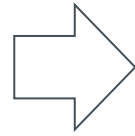
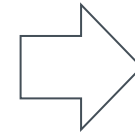


# How to add (change) a new component

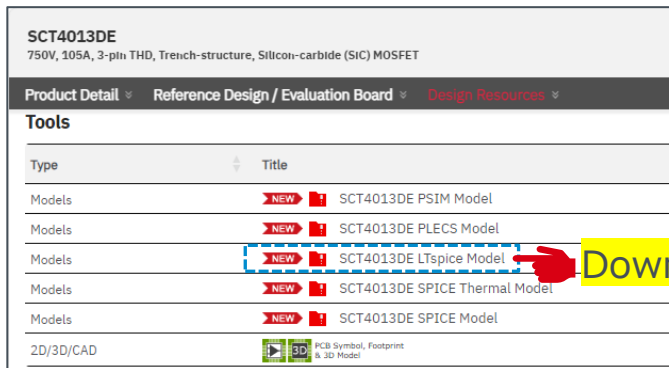
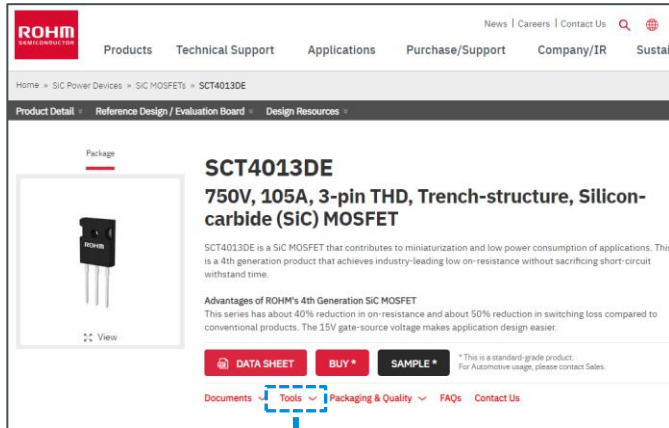
Download LTspice® model from ROHM website.



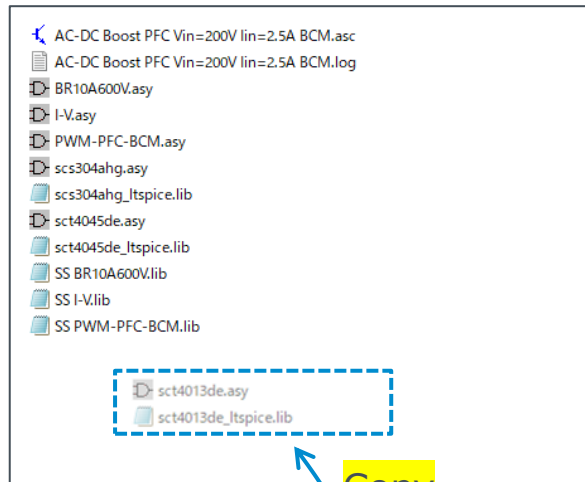
Save LTspice® model in the same folder as the schematic file.



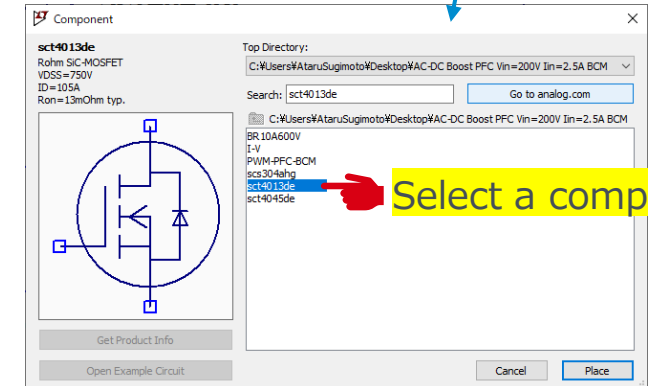
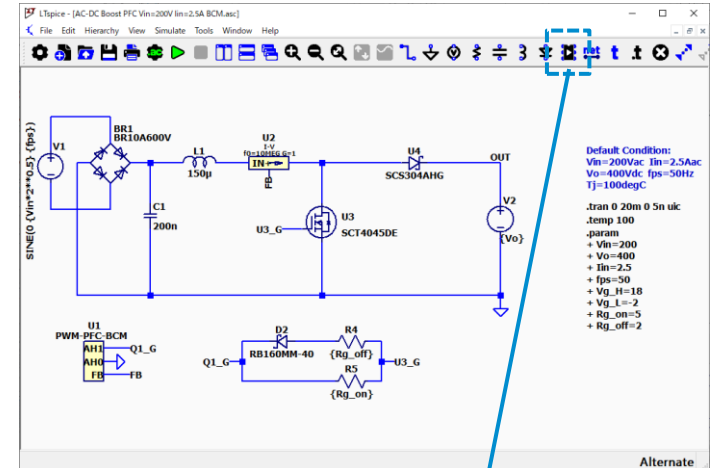
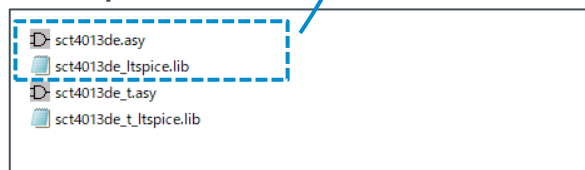
Click on the "Component" icon from the toolbar to add a new component to the schematic.



