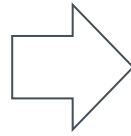
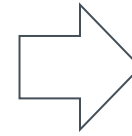


How to add (change) a new component

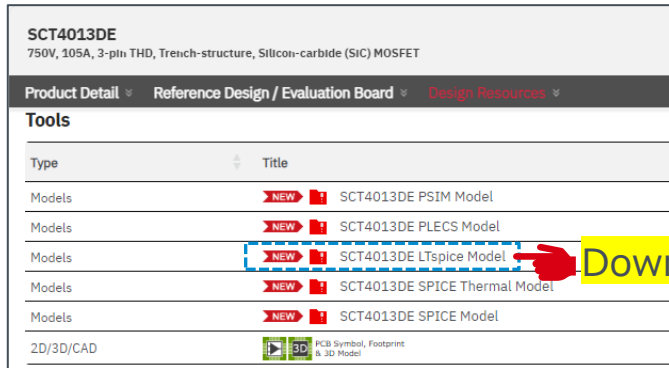
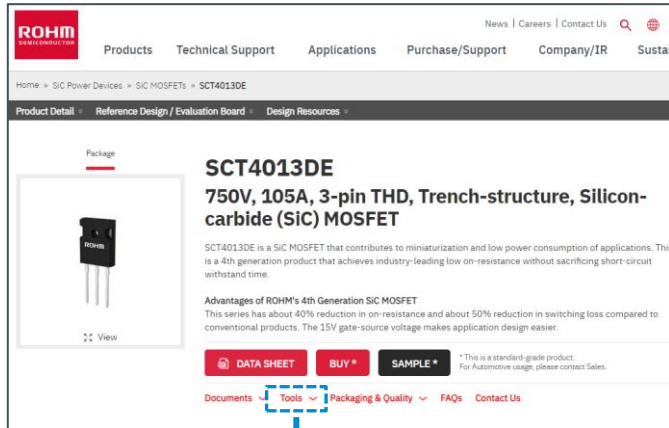
Download LTspice® model from ROHM website.



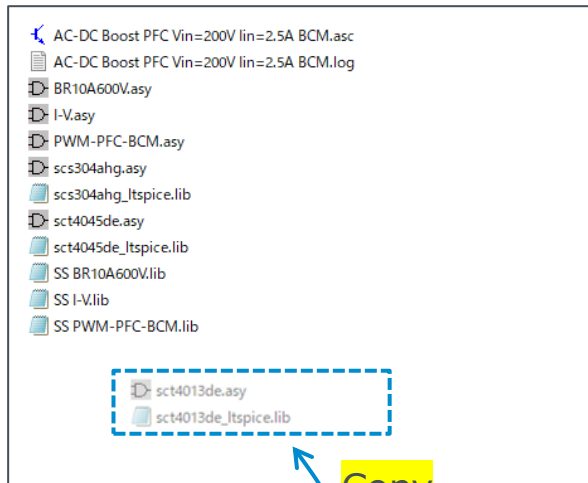
Save LTspice® model in the same folder as the schematic file.



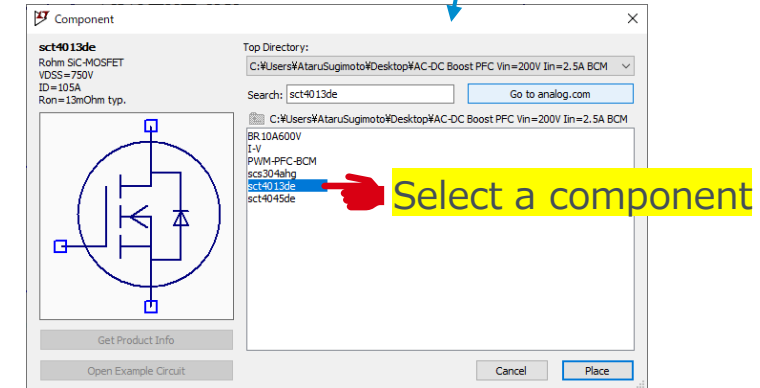
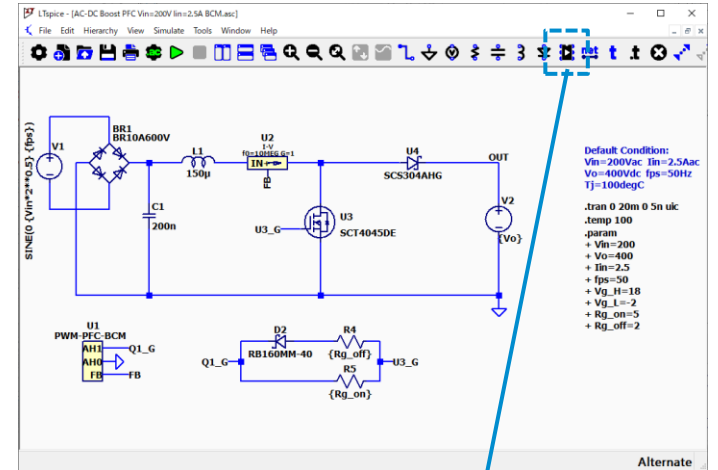
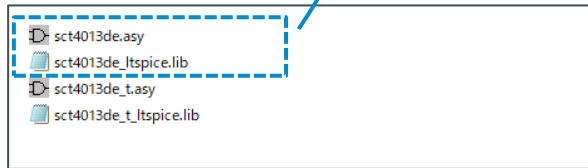
Click on the “Component” icon from the toolbar to add a new component to the schematic.



