

LTspice Model

DC-DC Converter

Texas Instruments Inc.

UC1825J

Model Information

Model A macro model
Call Name MDC_UC1825J_PS
Pin Assign 1:INV 2:NI 3:E/AOut 4:Clock 5:RT 6:CT 7:Ramp 8:SoftStart 9:ILIM/SD 10:Gnd
 11:OutA 12:PwrGnd 13:Vc 14:OutB 15:Vcc 16:VREF5_1V
File List Model Library MDC_UC1825J_PS01.lib
 Model Report MDC_UC1825J_PS.pdf(this file)
Verified Simulator Version PSpice version 17.2

Note

References

The information which was used for modeling is as follow:

[Data Sheet]
 ●Date/Version REVISED MARCH 2004
 ●Product name UC1825J
 ●Company name Texas Instruments Inc.

[Characteristics listed]
 ●Characteristics V_{REF} , SoftStart, Current Limit,
 Shutdown, UVLO
 V_{OUT}

Simulation Condition

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

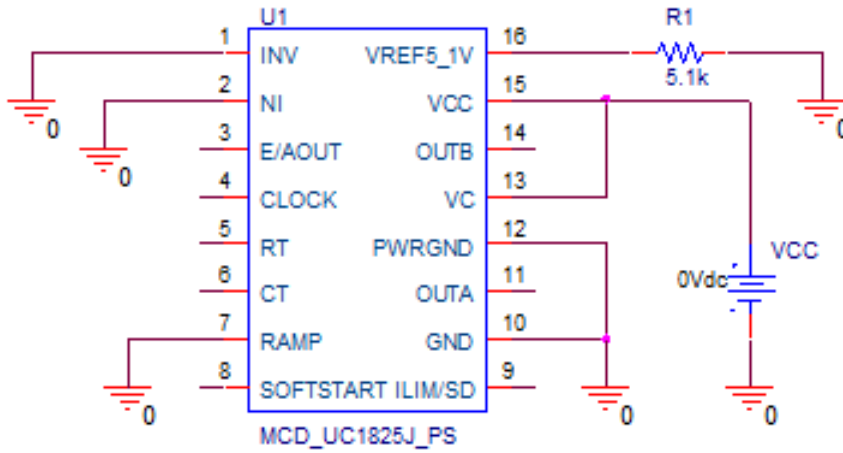
Item	Condition	Unit
Temperature	25	deg C

Model Functions Table

Functions	Implemented
V_{REF}	○
SoftStart	○
Current Limit	○
Shutdown	○
UVLO	○
V_{OUT}	○

