How to add (change) a new component

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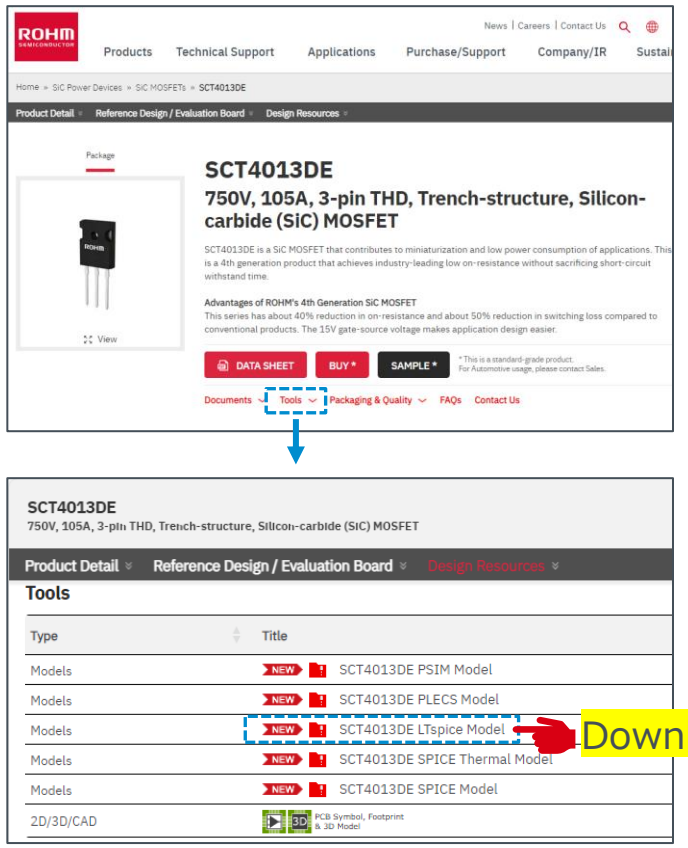
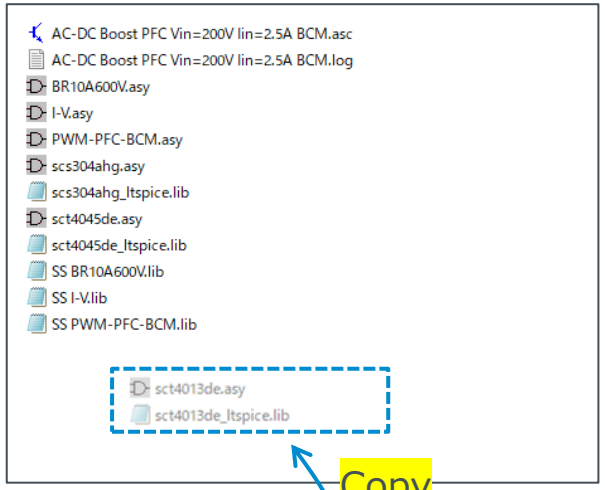
Download LTspice® model from ROHM website.

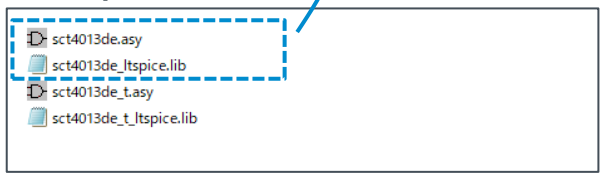


Save LTspice® model in the same folder as the schematic file.

