LTspice Model
Low-Side N-Channel Controller
Texas Instruments Inc.
LM3478MM

Model Information

Model	A macro model
Call Name	MDC_LM3478MM_LT
Pin Assign	1:ISEN 2:COMP 3:FB 4:AGND 5:PGND 6:DR 7:FA/SD 8:VIN
File List	Model Library MDC_LM3478MM_LT02.lib
	Model Report MDC_LM3478MM_LT.pdf(this file)
Verified Simulator Version	LTspice XVII
Note	

References

The information which was used for modeling is as follow:

[Data Sheet]

- ●Date/Version 17-Jul-2020
- ●Product name LM3478MM
- ●Company name Texas Instruments Inc.

[Characteristics listed]

- ●Characteristics UVLO, OCP, OVP
  Frequency adjust

Simulation Condition

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

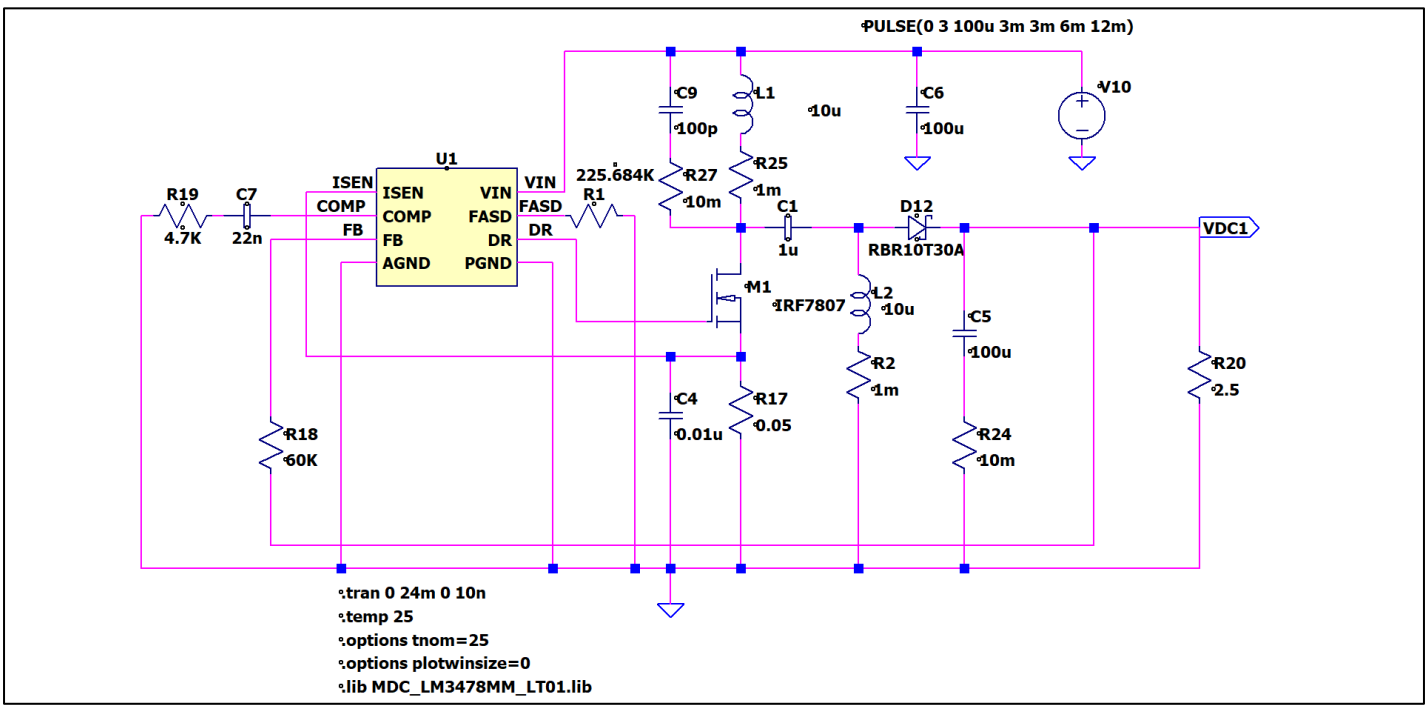
Item	Condition			Unit
	Min	Typ	Max	
VDD	2.97		40.00	V
Temperature		25		deg C

Model Functions Table

Functions	Implemented
Output Voltage Load Regulation	○
Input Undervoltage Lock-out	○
Input Undervoltage Lock-out Hysteresis	○
Short-Circuit Current Limit Sense Voltage	○
Output Over-voltage Protection (with respect to feedback voltage)	○
Internal Soft-Start Delay	○
Shutdown threshold	○
Frequency Adjust	○
Line Regulation	○