LTspice® schematic file

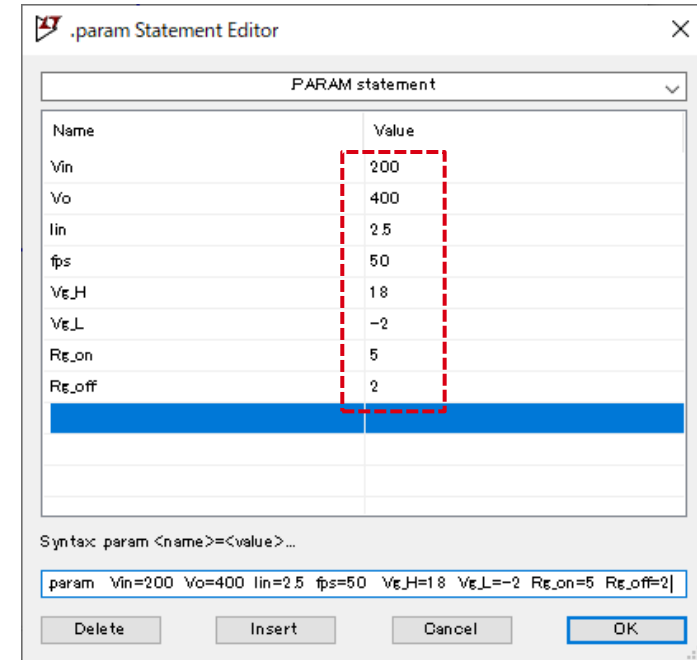
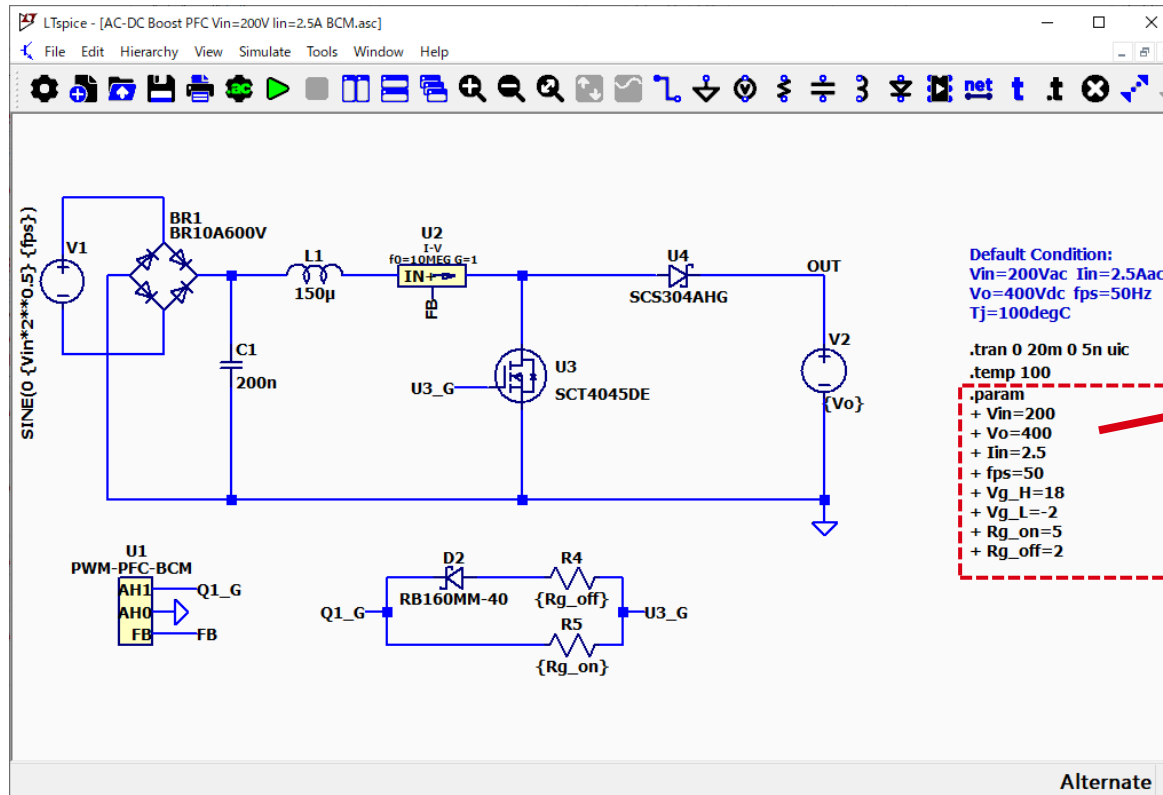