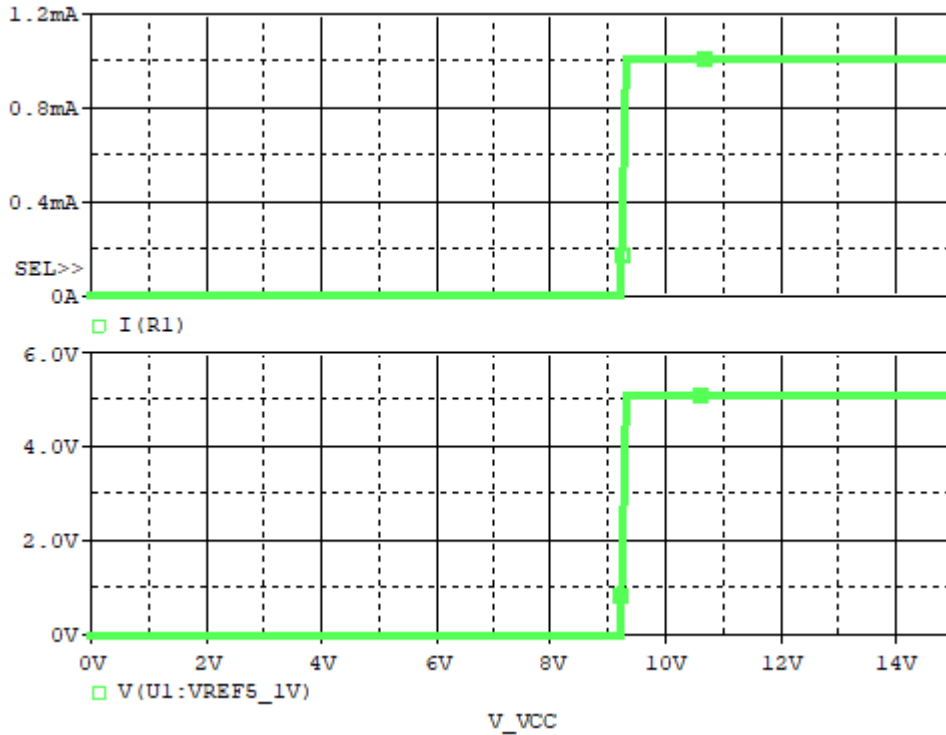
V_{REF} Testbench

Referred to Data Sheet



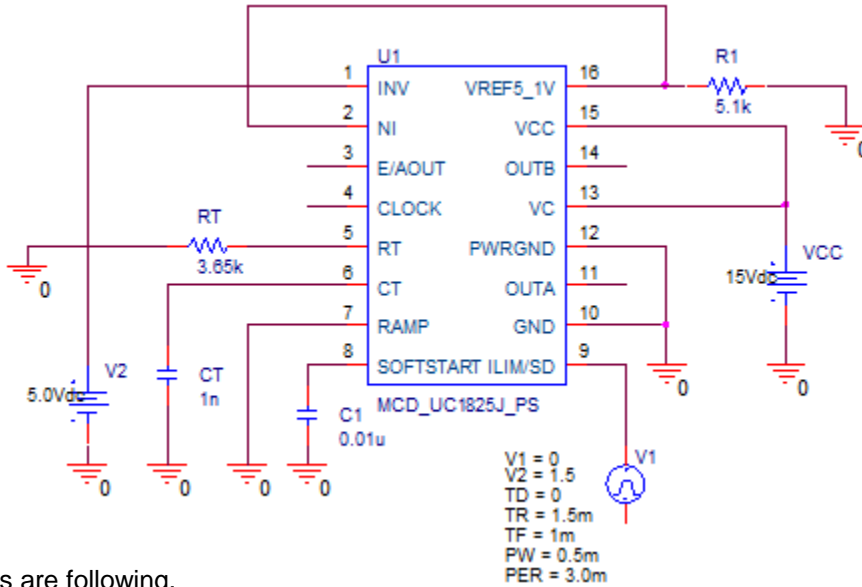
Simulation results are following.
 Explanatory notes — : simulated

