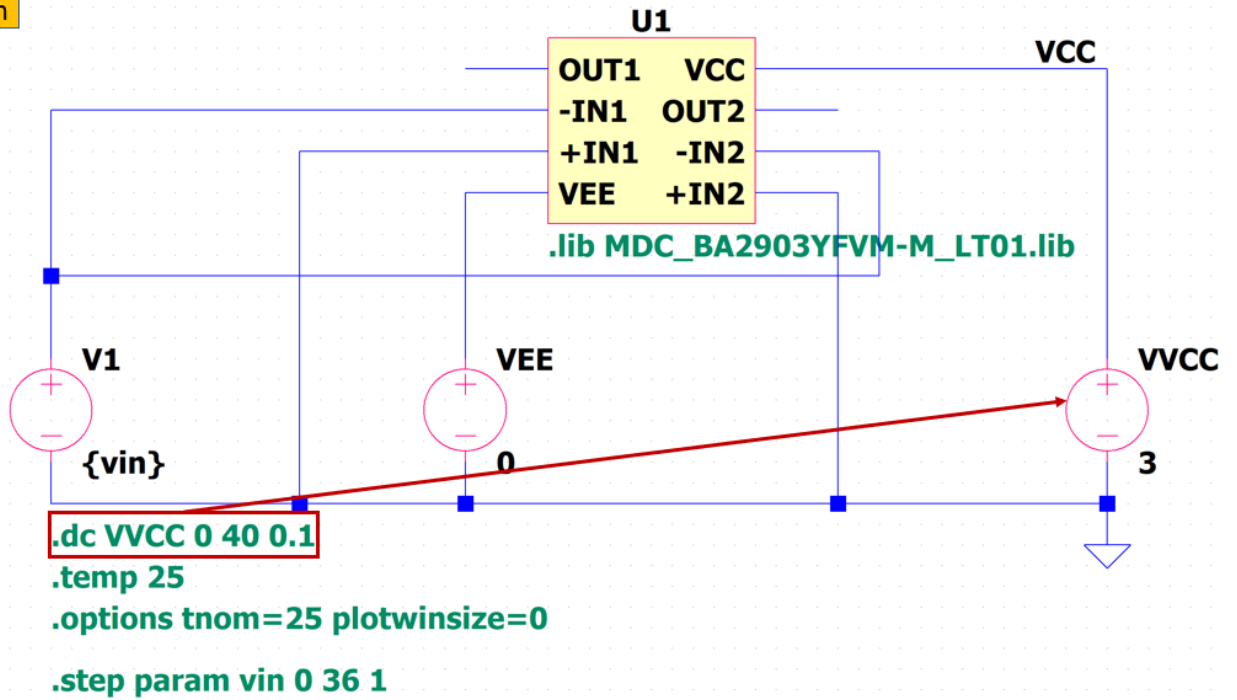


Circuit current

Simulation results are following.

Explanatory notes — : simulated

Testbench



Circuit current

Simulation results are following.

