LTspice Model
DCDC converter
TEXAS INSTRUMENTS
LM3477AMM

Model Information

Model	A macro model
Call Name	MDC_LM3477AMM_LT
Pin Assign	1:ISEN 2:COMP/SD 3:FB 4:GND 5:SW 6:DR 7:CB 8:VIN
File List	Model Library MDC_LM3477AMM_LT01.lib
	Model Report MDC_LM3477AMM_LT.pdf(this file)

Verified Simulator Version LTspice

Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- ●Date/Version MARCH 2013
- ●Product name LM3477AMM
- ●Company name TEXAS INSTRUMENTS

[Characteristics listed]

●Characteristics

Current Mode Operation(Input=24V Output=12V IOUT=2A)
Over Voltage Protection(Input=12V Output=3.3V IOUT=3A⇒10mA⇒3A)
Over Voltage Protection(Input=21V Output=3.3V IOUT=2A)
Shut Down(Input=12V Output=3.3V IOUT=2A
Shutdown rise threshold=1.15V Shutdown fall threshold=0.65V)

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

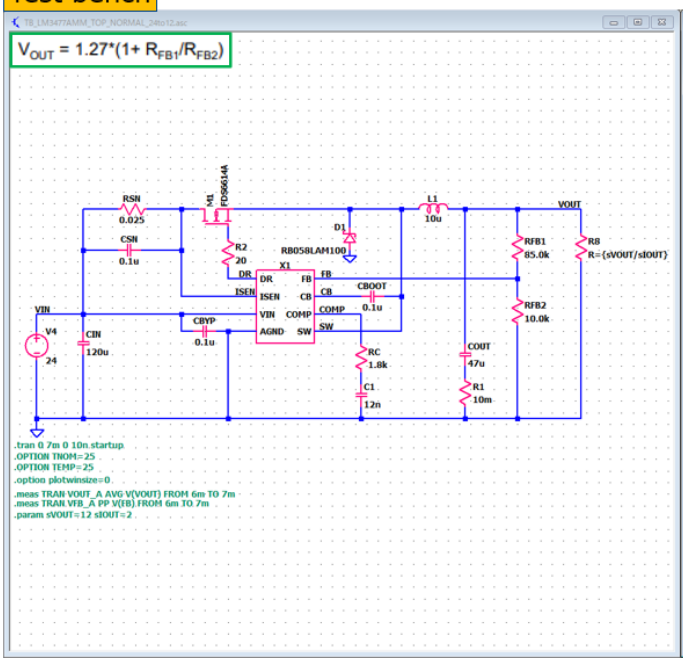
Model Functions Table

Functions	Implemented
500kHz Switching Frequency	○
Internal Soft Start	○
Under-Voltage Lockout	○
Current Mode Operation	○
Over Voltage Protection	○
Shutdown	○
Maximum Boot Voltage	○
Short Circuit Protection	○

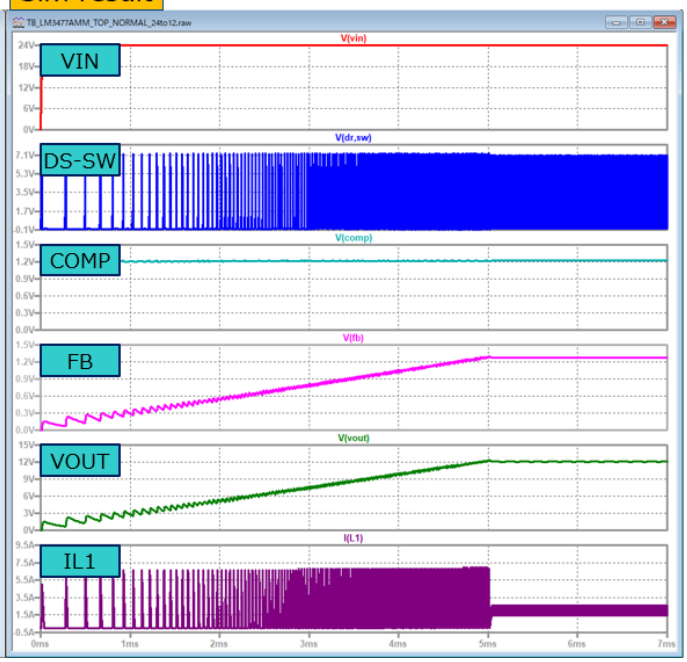
Current Mode Operation(Input=24V Output=12V IOUT=2A)