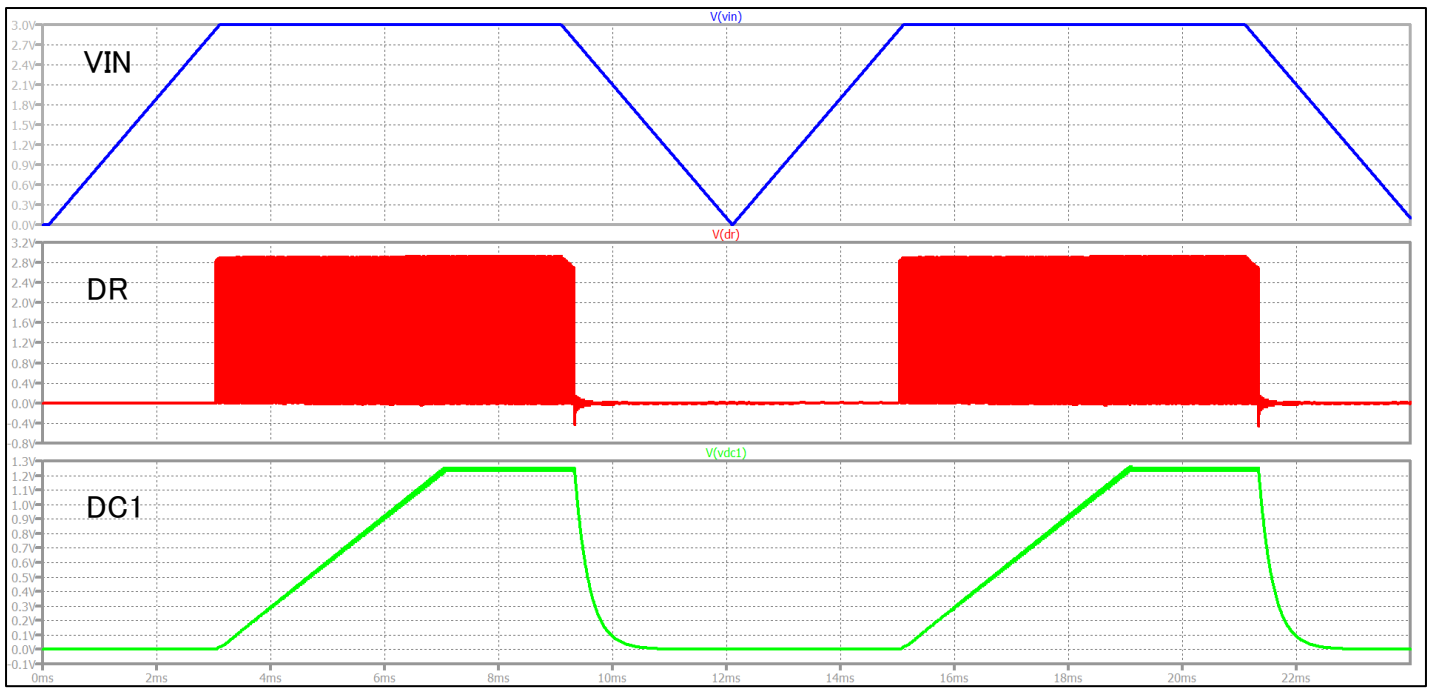
Testbench for UVLO function

Referred to Data Sheet



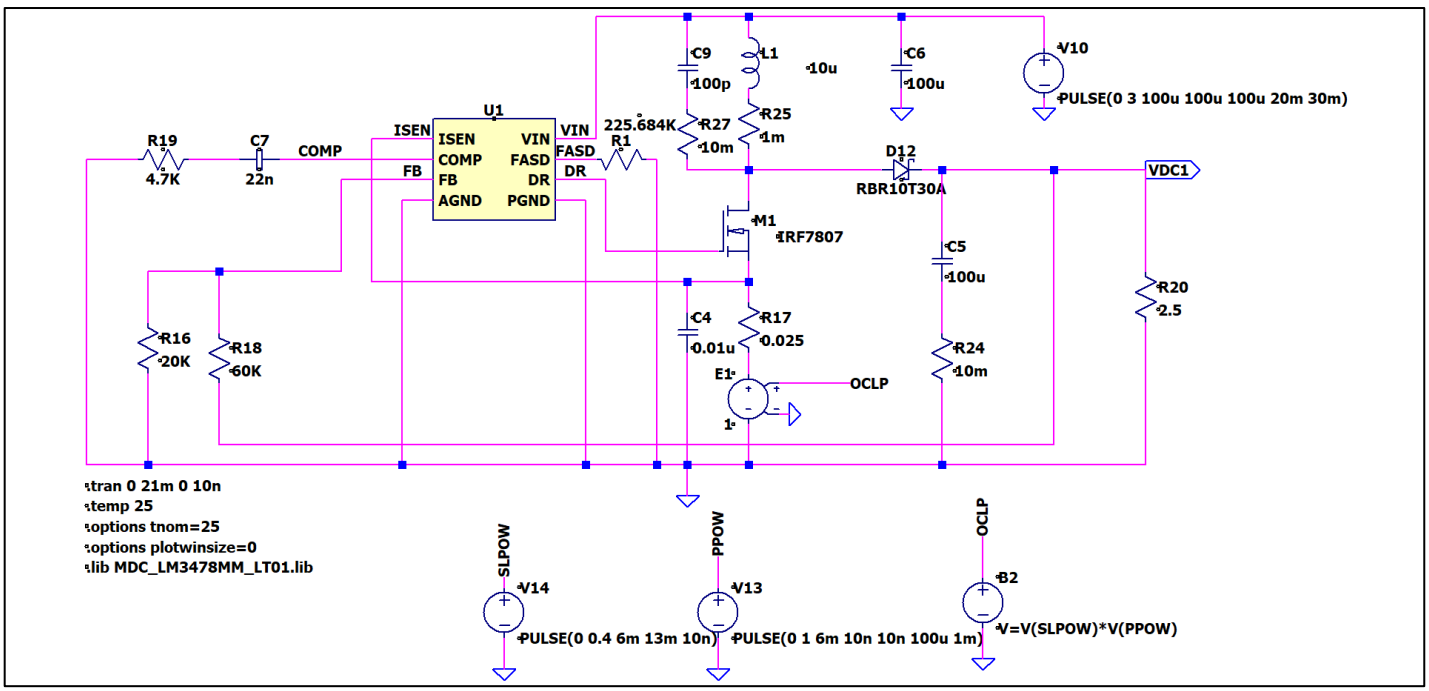
Simulation results are following.
Explanatory notes — : simulated