LTspice® model

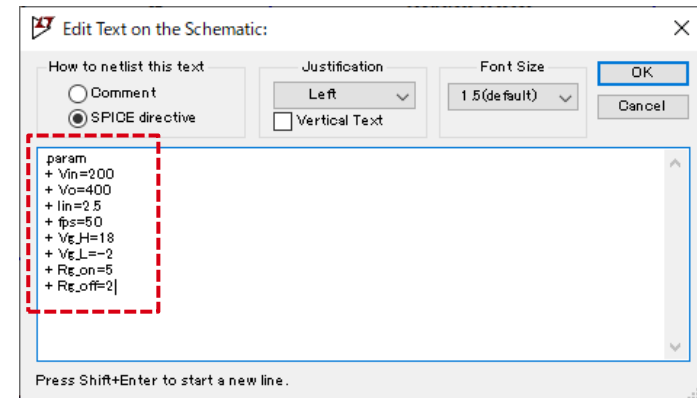


How to change the Simulation Conditions

Simulation Schematic



or



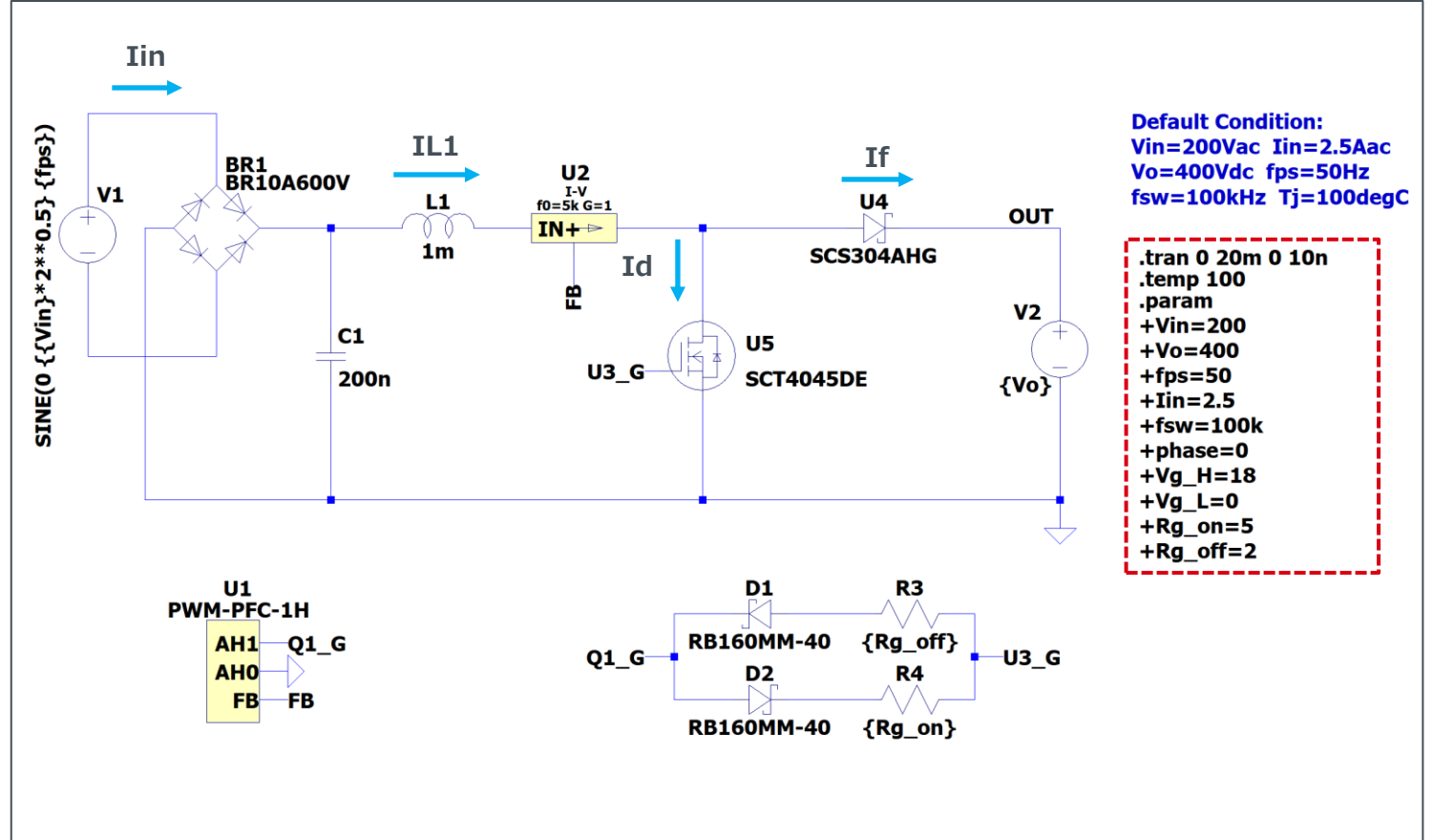
Right-click on the “.param” text on the schematic to launch the “.param Statement Editor” or “Text Editor. Change the parameters as necessary.