Explanatory notes — : simulated

Sim result

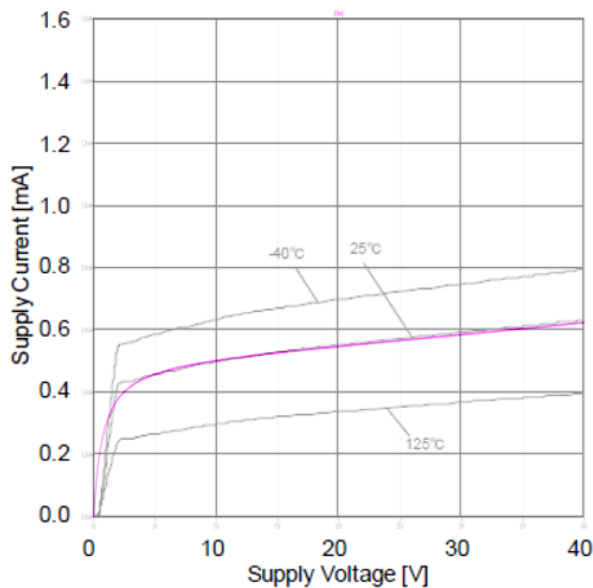


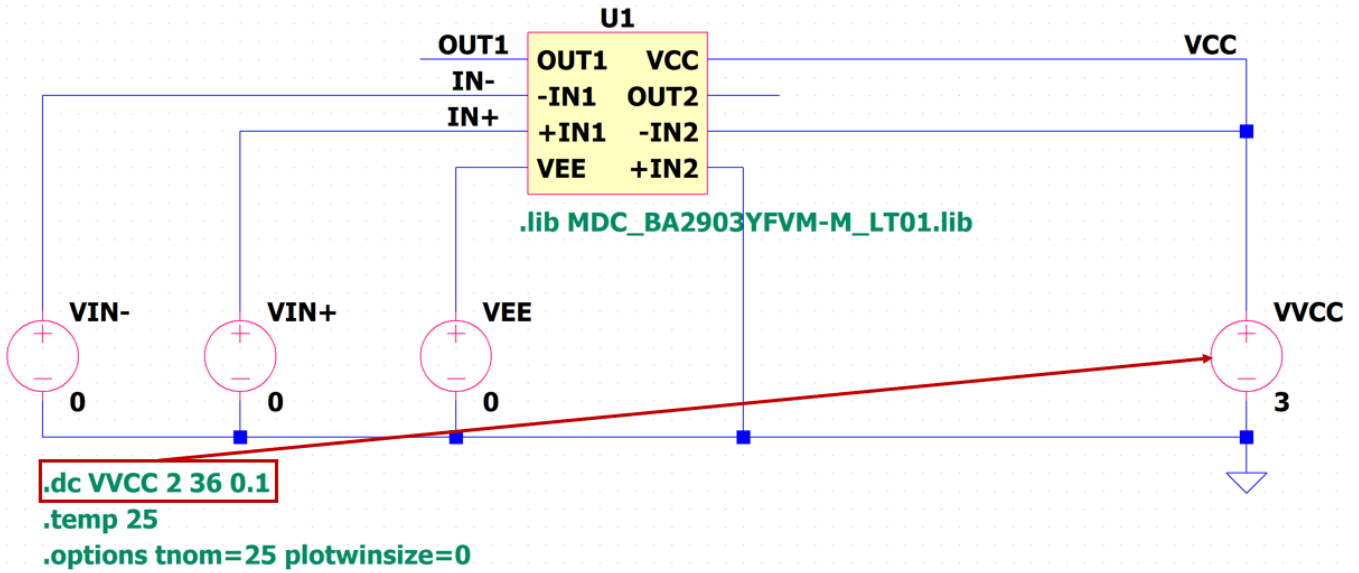
Figure 3.
回路電流－電源電圧特性

Input bias current

Simulation results are following.

Explanatory notes — : simulated

Testbench



Input bias current

Simulation results are following.