UVLO function



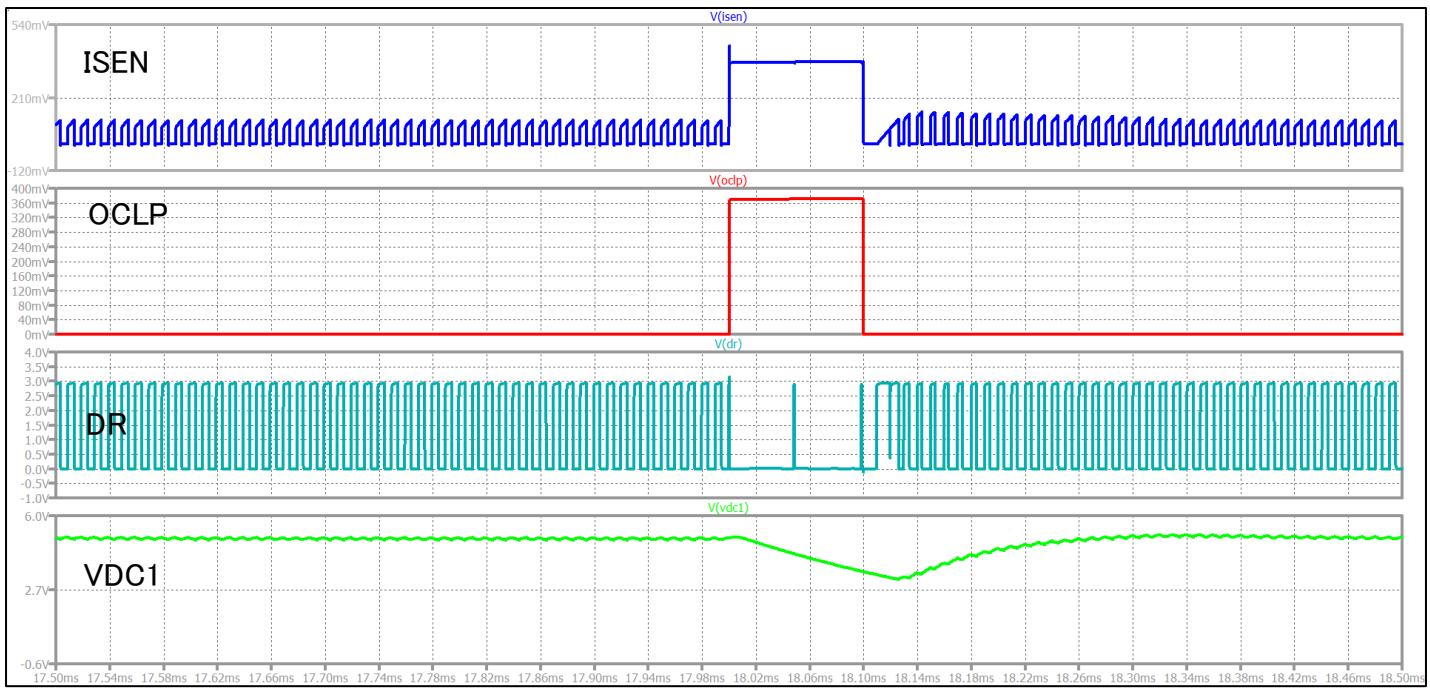
Testbench for OCP function

Referred to Data Sheet



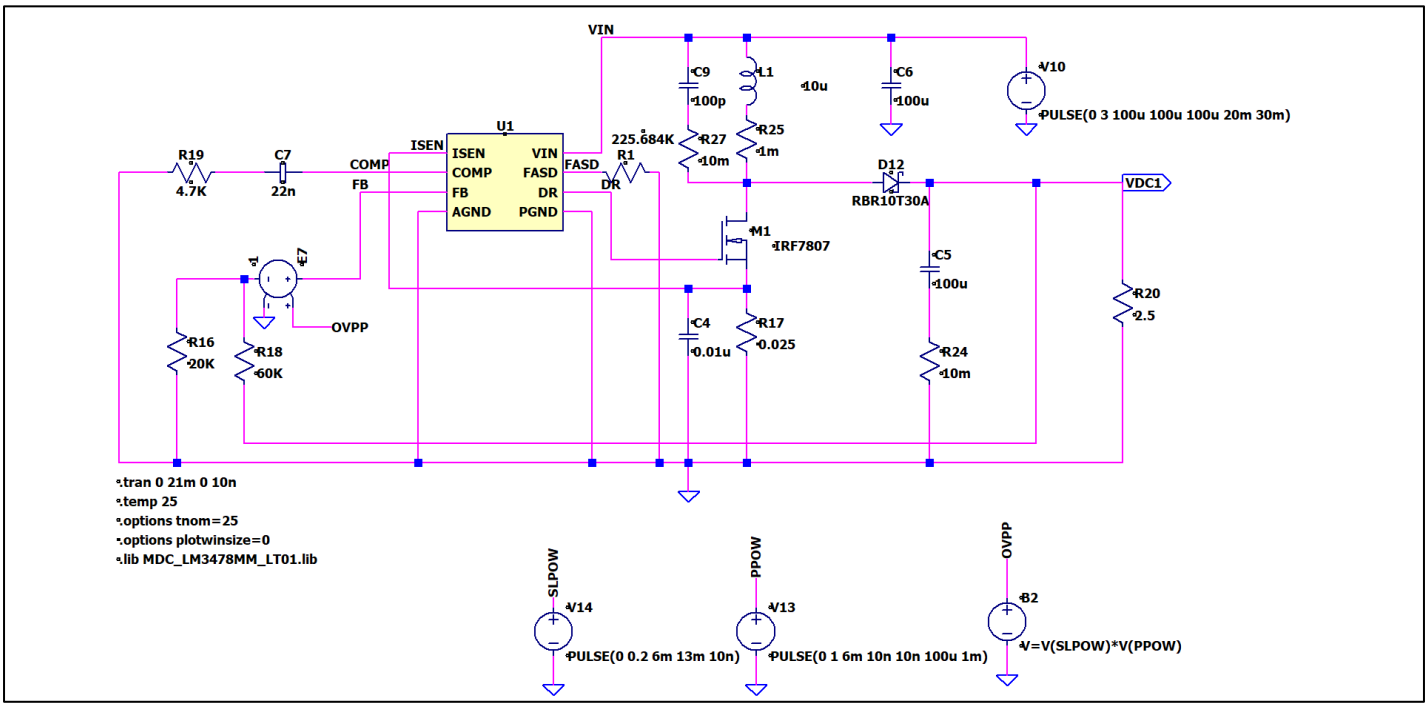
Simulation results are following.
Explanatory notes — : simulated