A-002. Boost PFC Vin=200V, Iin=2.5A, CCM

Simulation Parameters

Param name	Unit	Description
Vin	V	Input Voltage
Vo	V	Output Voltage
fps	Hz	Commercial power frequency
Iin	A	Input current
fsw	Hz	Switching frequency
Vg_H	V	Gate Drive Voltage High
Vg_L	V	Gate Drive Voltage Low
Rg_on	Ω	Gate Resistance On
Rg_off	Ω	Gate Resistance Off

Simulation Schematic



Components

Instance name	Type	Default
U3	SiC MOSFET	SCT4045DE
U4	SiC SBD	SCS304AHG
BR1	Diode Bridge	BR10A600V
D1	SBD	RB160MM-40

You can download and exchange other component models. See the link below for details.

[How to Use LTspice® Models](#)、[Design Simulation Models](#) : English version

[LTspice®モデルの使い方、デザインモデル](#) : 日本語版

Simulation Result Waveform1

U3 : SiC MOSFET

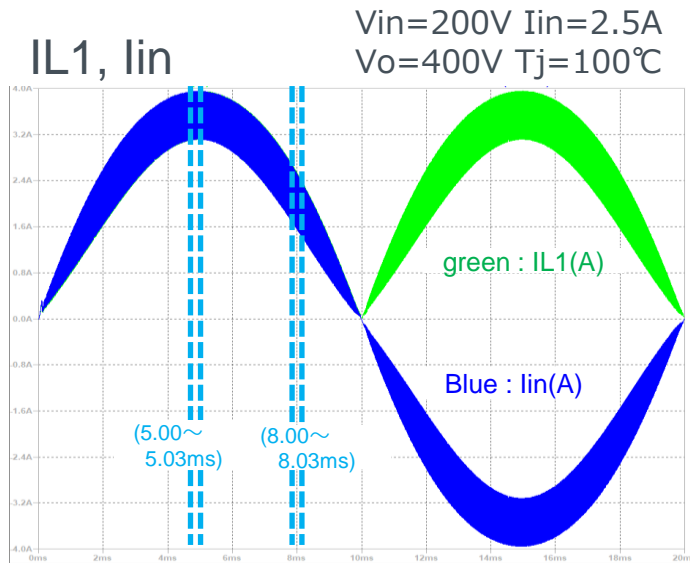
SCT4045DE

U4 : SiC SBD

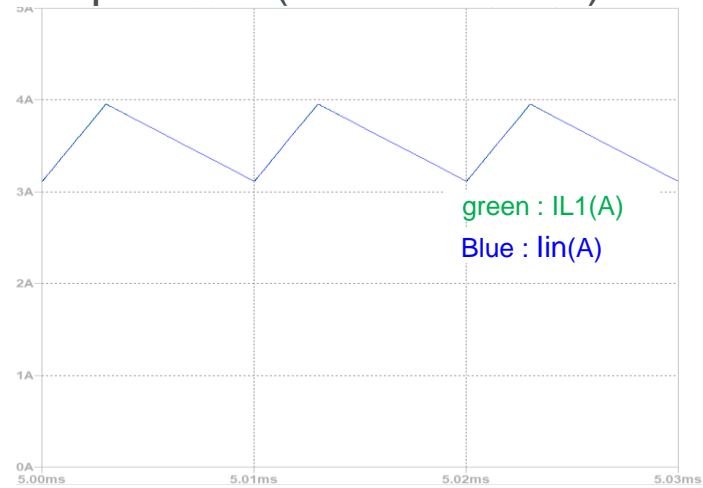
SCS304AHG

2025 Jan.

67UG110E Rev.002



Expansion (5.00~5.03ms)



Expansion (8.00~8.03ms)