Explanatory notes — : simulated

Sim result

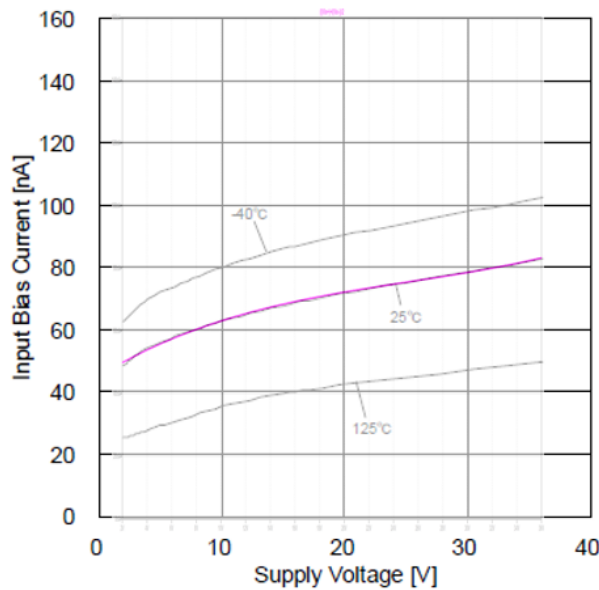


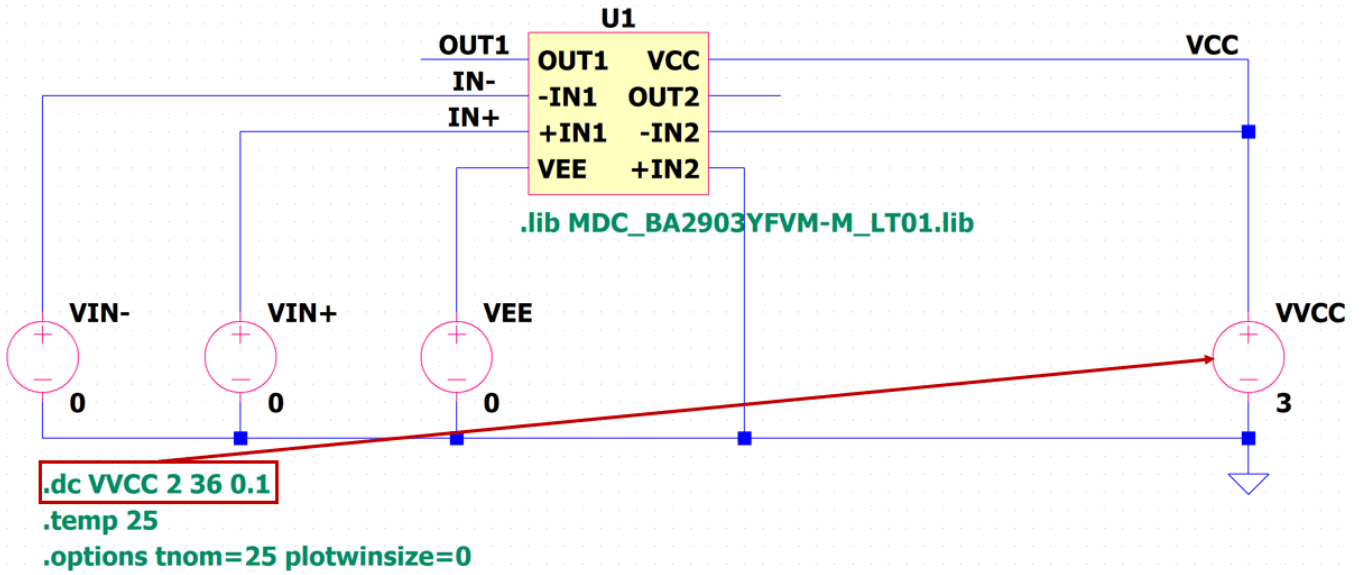
Figure 11. 入カバイアス電流－電源電圧特性

Input offset current

Simulation results are following.

Explanatory notes — : simulated

Testbench



Input offset current

Simulation results are following.