## LTspice® schematic file

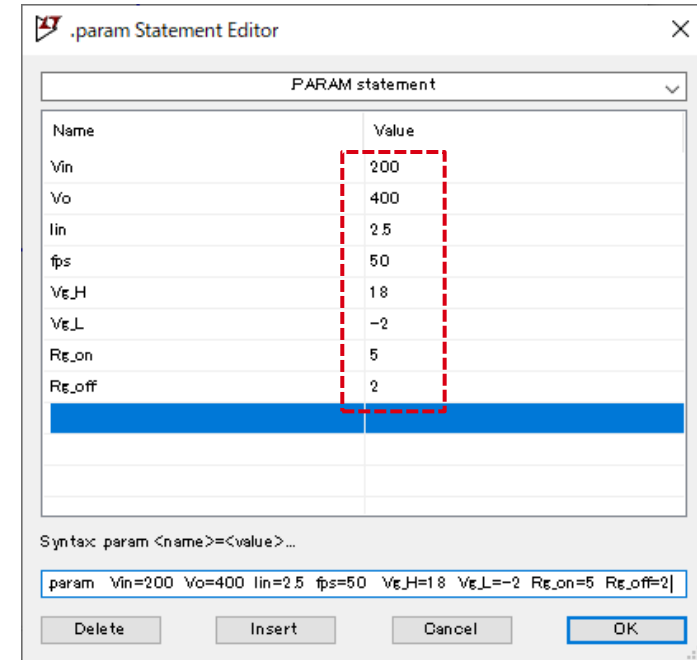
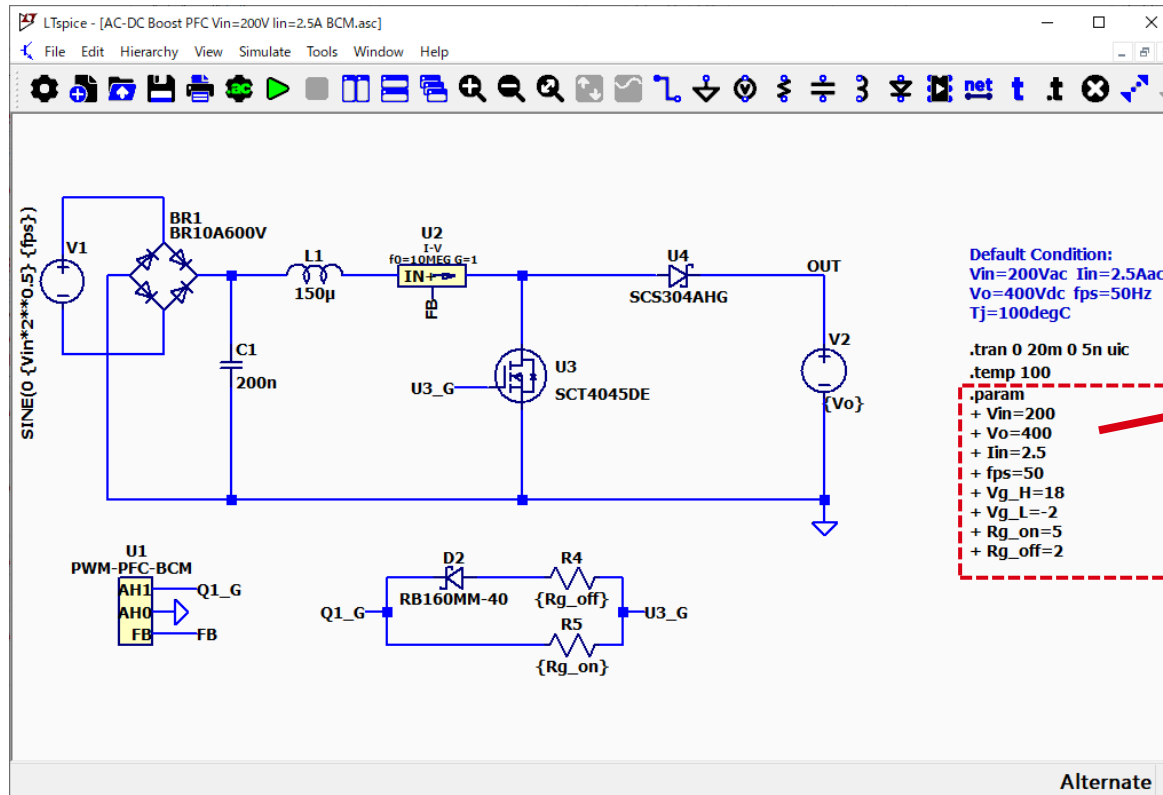