Simulation results are following.
Explanatory notes — : simulated

Test bench



Sim result



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Simulation results are following.
Explanatory notes — : simulated

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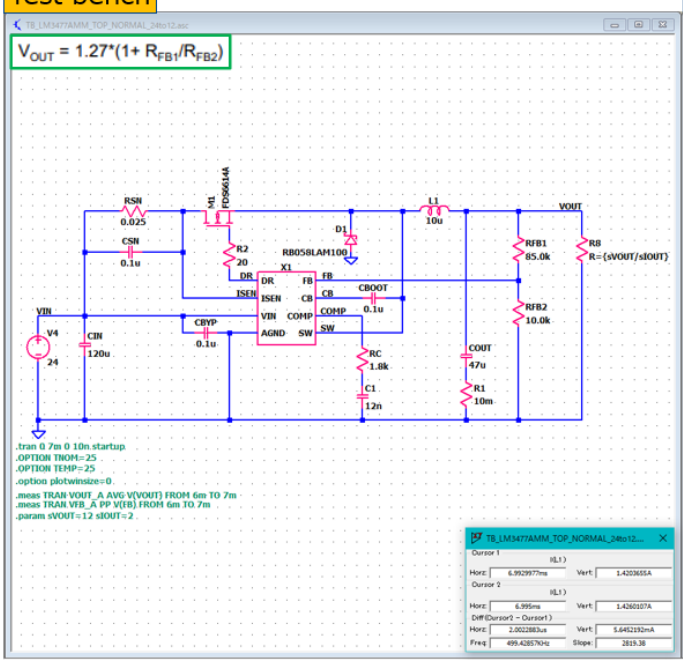
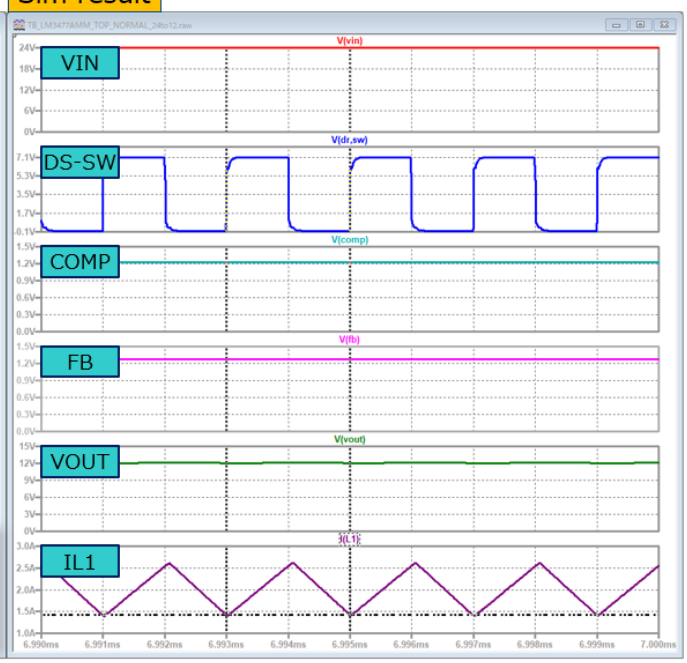