Explanatory notes — : simulated

Sim result

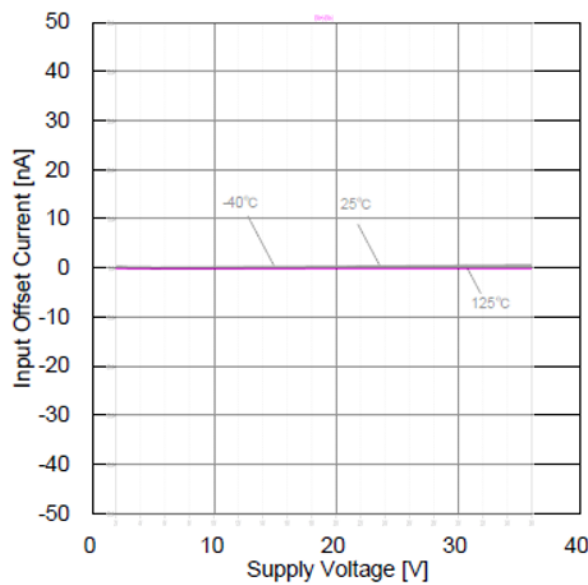


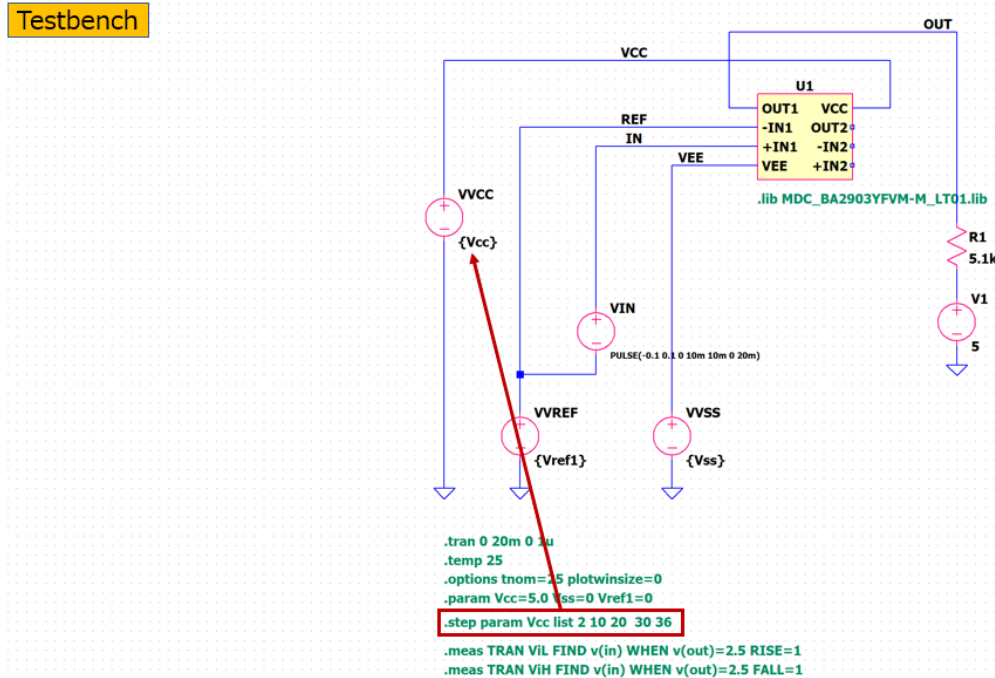
Figure 13.
入力オフセット電流－電源電圧特性

Input offset voltage

Simulation results are following.

Explanatory notes — : simulated

Testbench



Input offset voltage

Simulation results are following.