## LTspice® model

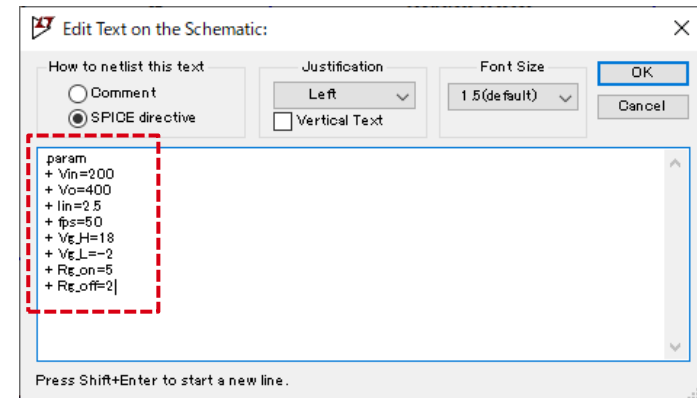


# How to change the Simulation Conditions

## 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.

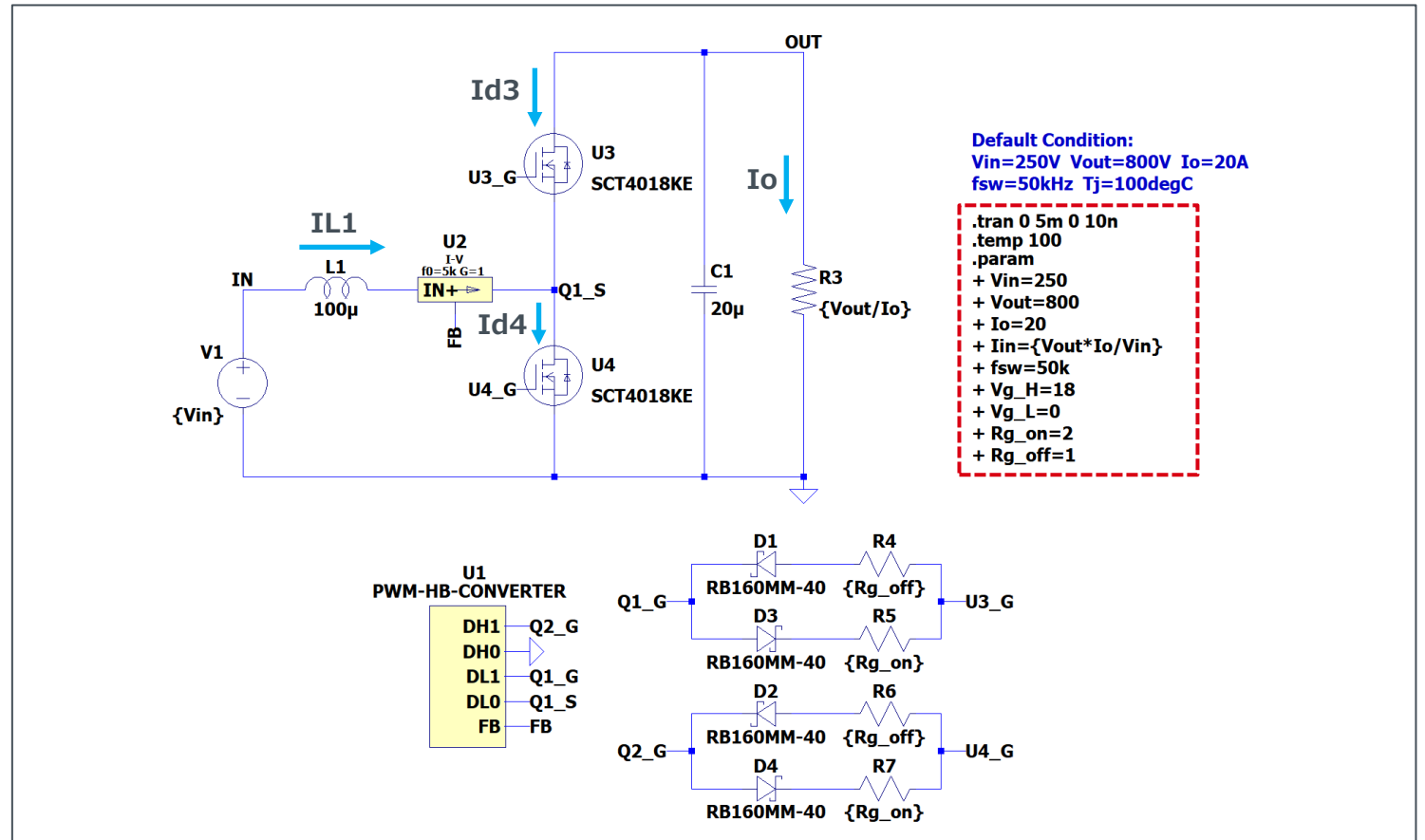
## Simulation Parameters

Param name	Unit	Description
Vin	V	Input Voltage
Vout	V	Output Voltage
Io	A	Output Current
fsw	Hz	Switching frequency
Vg_H	V	Gate Drive Voltage High
Vg_L	V	Gate Drive Voltage Low
Rg_on	$\Omega$	Gate Resistance ON
Rg_off	$\Omega$	Gate Resistance OFF