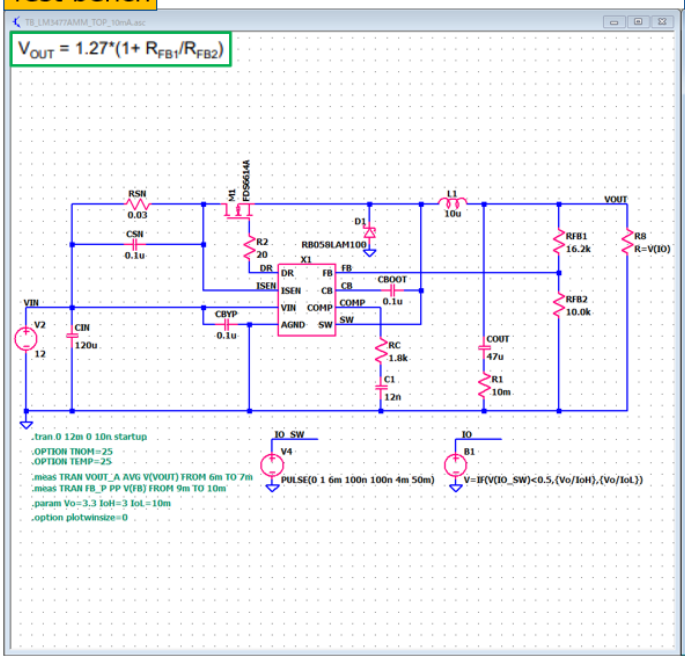
Sim result



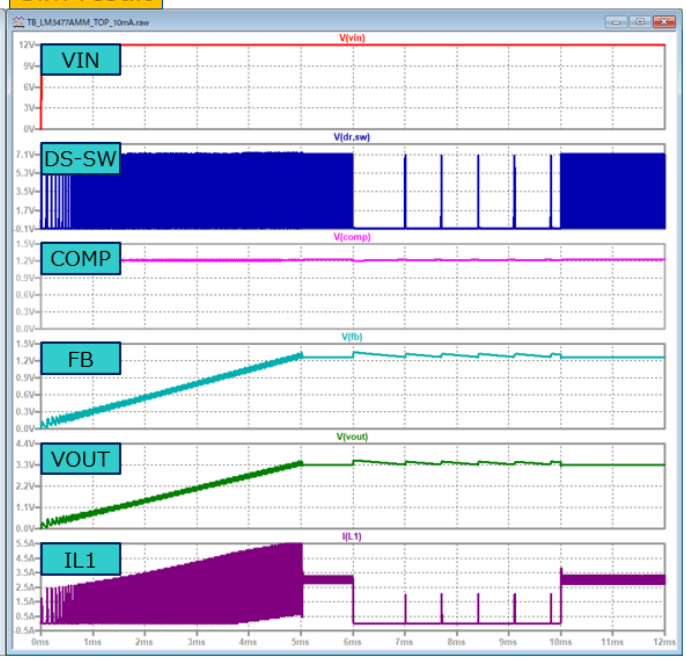
Over Voltage Protection(Input=12V Output=3.3V IOUT=3A⇒10mA⇒3A)