Explanatory notes — : simulated

Sim result

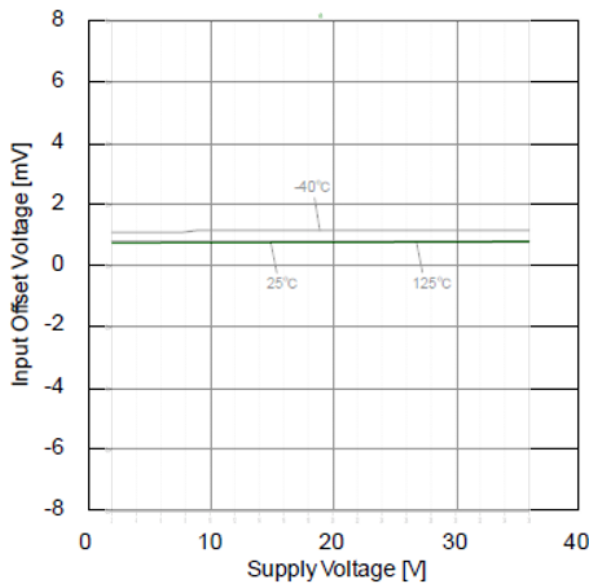
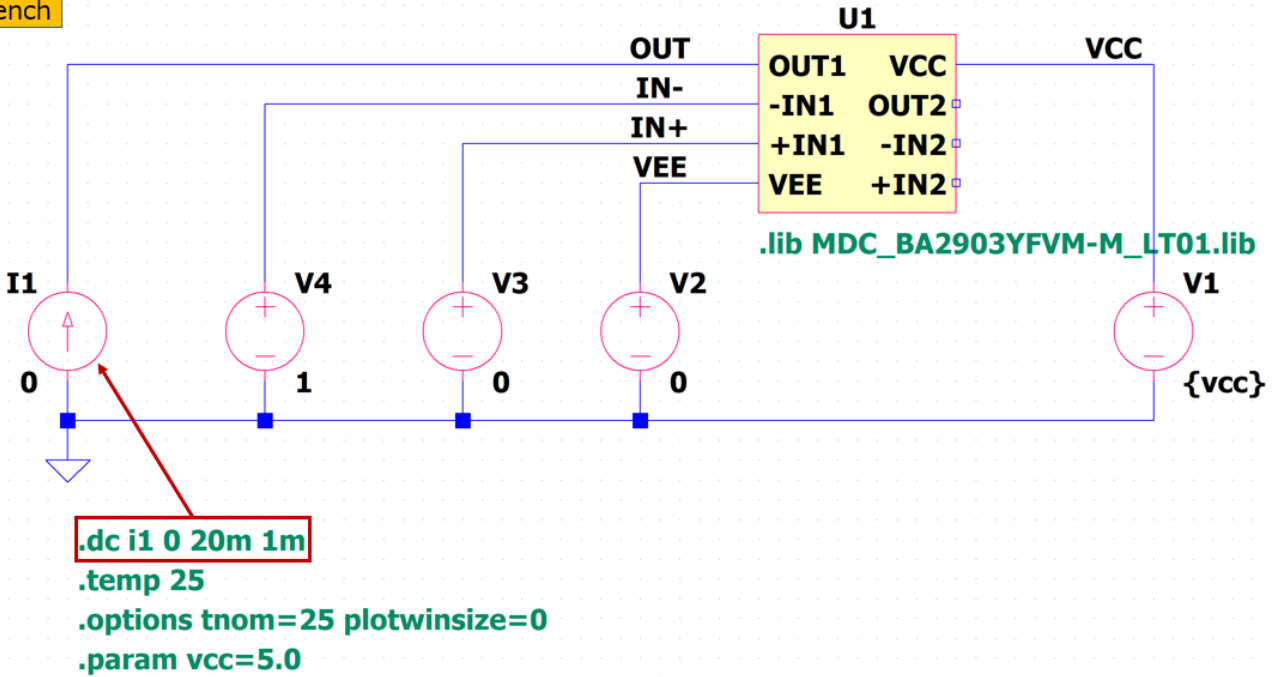


Figure 9.
入力オフセット電圧—電源電圧特性

Output saturation voltage
 Simulation results are following.
 Explanatory notes — : simulated

Testbench



Output saturation voltage
 Simulation results are following.
 Explanatory notes — : simulated