## Devices

Instance name	Type	Default
U3,4	SiC MOSFET	SCT4018KE
D1,2	SBD	RB160MM-40

## Simulation Schematic



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

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

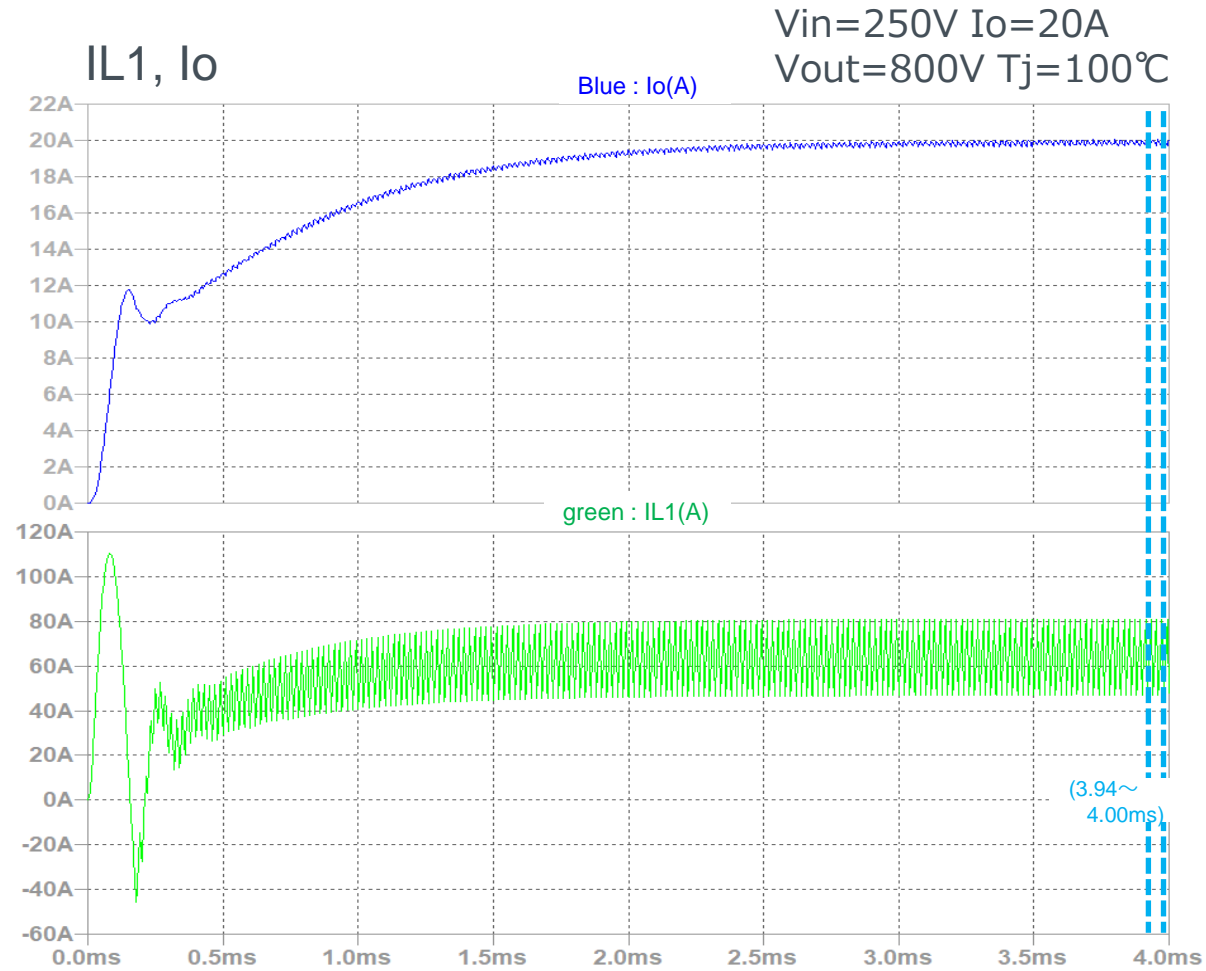
[LTspice®モデルの使い方、デザインモデル](#) : 日本語版

# Simulation Result Waveform1

U3,4 : SiC MOSFET  
SCT4018KE

2025 Jan.

67UG116E Rev.002