OCP function



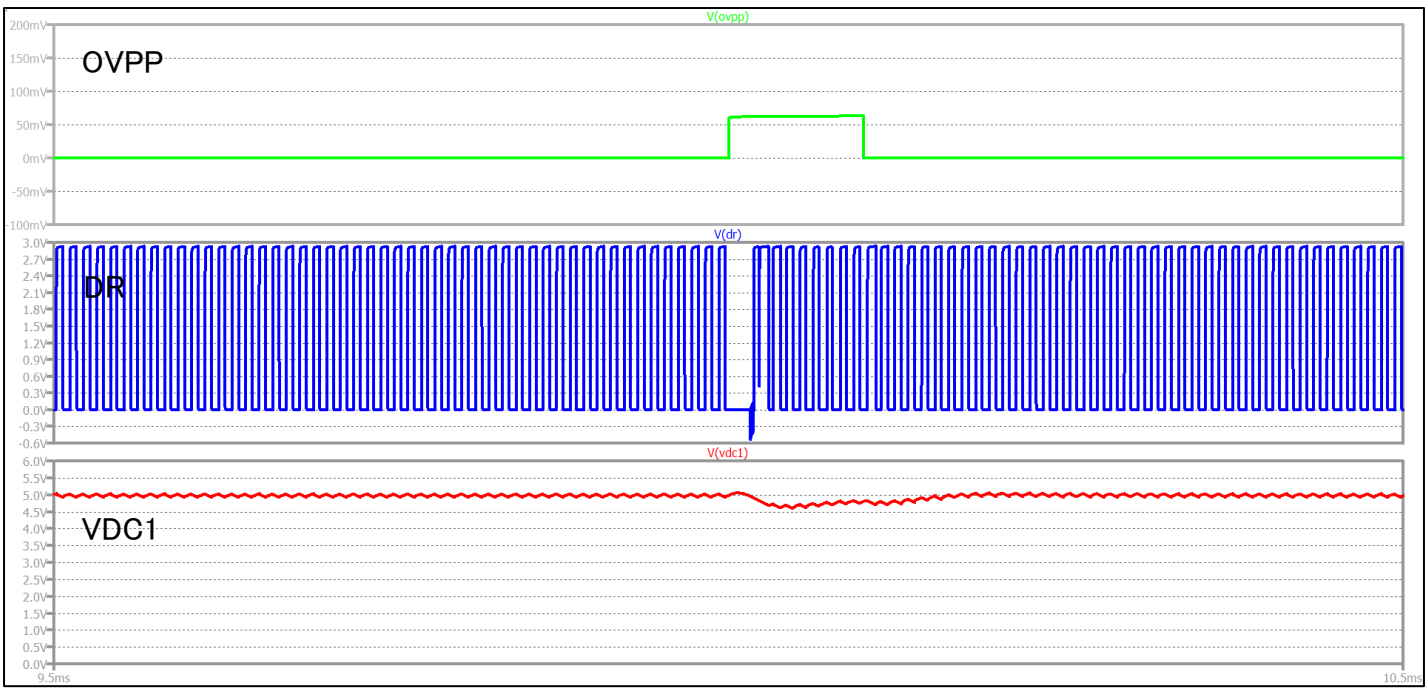
Testbench for OVP function

Referred to Data Sheet



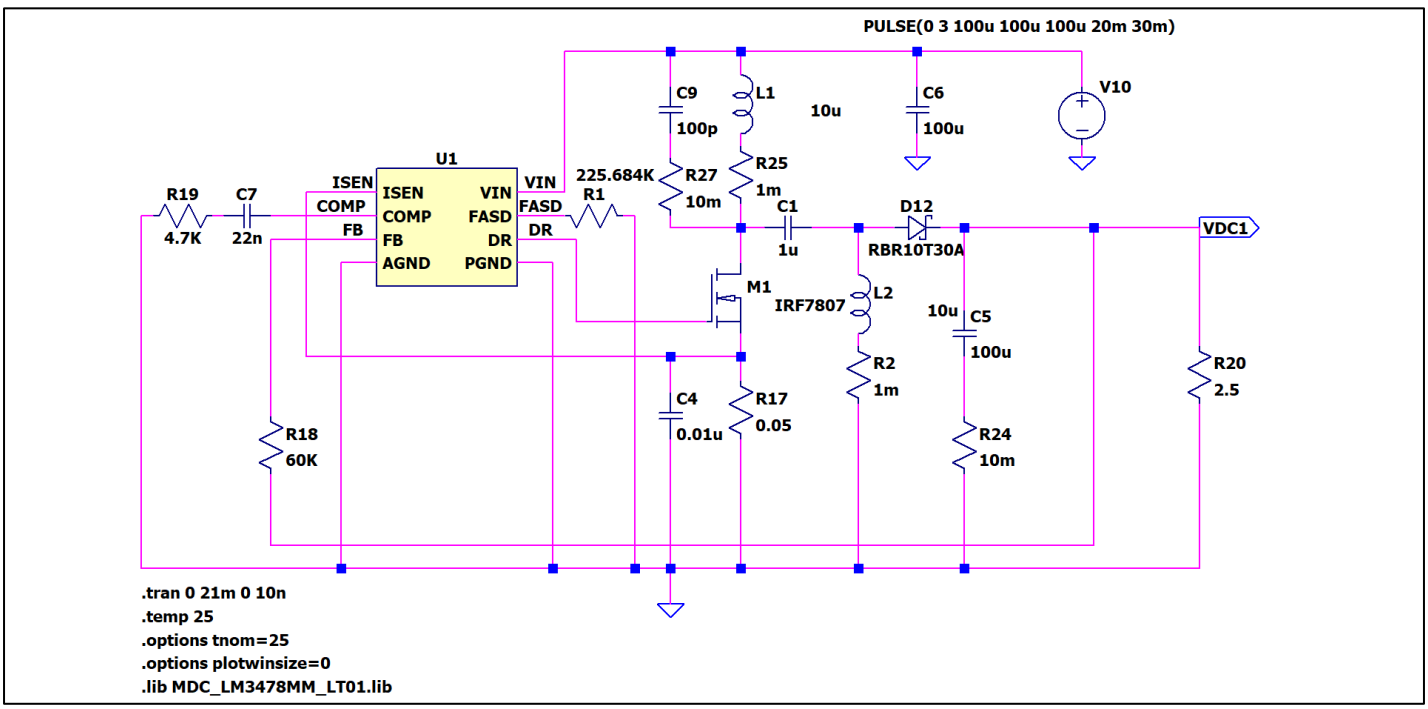
Simulation results are following.
Explanatory notes — : simulated