V_{REF}



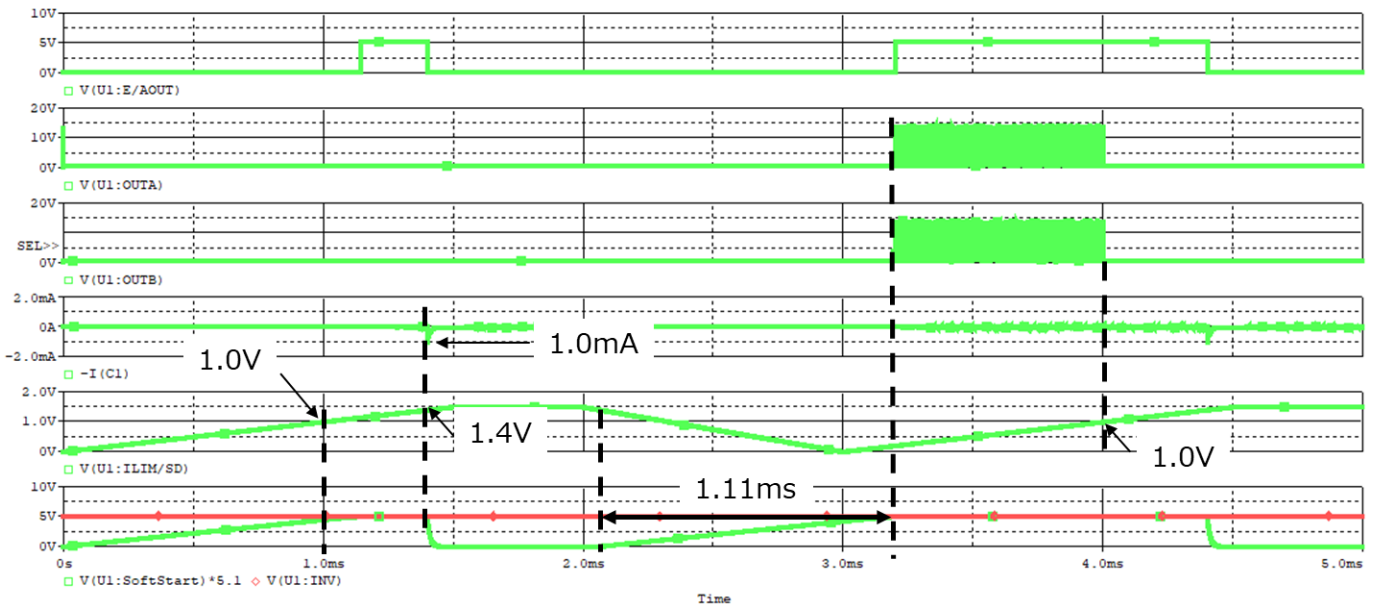
SoftStart / Current Limit / Shutdown Testbench

Referred to Data Sheet



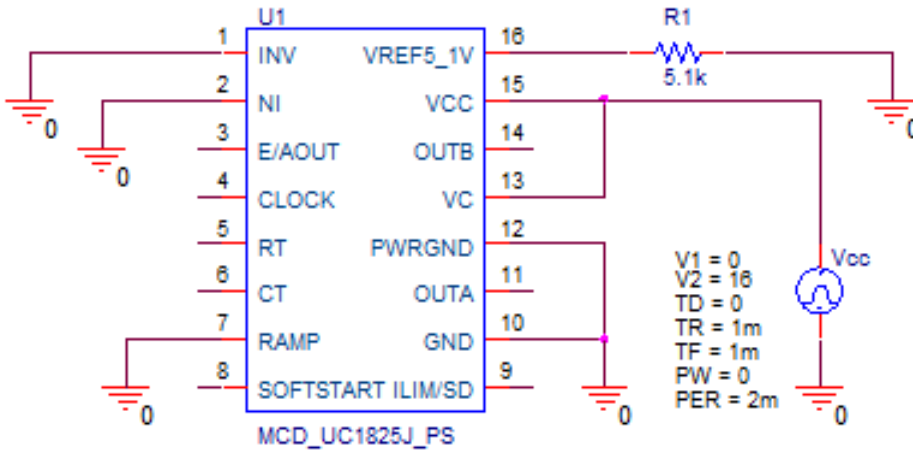
Simulation results are following.
 Explanatory notes — : simulated