Sim result

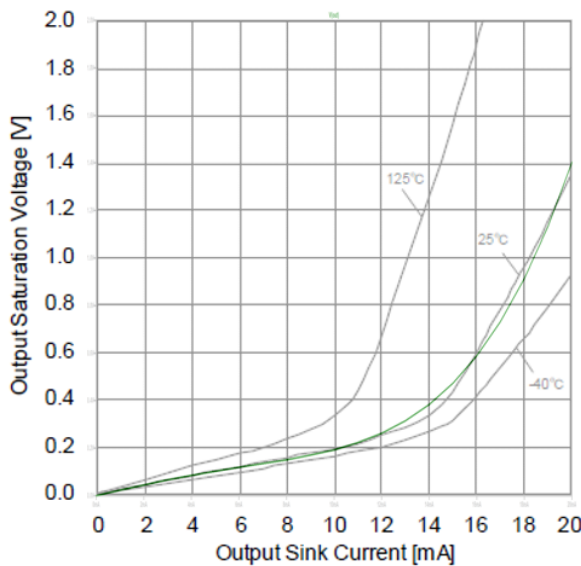


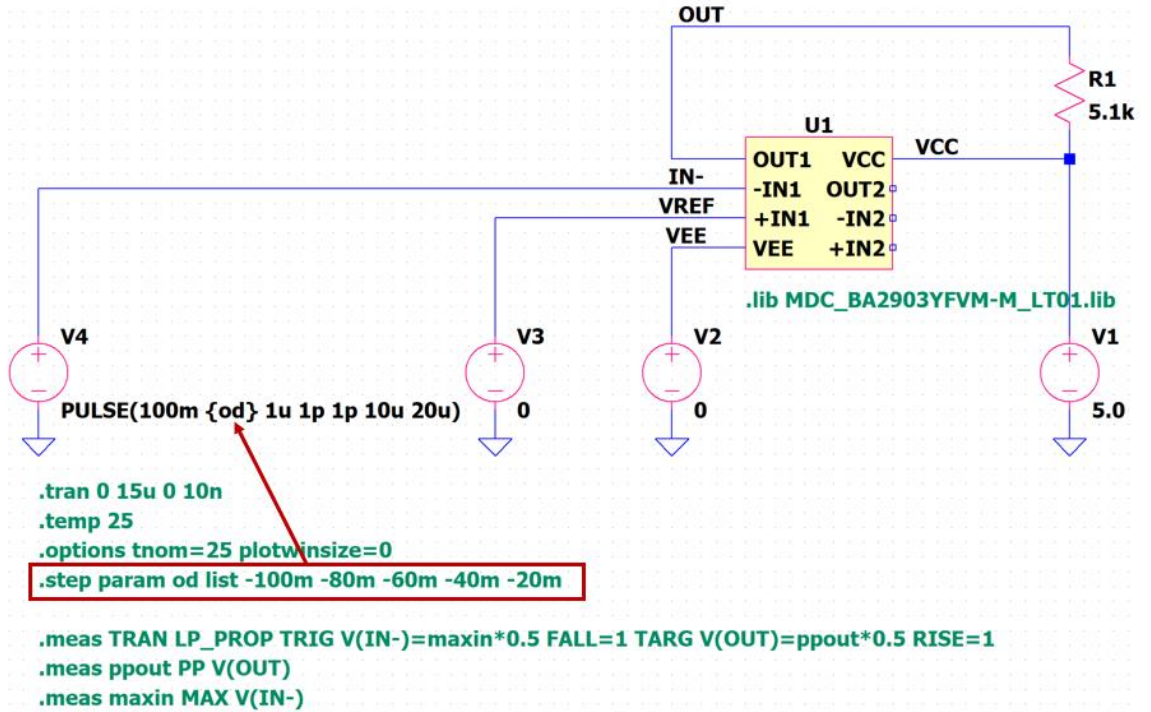
Figure 7.
 出力飽和電圧—出力シンク電流特性
 (VCC=5V)

Response time(L→H)

Simulation results are following.

Explanatory notes — : simulated

Testbench



Response time(L→H)

Simulation results are following.