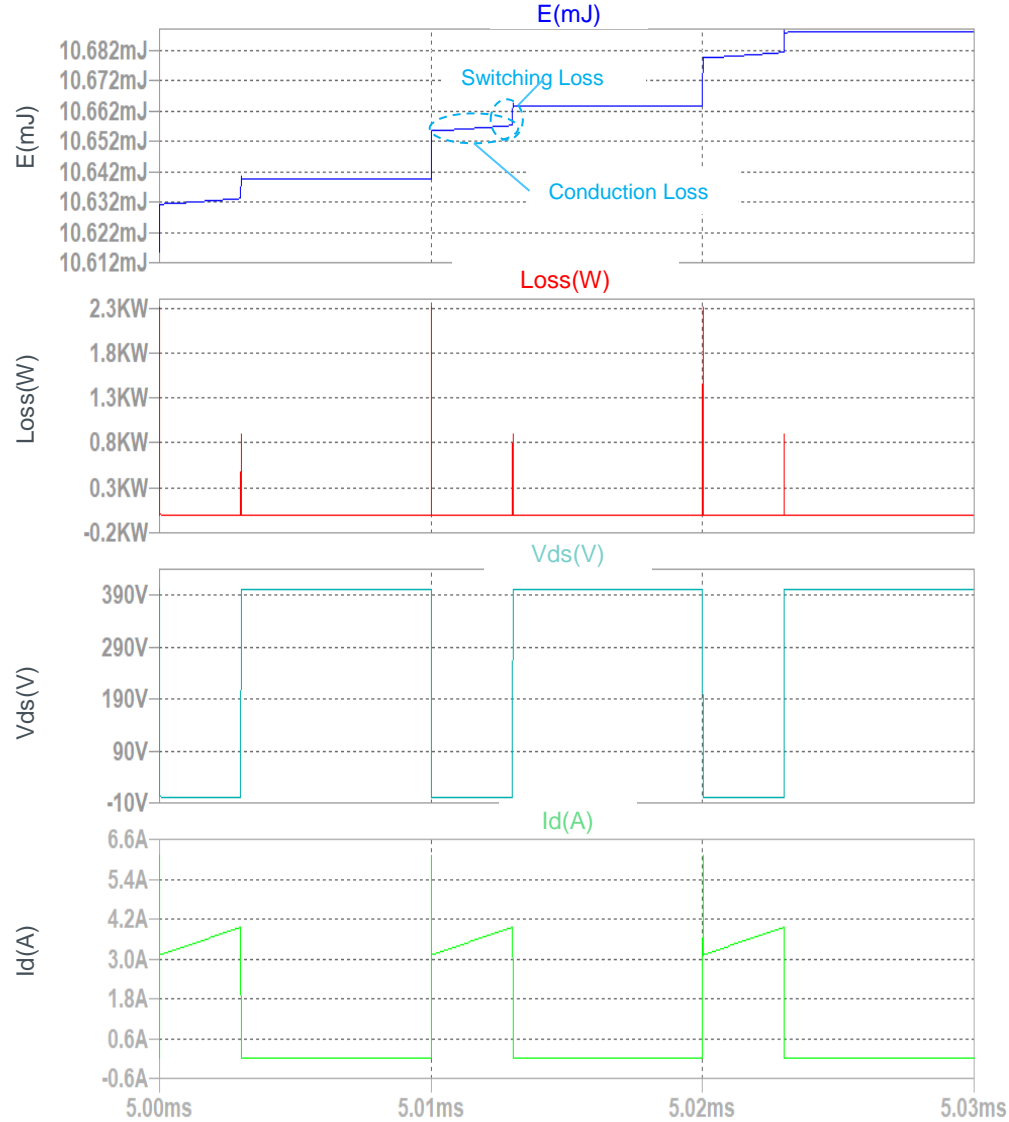
Simulation Result Waveform2

U3 : SiC MOSFET
SCT4045DE

U4 : SiC SBD
SCS304AHG

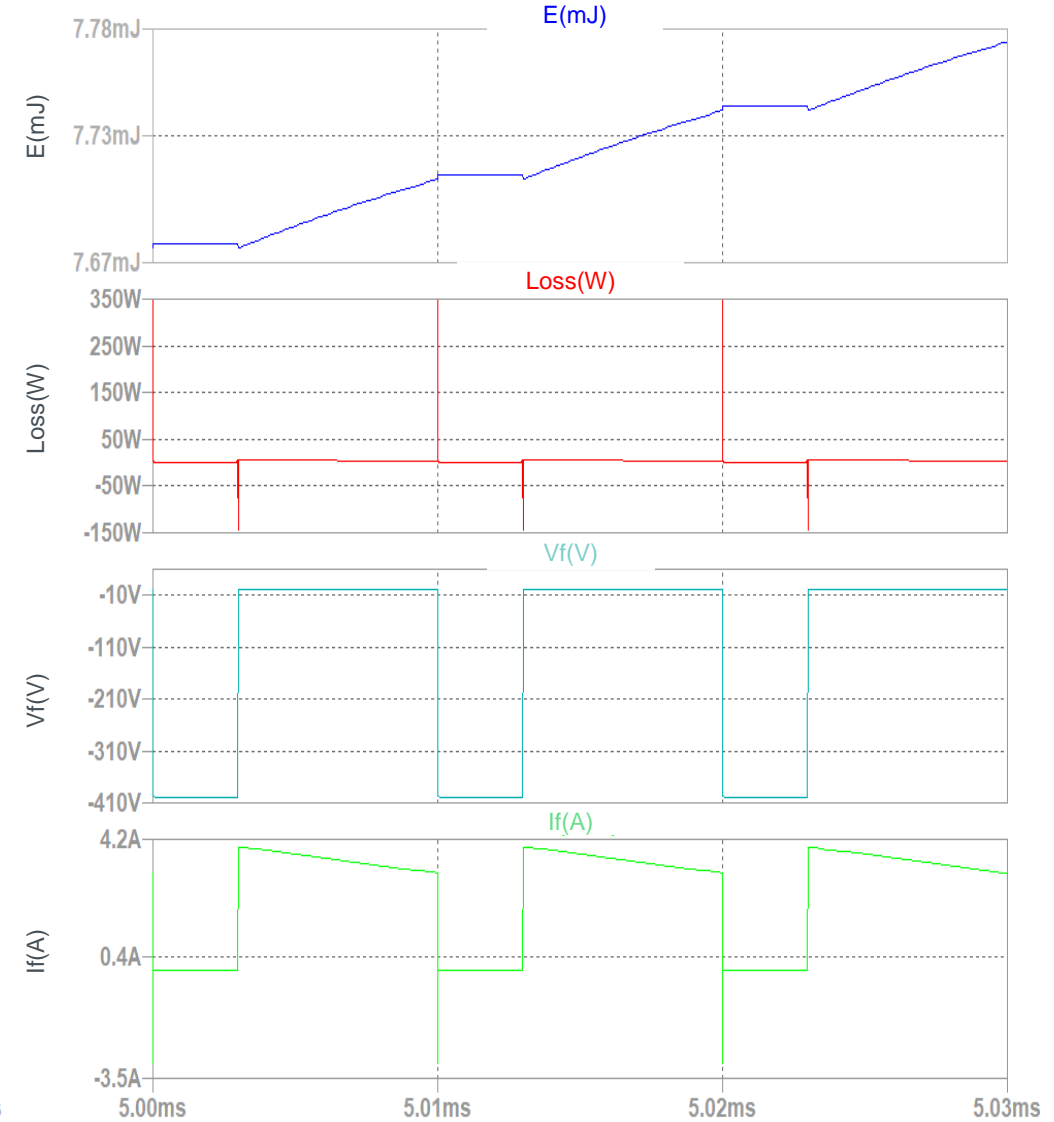