OVP function



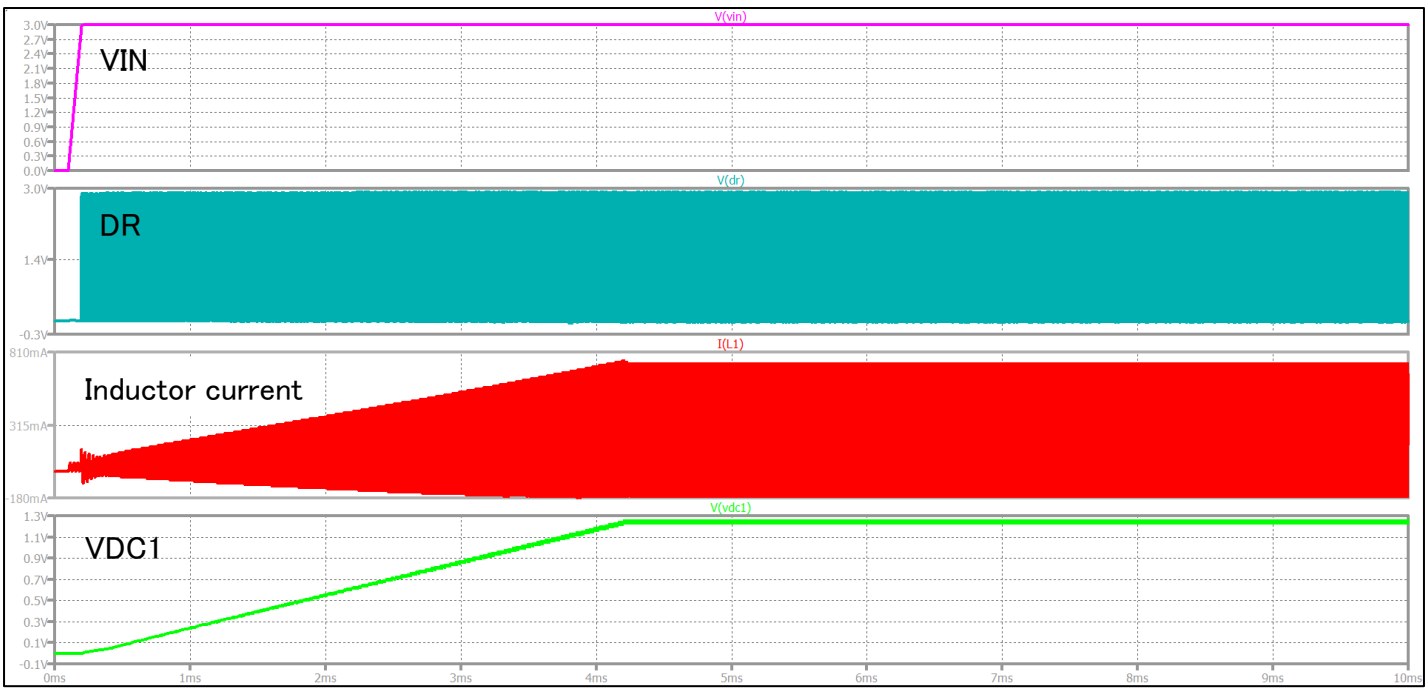
Testbench for Soft start threshold function

Referred to Data Sheet



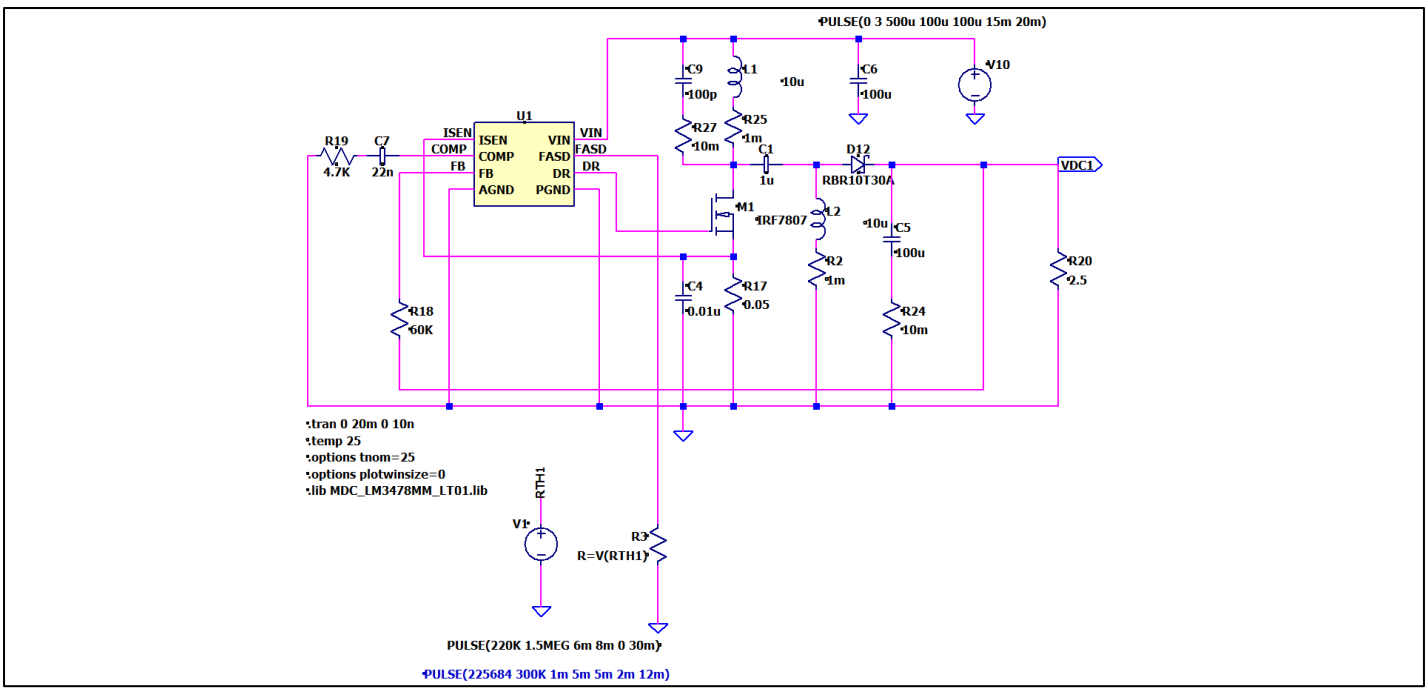
Simulation results are following.
Explanatory notes — : simulated