## Expansion (3.94~4.00ms)



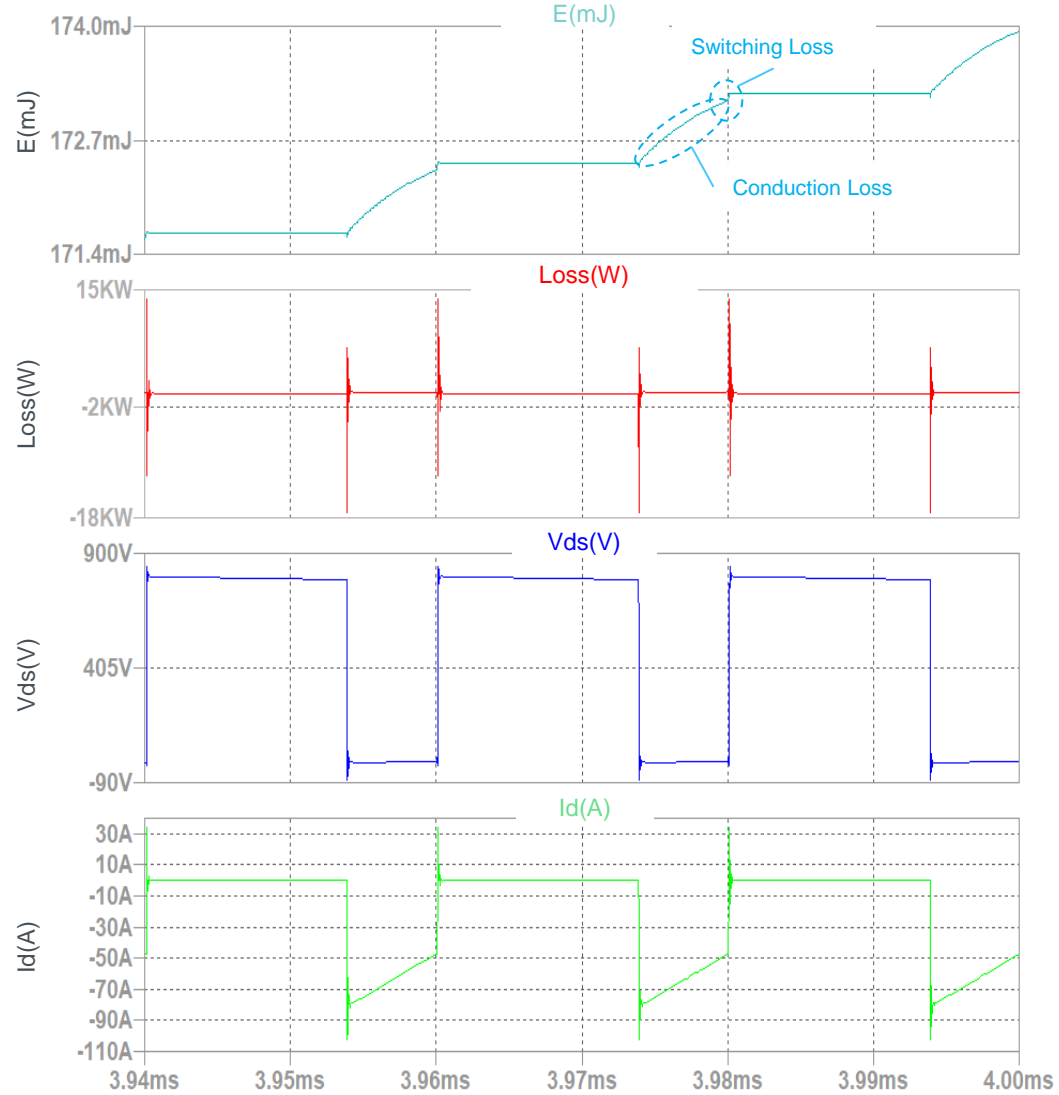
# Simulation Result Waveform2



U3,4 : SiC MOSFET  
SCT4018KE

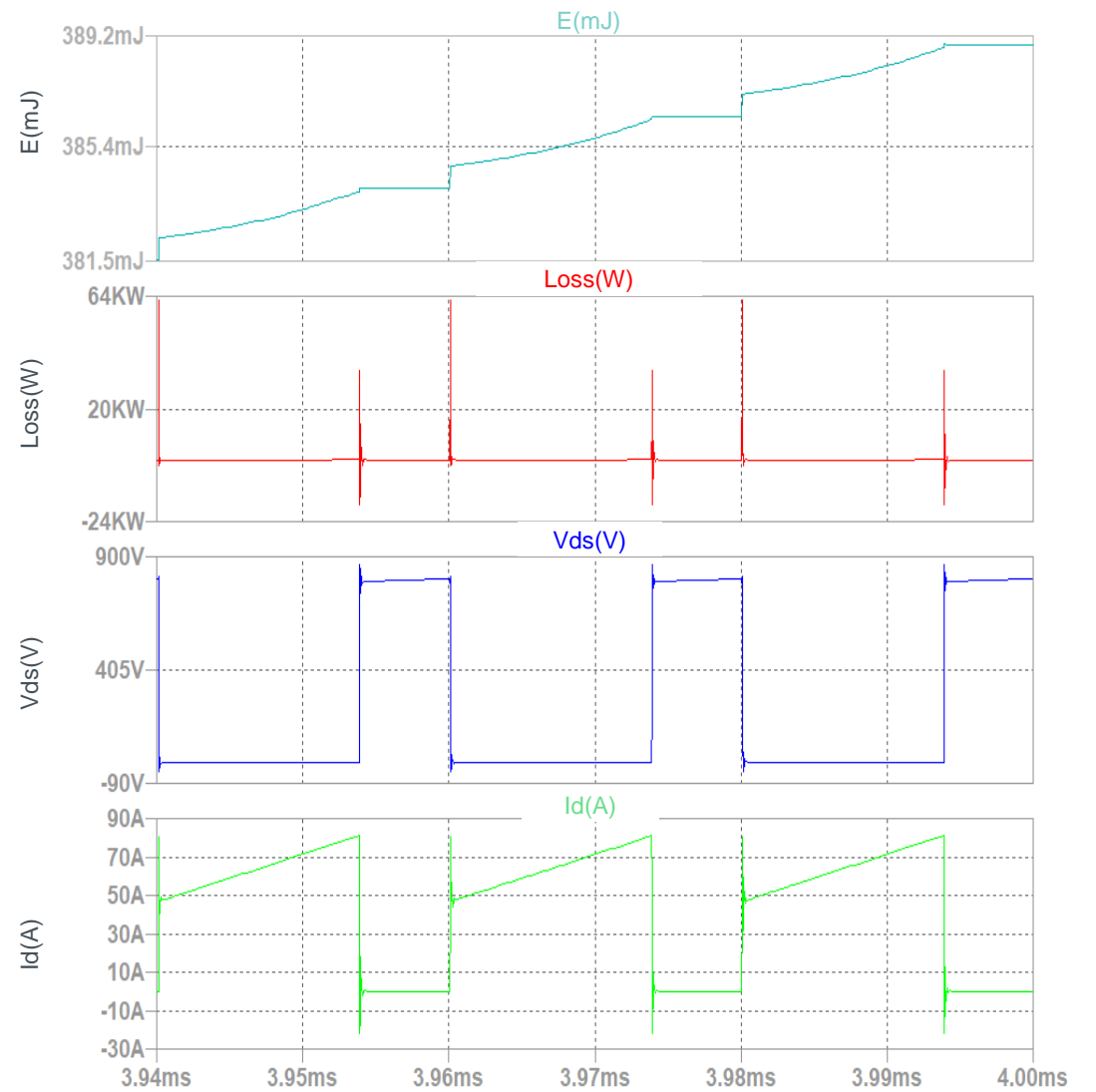
### U3\_E, Loss, Vds, Id

Vin=250V Io=20A  
Vout=800V Tj=100°C