SoftStart / Current Limit / Shutdown



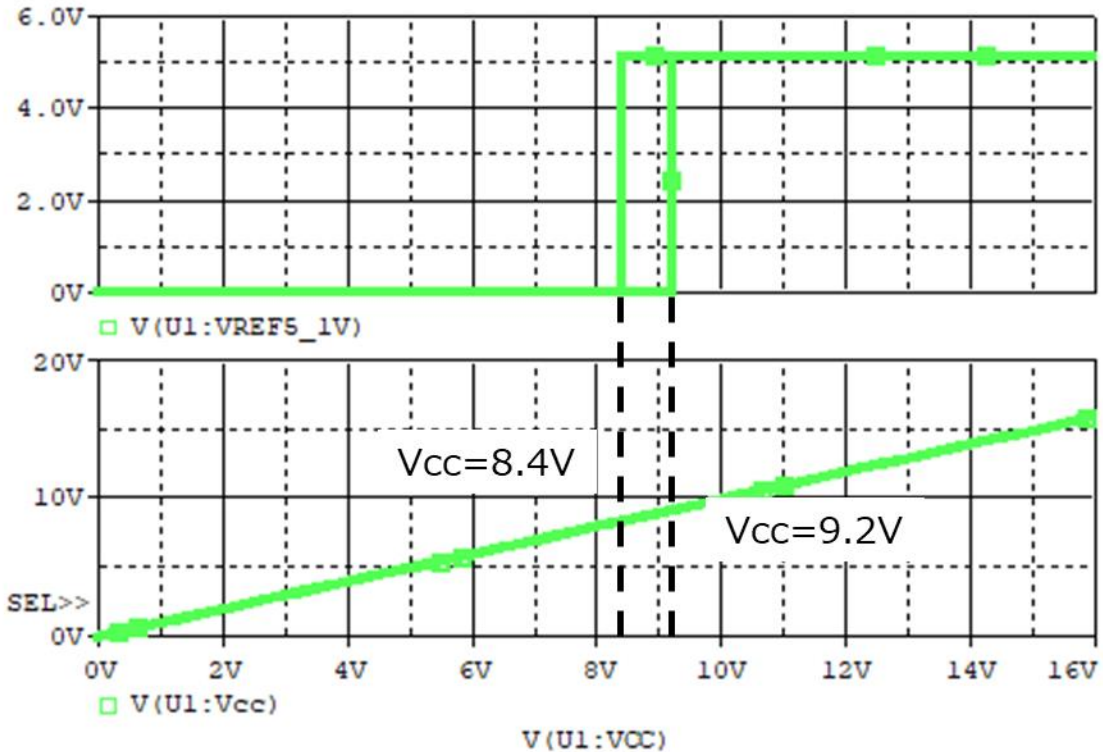
UVLO Testbench

Referred to Data Sheet



Simulation results are following.
 Explanatory notes — : simulated