Soft start threshold function



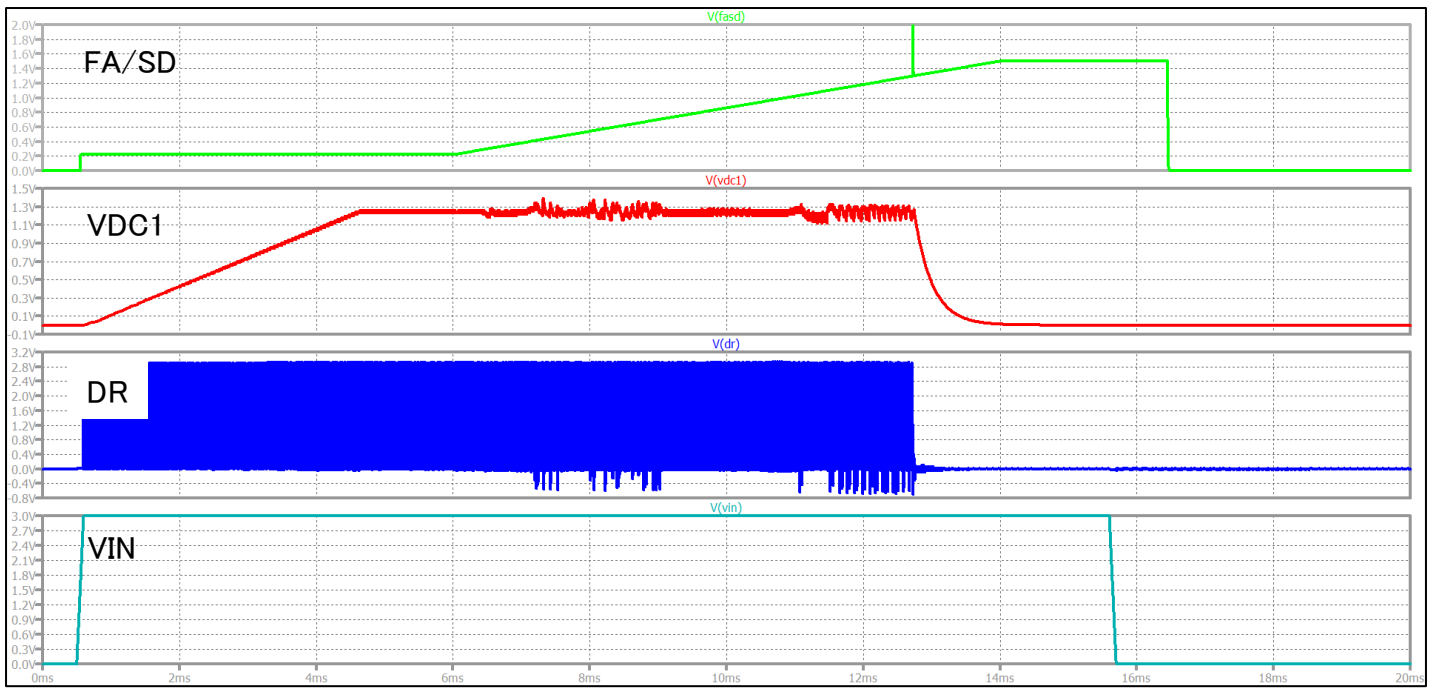
Testbench for Shutdown threshold function

