LTspice Model
Synchronous Step-Down Voltage Converter
Texas Instruments Inc.
LM73605

Model Information

Model	A macro model
Call Name	MDC_LM73605_LT
Pin Assign	1-5:SW 6:CBOOT 7:VCC 8:BIAS 9:RT 10:SS/TRK 11:FB 12-15:NC 16:PGOOD 17:SYNC/MODE 18:EN 19:AGND 20-22:PVIN 23-26:PGND 27-30:NC 31:DAP
File List	Model Library MDC_LM73605_LT01.lib
	Model Report MDC_LM73605_LT.pdf(this file)
Verified Simulator Version	LTspice version XVII
Note	

References
The information which was used for modeling is as follow:

[Data Sheet]
- ●Date/Version   Unknown
- ●Product name   LM73605
- ●Company name   Texas Instruments Inc.

[Characteristics listed]
- ●Characteristics   VEN, VFB, HIS_LIMIT, ISSC, RSSD, VPGOOD
  RDS_ON, tss, tpgood

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
Auto Mode and FPWM Mode	○
Fixed-Frequency Peak Current-Mode Control	○
Adjustable Output Voltage	○
Enable and UVLO	○
Internal LDO, VCC_UVLO, and BIAS Input	–
Soft Start and Voltage Tracking	Internal and external Soft Start w/o Tracking
Adjustable Switching Frequency	○
Frequency Synchronization and Mode Setting	Mode Setting only w/o Frequency Synchronization
Internal Compensation and CFF	○
Bootstrap Capacitor and VBOOT-UVLO	–
Power-Good and Overvoltage Protection	○
Overcurrent and Short-Circuit Protection cycle by cycle	○
Thermal Shutdown	–

Auto-mode Operation (Vpvin = 12V, Vout = 5V, Iout = 5mA-5A) Testbench
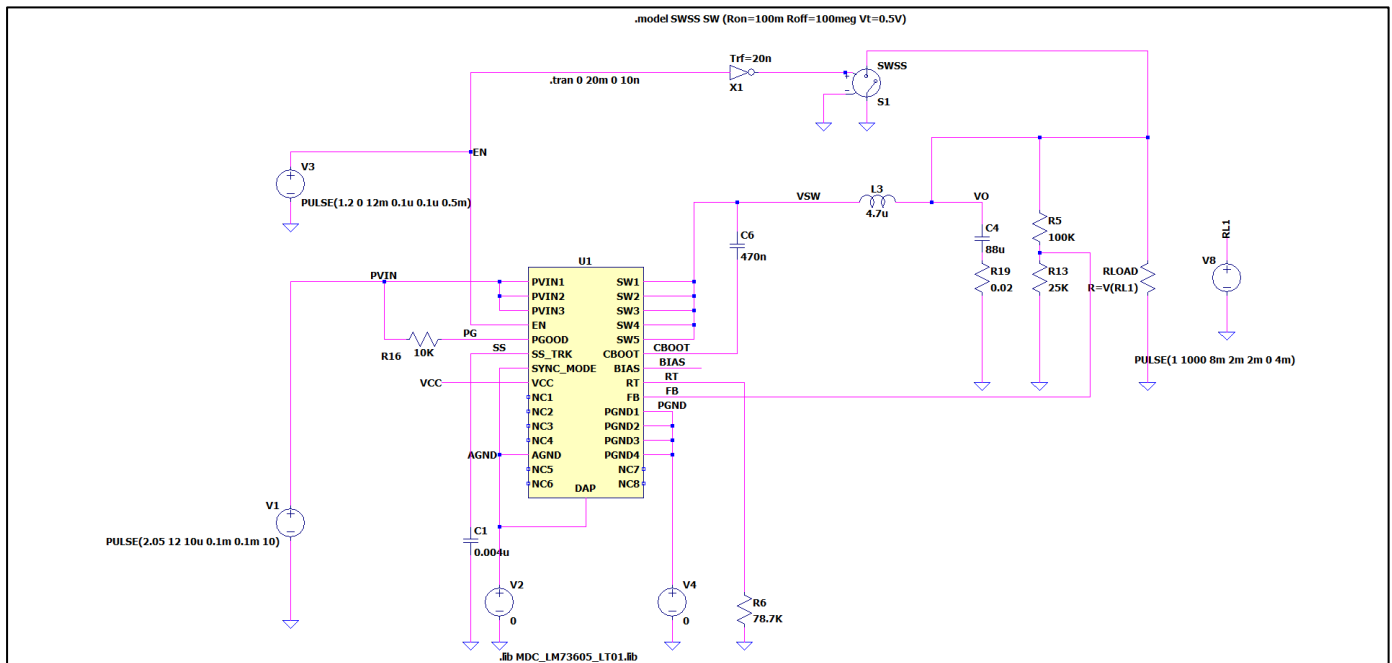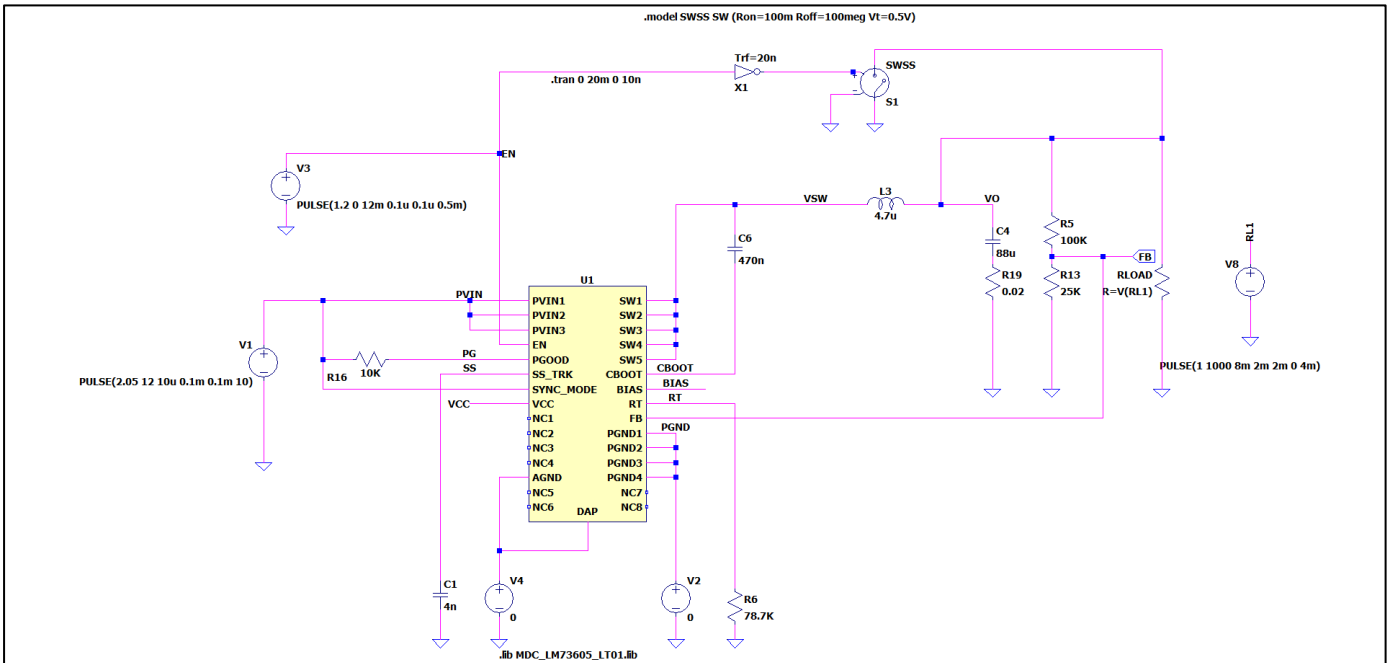
Referred to Data Sheet