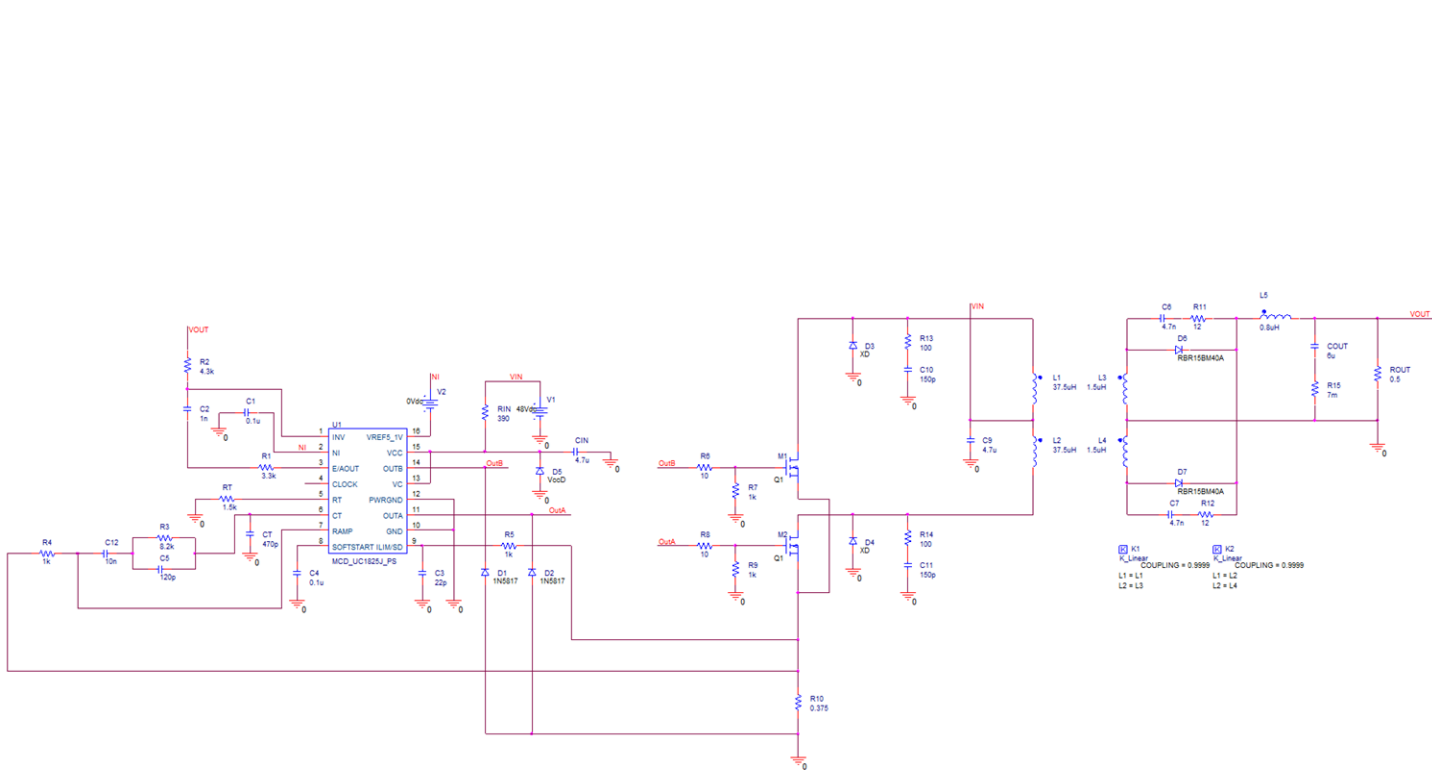
UVLO



V_{OUT} Testbench

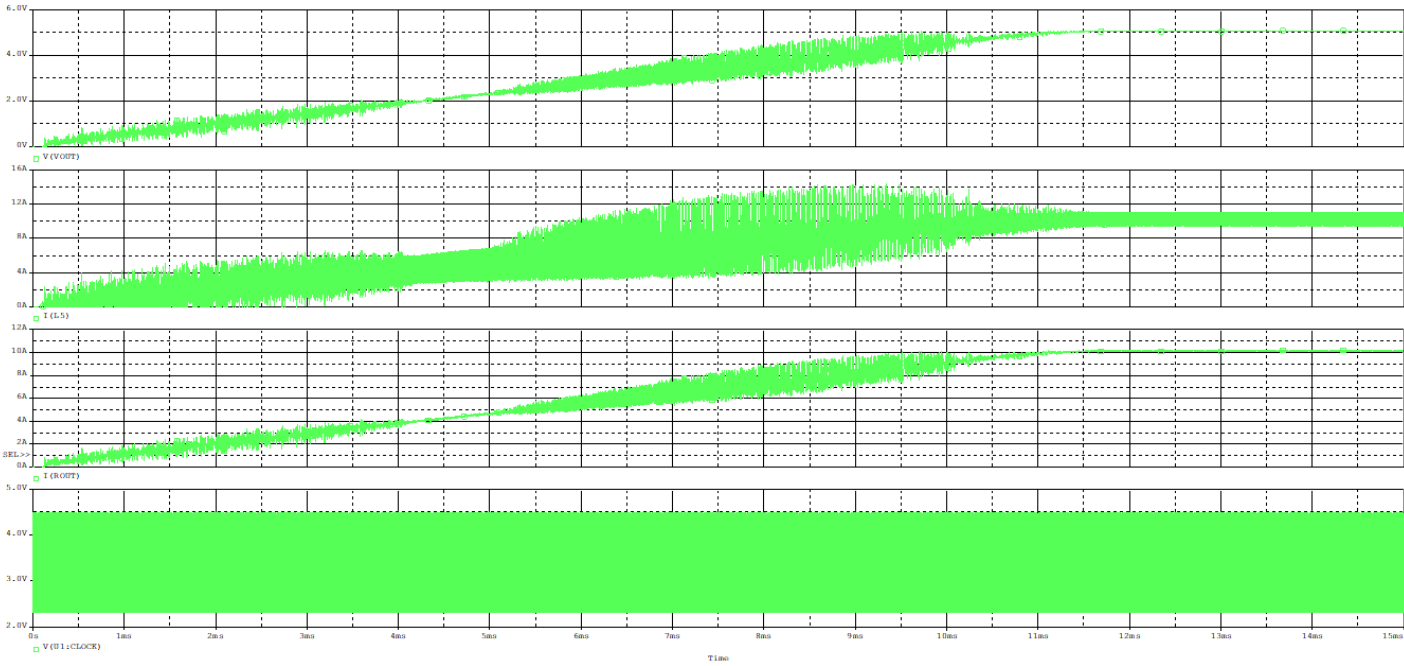
Referred to Data Sheet

V_{OUT} :5.0V I_{OUT} :10.0A