Referred to Data Sheet



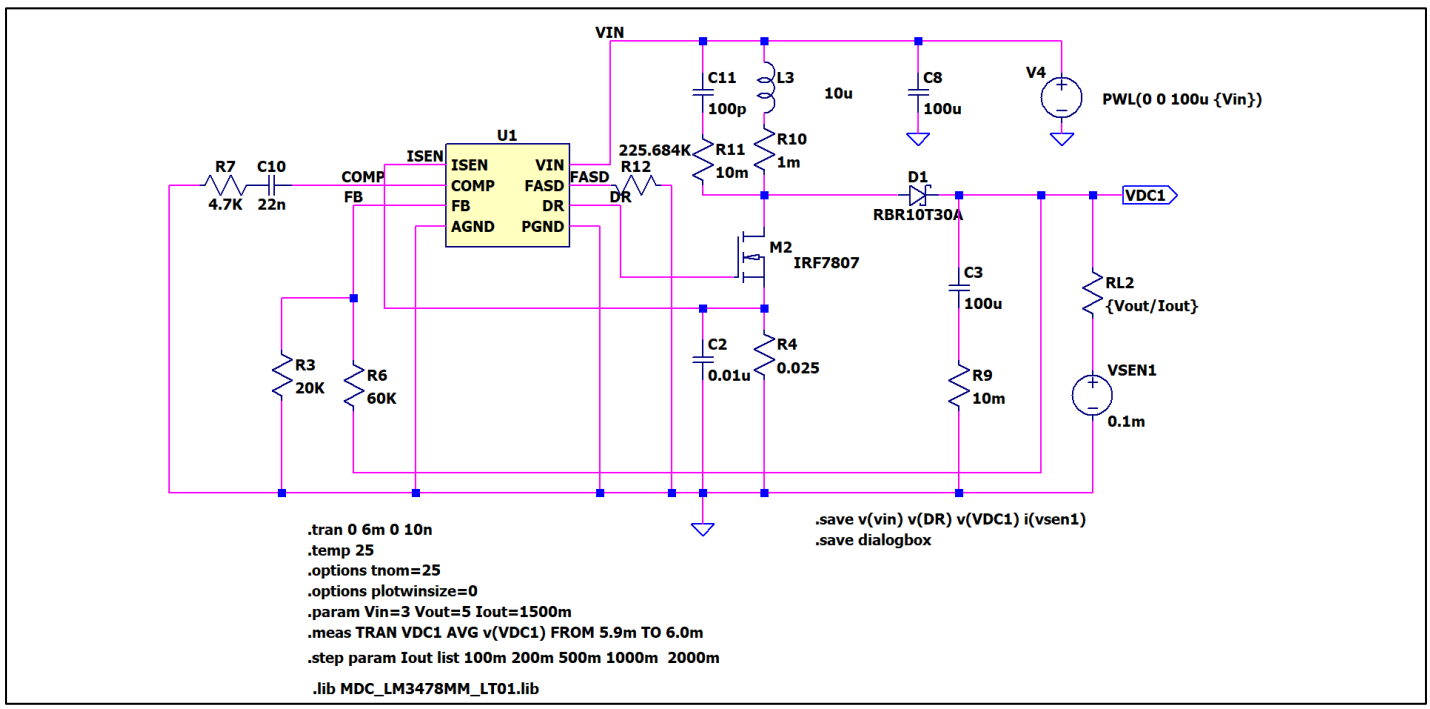
Simulation results are following.
Explanatory notes — : simulated