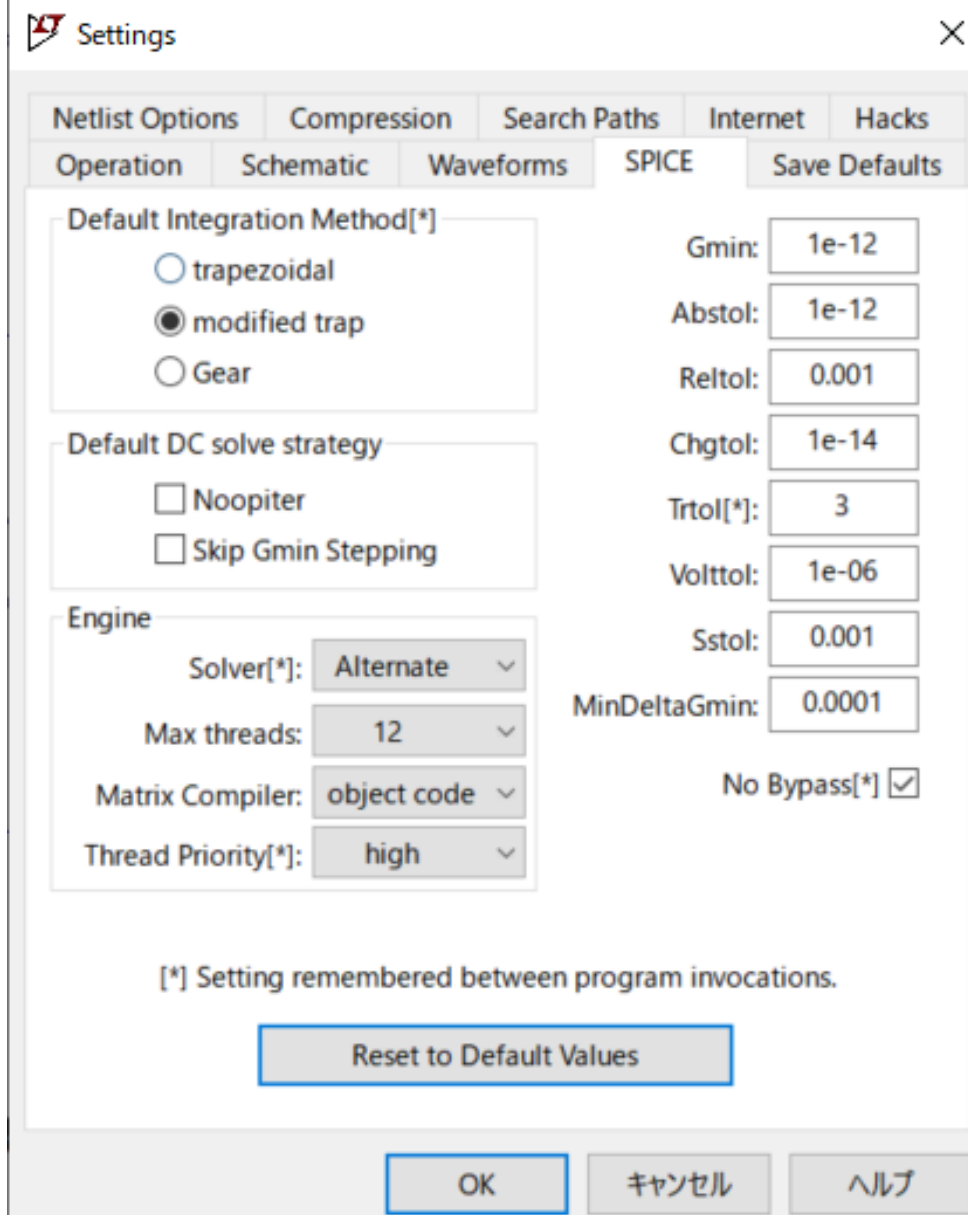


### U4\_E, Loss, Vds, Id

Vin=250V Io=20A  
Vout=800V Tj=100°C



# Default setting



Settings dialog box with tabs: 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