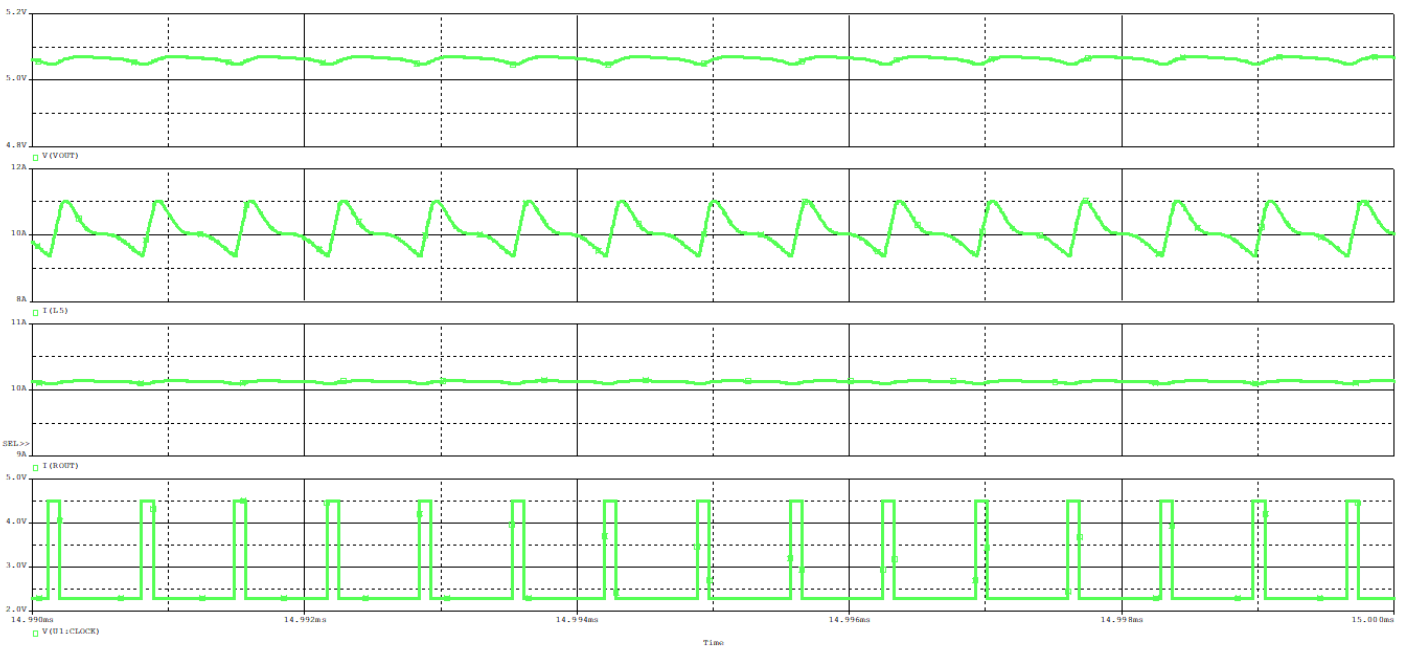


Simulation results are following.
Explanatory notes — : simulated

V_{OUT} (0-15ms)



V_{OUT} (14.99ms-15ms)



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