Simulation results are following.
Explanatory notes — : simulated

Test bench



Sim result



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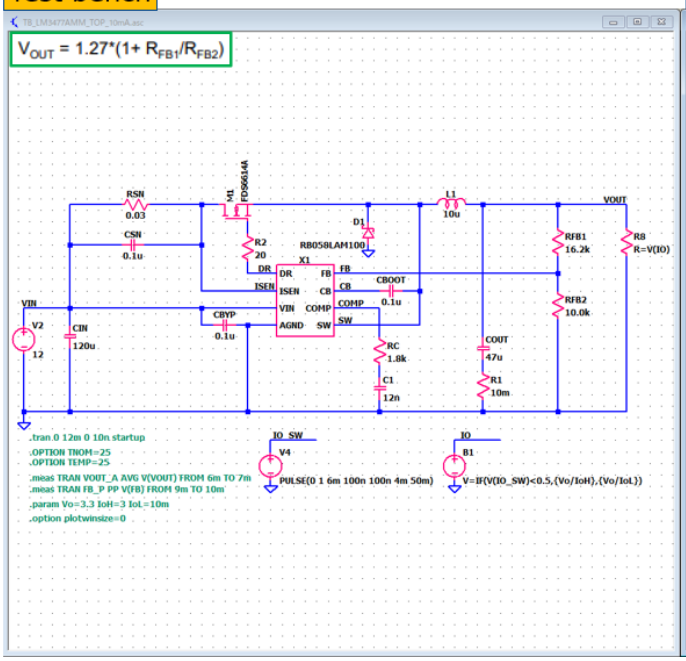
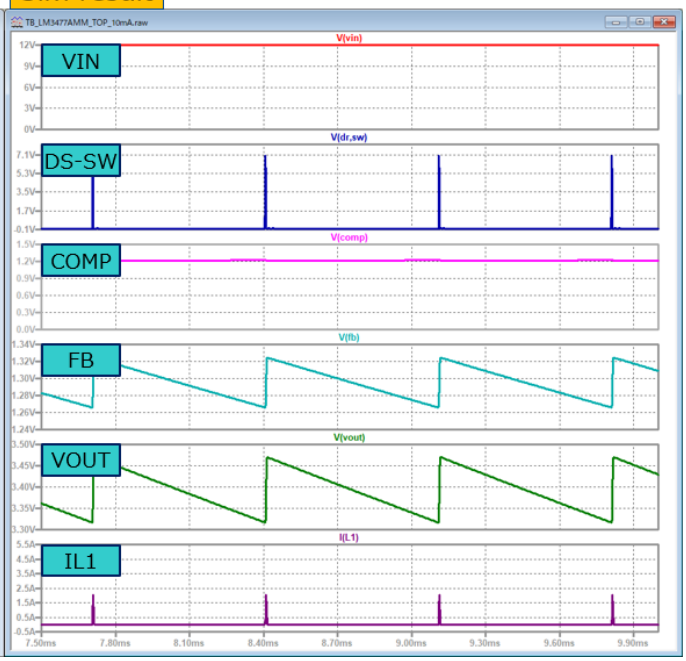
Simulation results are following.
Explanatory notes — : simulated