U3_E, Loss, Vds, Id

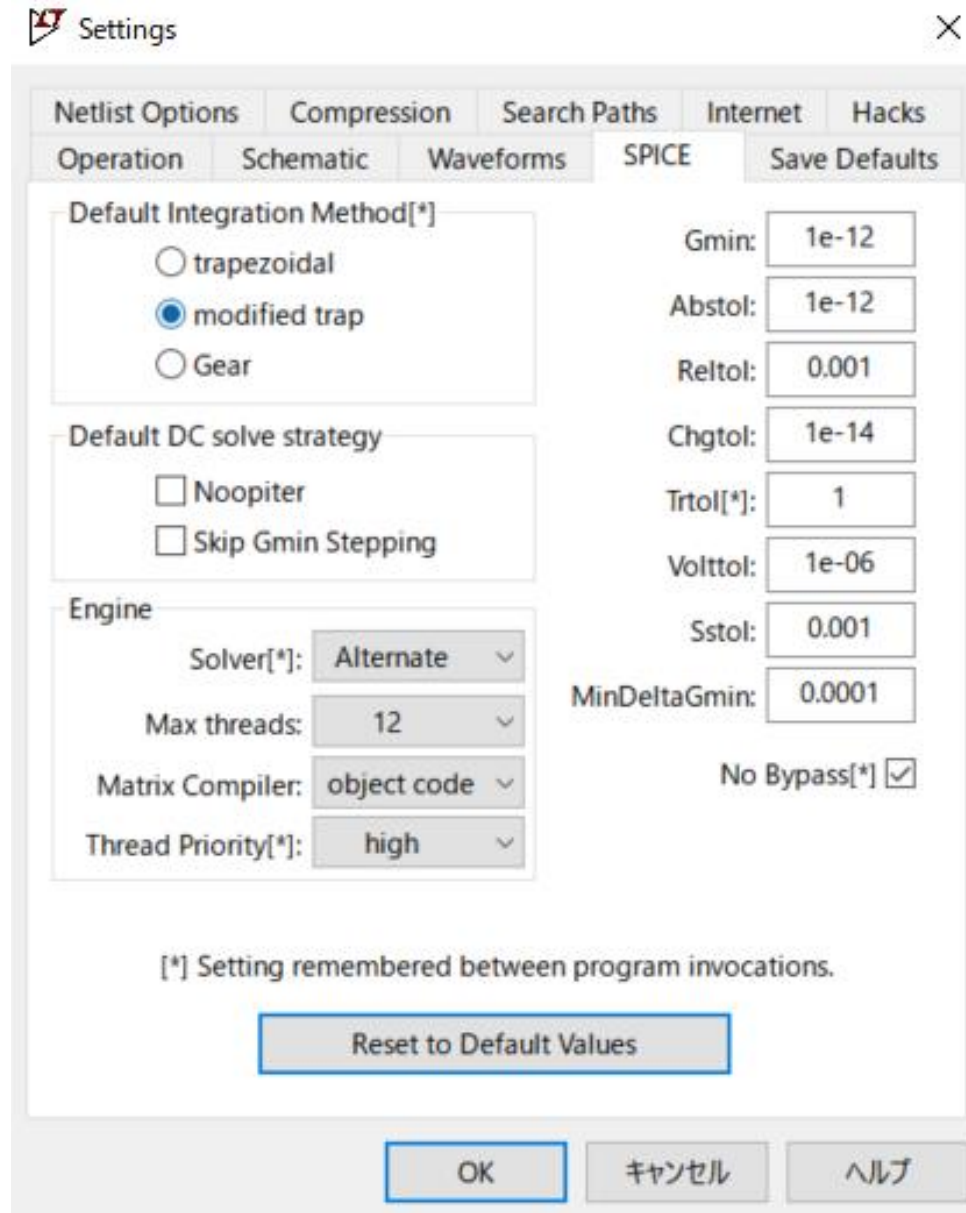
Vin=200V Iin=2.5A
Vo=400V Tj=100°C



U4_E, Loss, Vf, If

Vin=200V Iin=2.5A
Vo=400V Tj=100°C





Settings

Netlist Options | Compression | Search Paths | Internet | Hacks

Operation | Schematic | Waveforms | SPICE | Save Defaults

Default Integration Method[*]