Explanatory notes — : simulated

Sim result

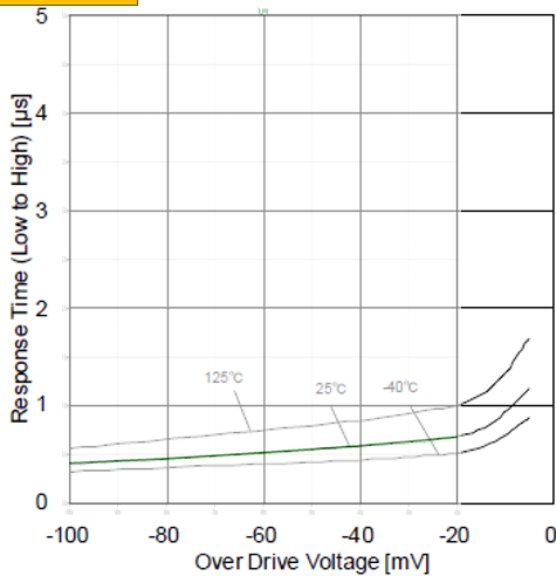


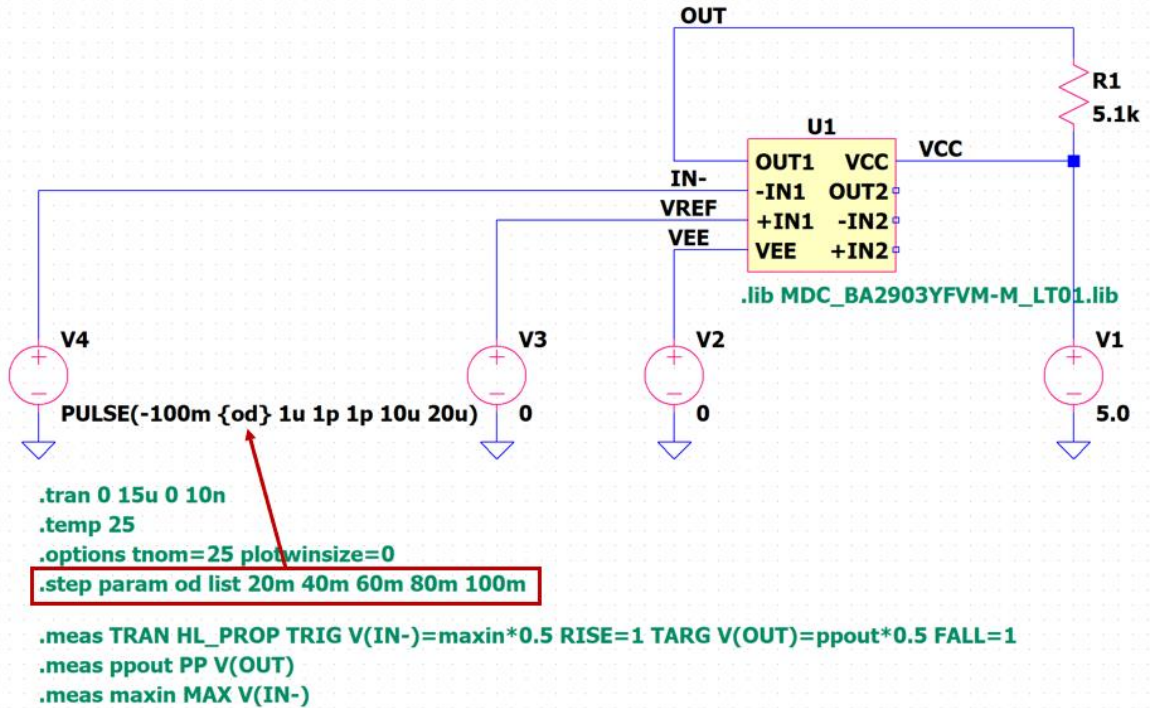
Figure 21.
L→H 応答時間ーオーバードライブ電圧特性
(VCC=5V, V_{RL}=5V, R_L=5.1kΩ)

Response time(H→L)

Simulation results are following.

Explanatory notes — : simulated

Testbench



Response time(H→L)

Simulation results are following.

Explanatory notes — : simulated

Sim result

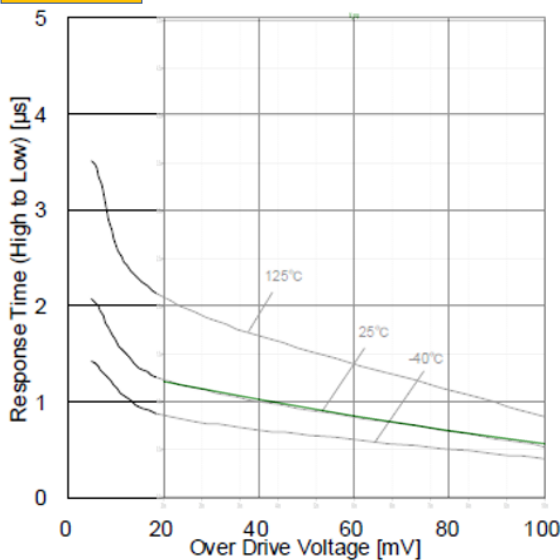


Figure 23.
H→L 応答時間—オーバードライブ電圧特性
(VCC=5V, V_{RL}=5V, R_L=5.1kΩ)

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