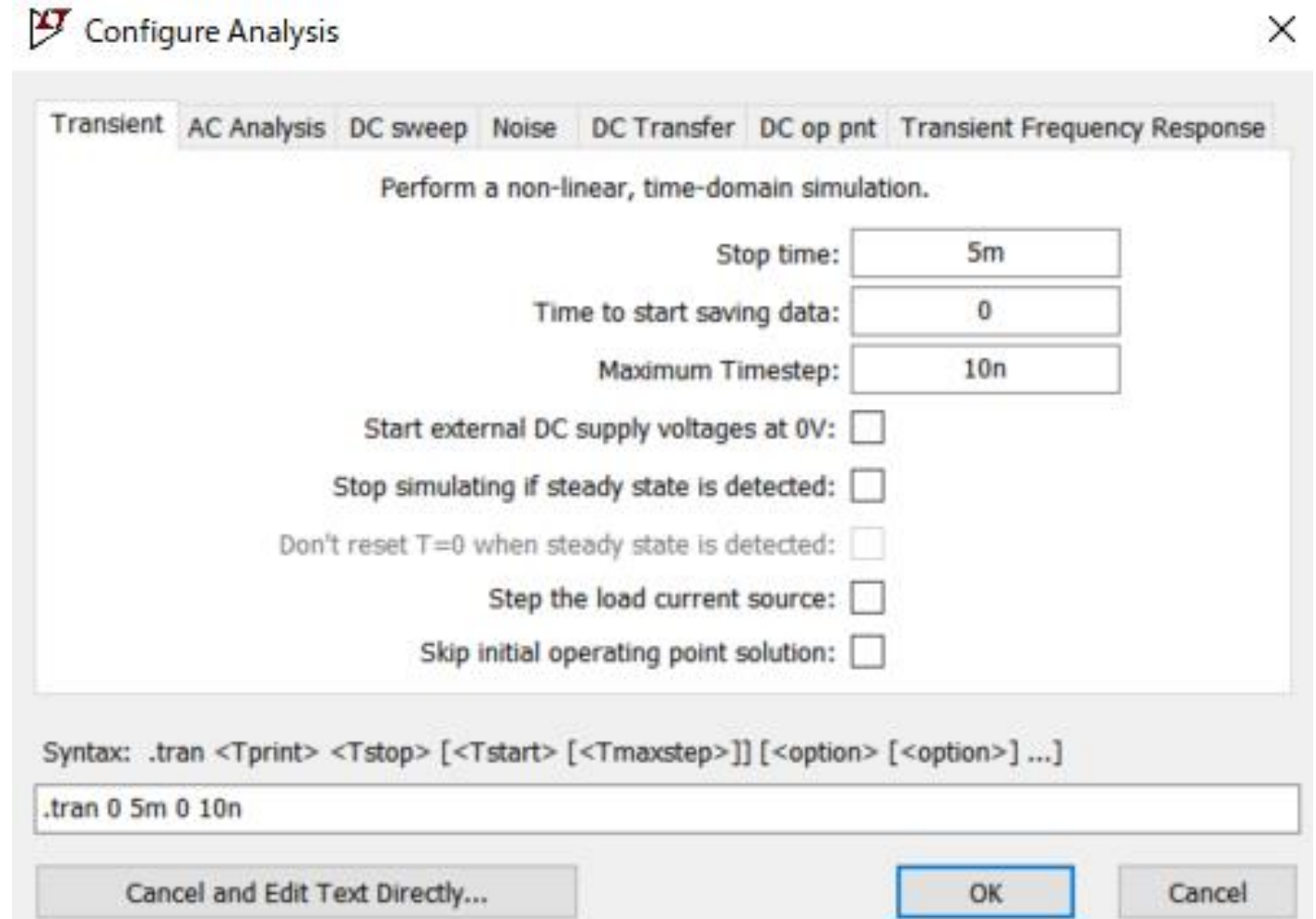
**SPICE Parameters**

- Gmin: 1e-12
- Abstol: 1e-12
- Reltol: 0.001
- Chgtol: 1e-14
- Trtol[\*]: 3
- Volttol: 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 dialog box with tabs: Transient, AC Analysis, DC sweep, Noise, DC Transfer, DC op pnt, Transient Frequency Response.

Perform a non-linear, time-domain simulation.

Stop time: 5m

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 5m 0 10n

Cancel and Edit Text Directly... OK Cancel

※LTspice version:24.1.3

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