Simulation results are following.
Explanatory notes　　 ─ : simulated

Auto-mode Operation (Vpvin = 12V, Vout = 5V, Iout = 5mA-5A) Testbench
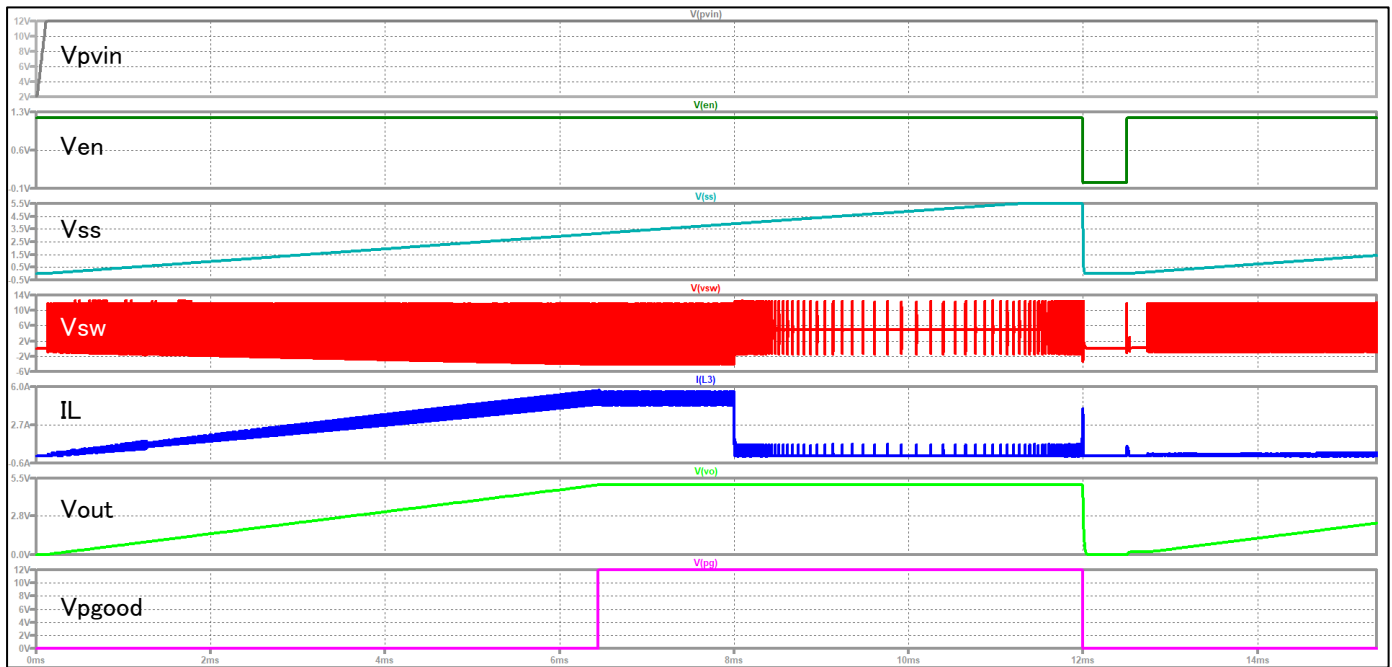
FPWM-mode Operation (Vpvin = 12V, Vout = 5V, Iout = 5mA-5A) Testbench