Test bench



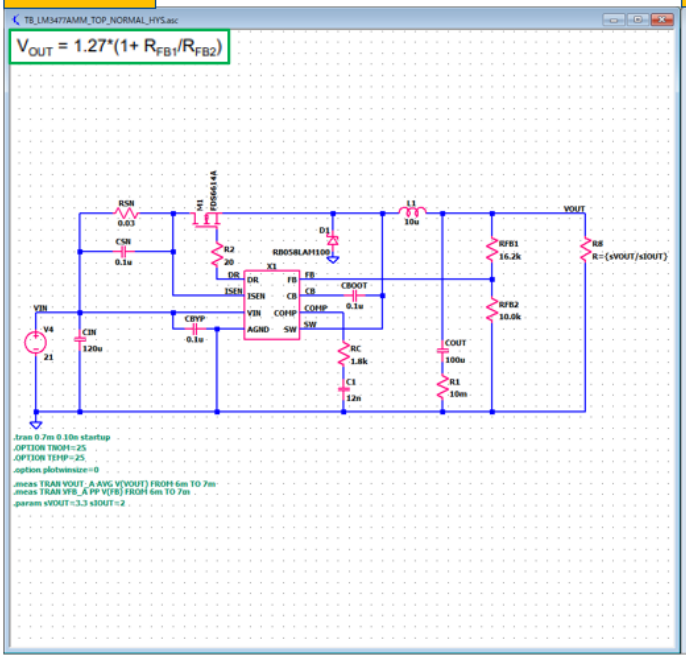
Sim result



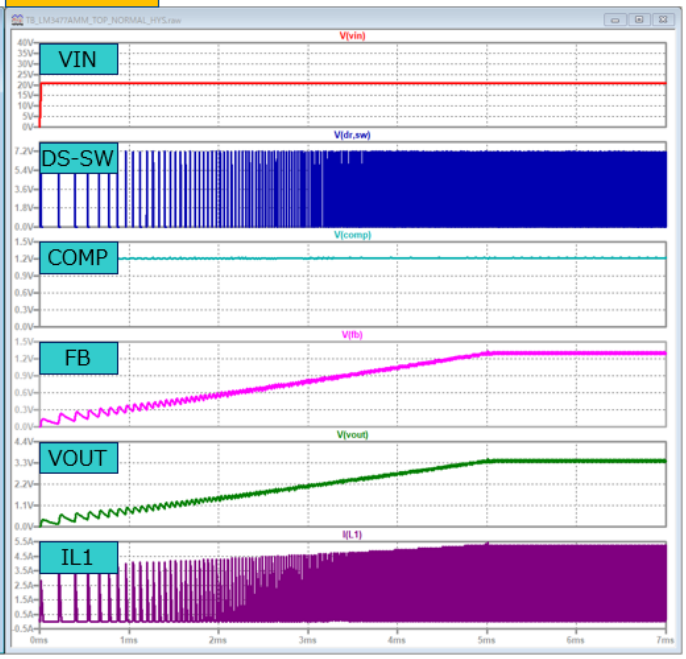
Over Voltage Protection(Input=21V Output=3.3V IOUT=2A)

Simulation results are following.
Explanatory notes — : simulated

Test bench



Sim result



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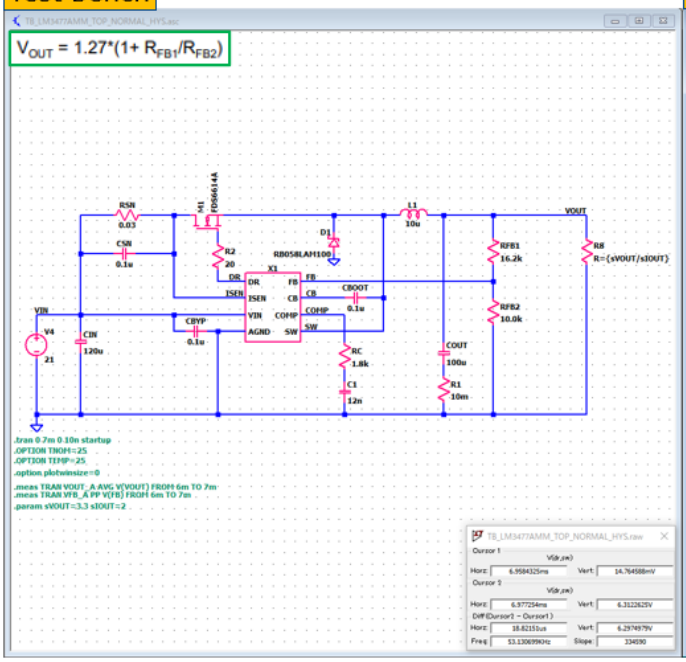
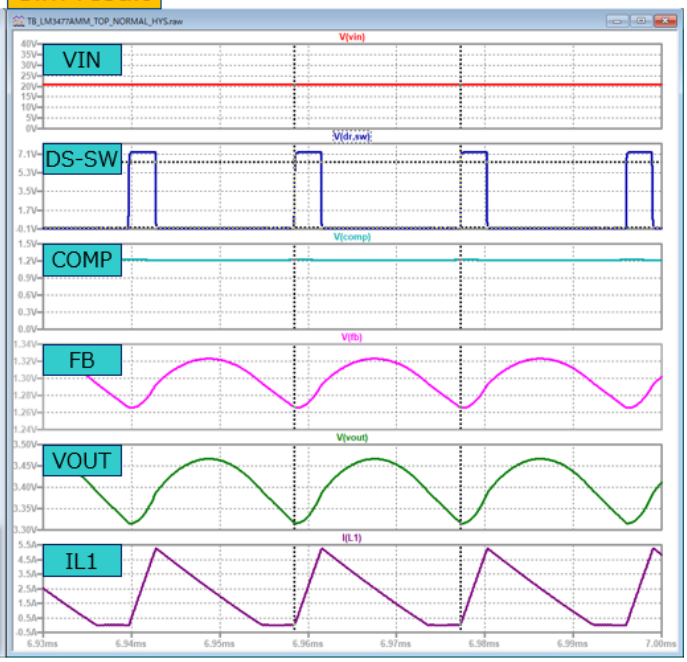