Shutdown threshold function



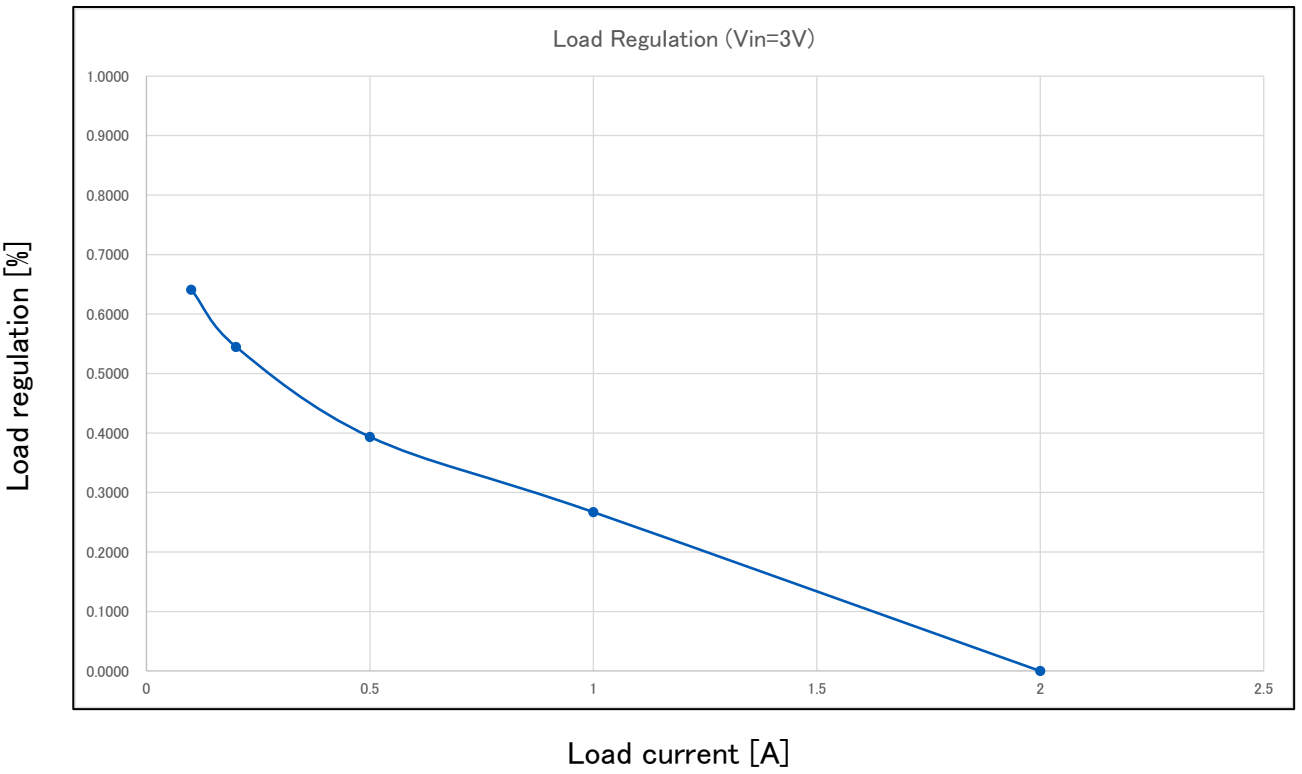
Testbench for load regulation

Referred to Data Sheet



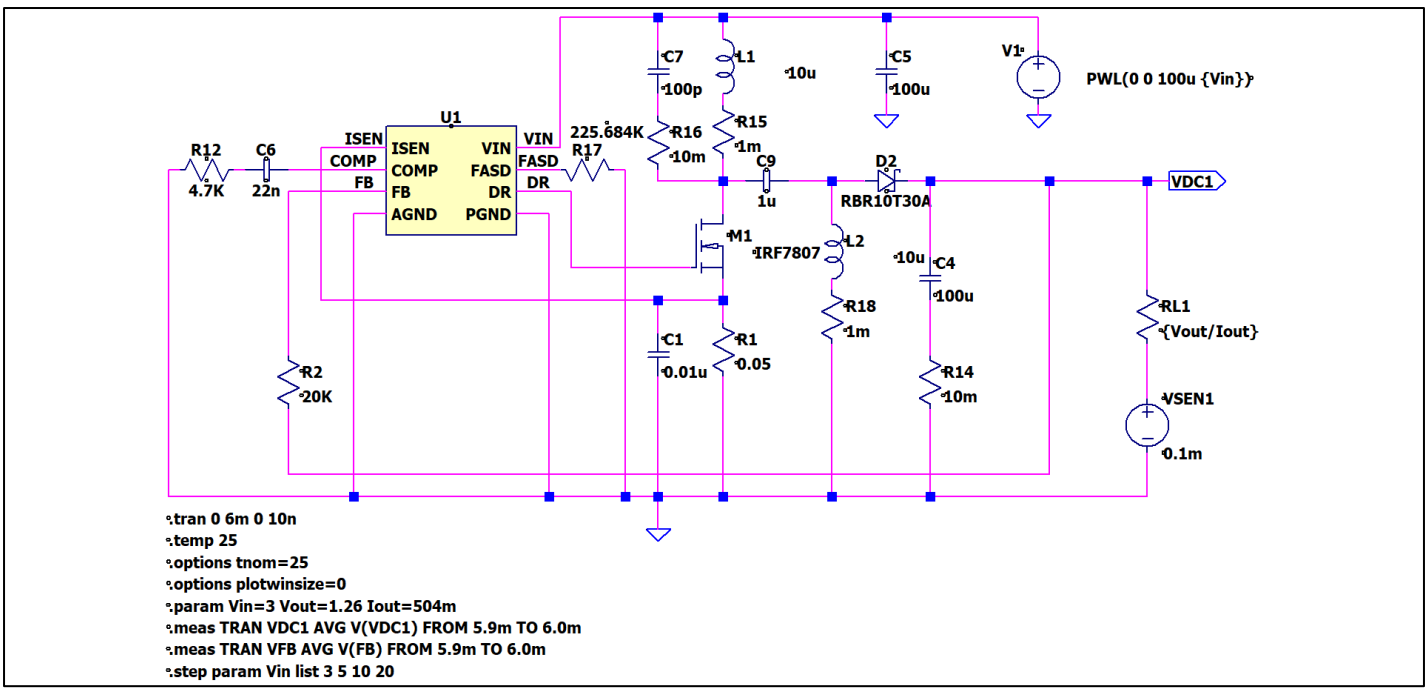
Simulation results are following.
Explanatory notes　— : simulated

Load regulation



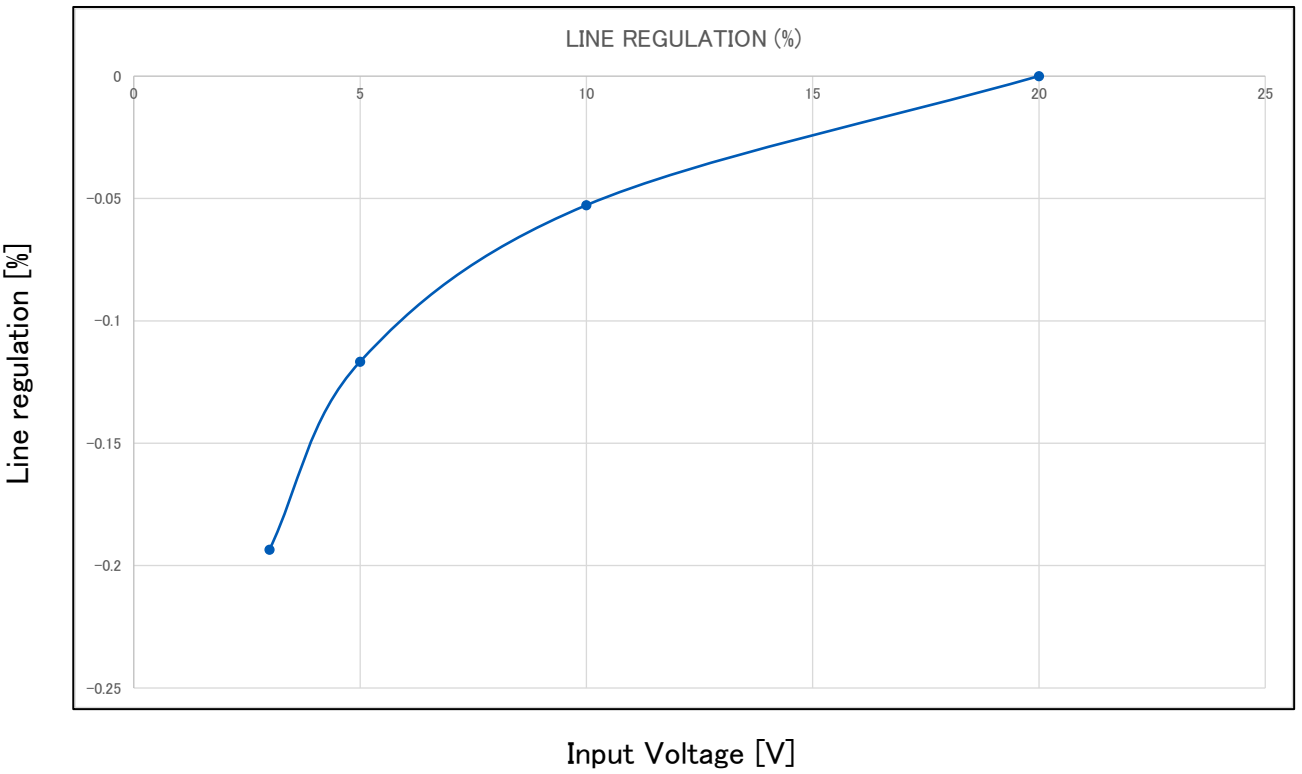
Testbench for line regulation

Referred to Data Sheet



Simulation results are following.
Explanatory notes — : simulated

Line regulation



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