trapezoidal
 modified trap
 Gear

Default DC solve strategy

Noopiter
 Skip Gmin Stepping

Engine

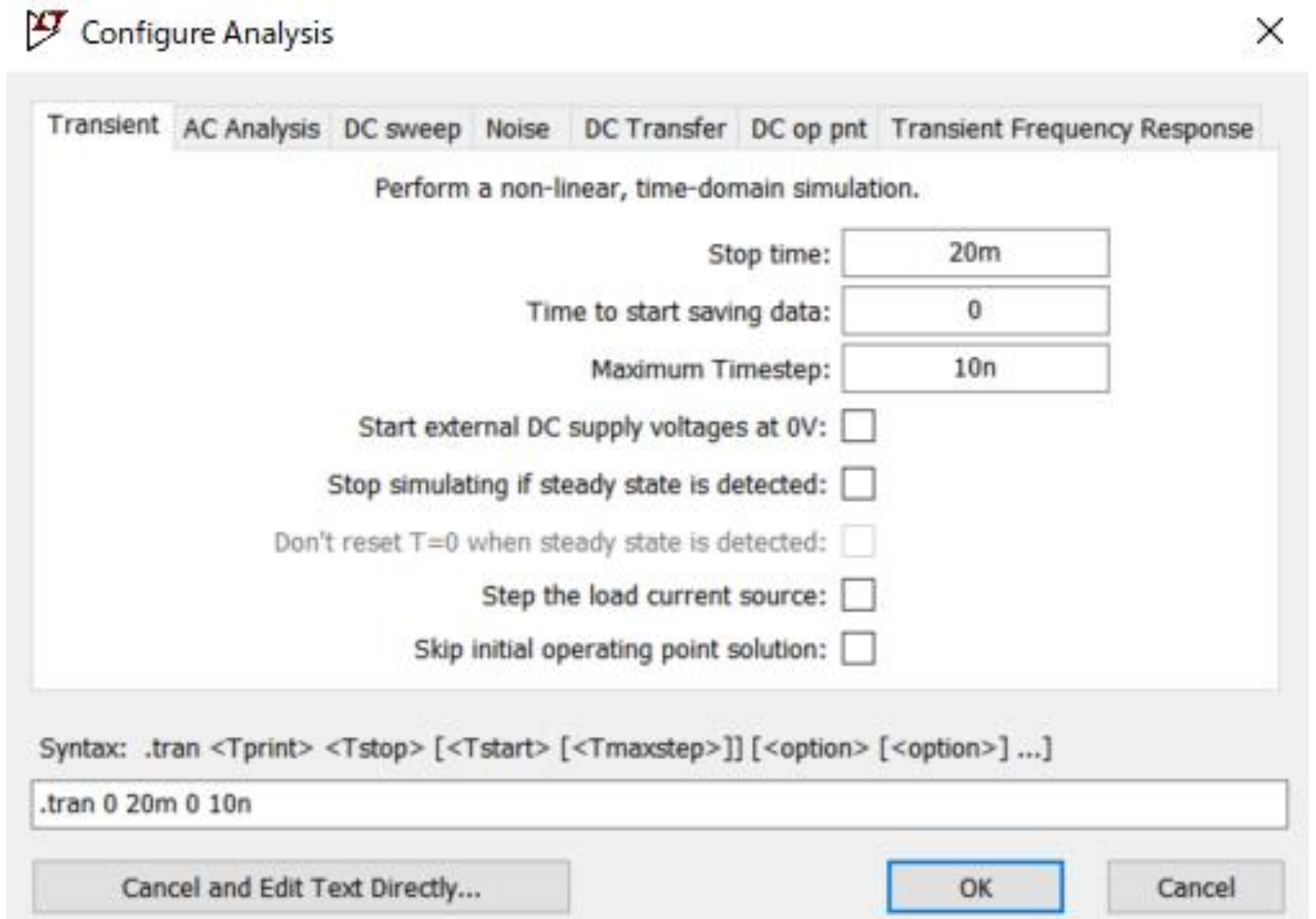
Solver[*]: Alternate ▾
Max threads: 12 ▾
Matrix Compiler: object code ▾
Thread Priority[*]: high ▾

Gmin: 1e-12
Abstol: 1e-12
Reltol: 0.001
Chgtol: 1e-14
Trtol[*]: 1
Volltol: 1e-06
Sstol: 0.001
MinDeltaGmin: 0.0001
No Bypass[*]

[*] Setting remembered between program invocations.

Reset to Default Values

OK キャンセル ヘルプ



Configure Analysis

Transient | AC Analysis | DC sweep | Noise | DC Transfer | DC op pnt | Transient Frequency Response

Perform a non-linear, time-domain simulation.

Stop time: 20m
Time to start saving data: 0
Maximum Timestep: 10n

Start external DC supply voltages at 0V:
Stop simulating if steady state is detected:
Don't reset T=0 when steady state is detected:
Step the load current source:
Skip initial operating point solution:

Syntax: .tran <Tprint> <Tstop> [<Tstart> [<Tmaxstep>]] [<option> [<option>] ...]

.tran 0 20m 0 10n

Cancel and Edit Text Directly... OK Cancel

※LTspice version:24.1.3

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