Referred to Data Sheet

Simulation results are following.
Explanatory notes   — : simulated

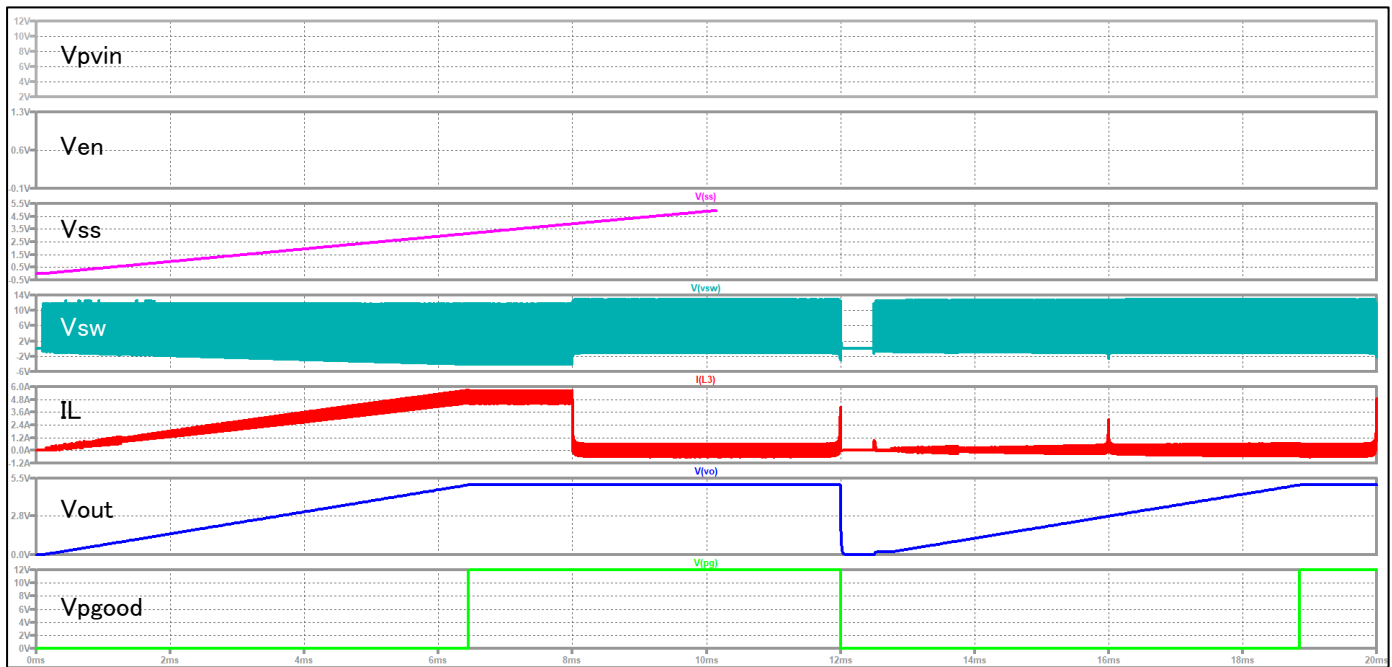**Auto-mode Operation (Vpvin = 12V, Vout = 5V, Iout = 5mA-5A) Testbench**

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