Sim result

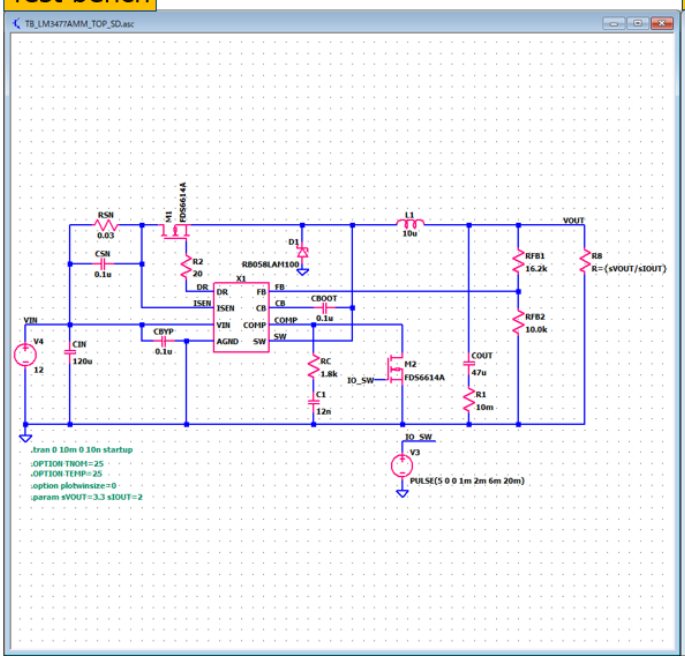


Shut Down(Input=12V Output=3.3V IOUT=2A Shutdown rise threshold=1.15V Shutdown fall threshold=0.65V)

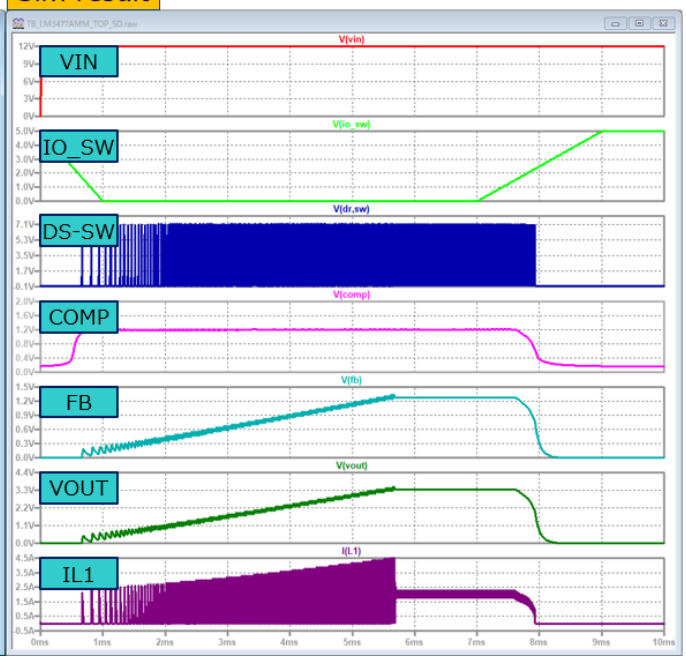
Simulation results are following.

Explanatory notes — : simulated

Test bench



Sim result



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