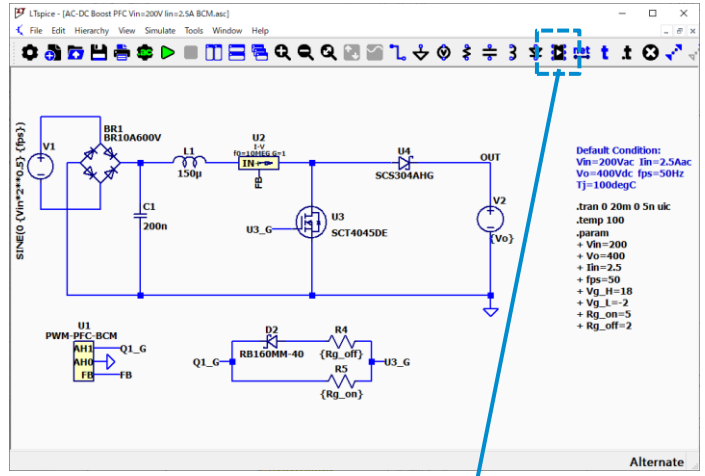
LTspice® schematic file

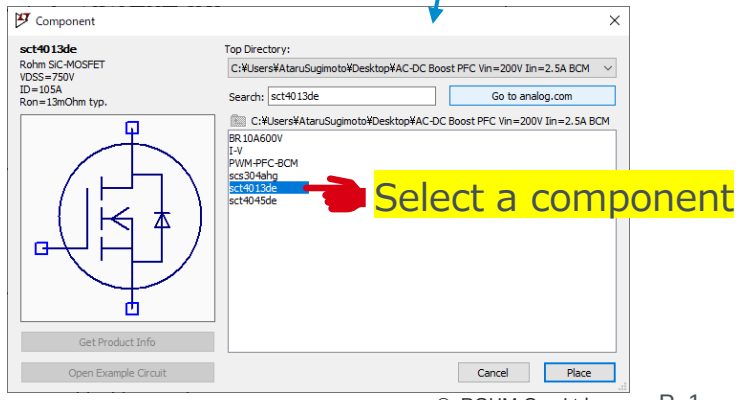


LTspice® model



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





How to change the Simulation Conditions

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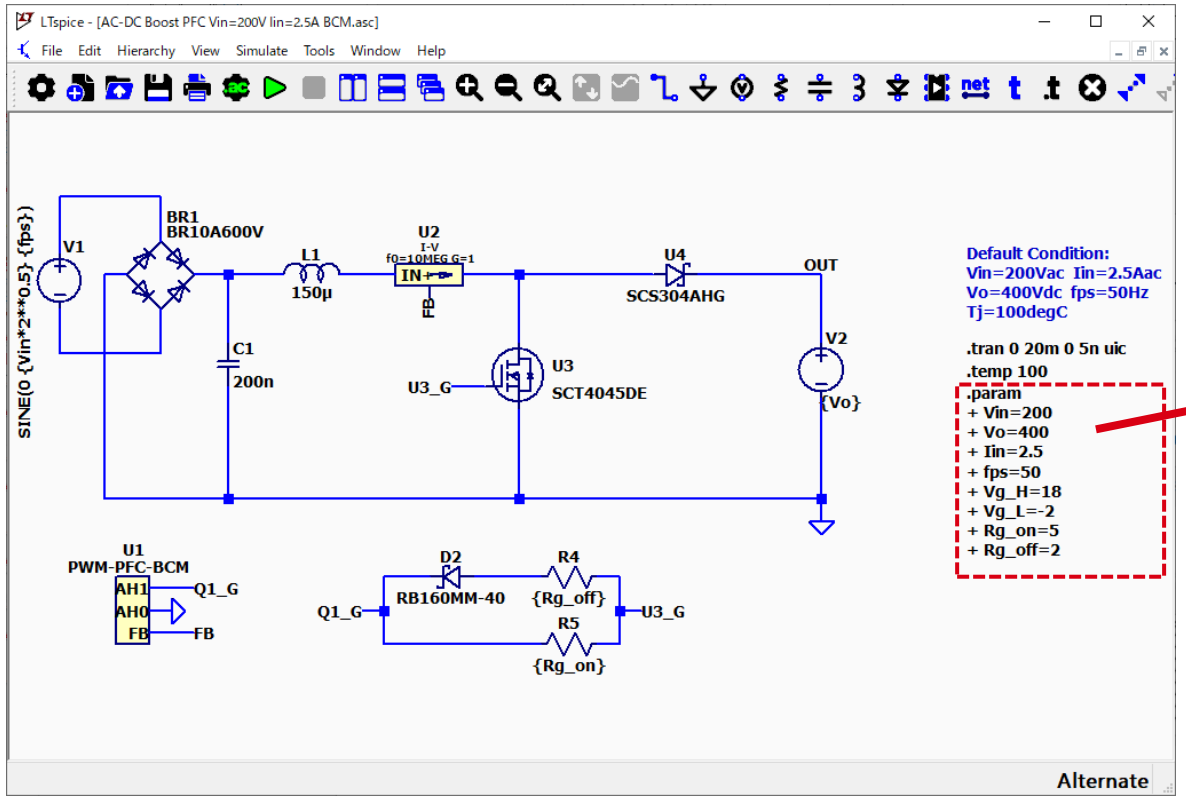
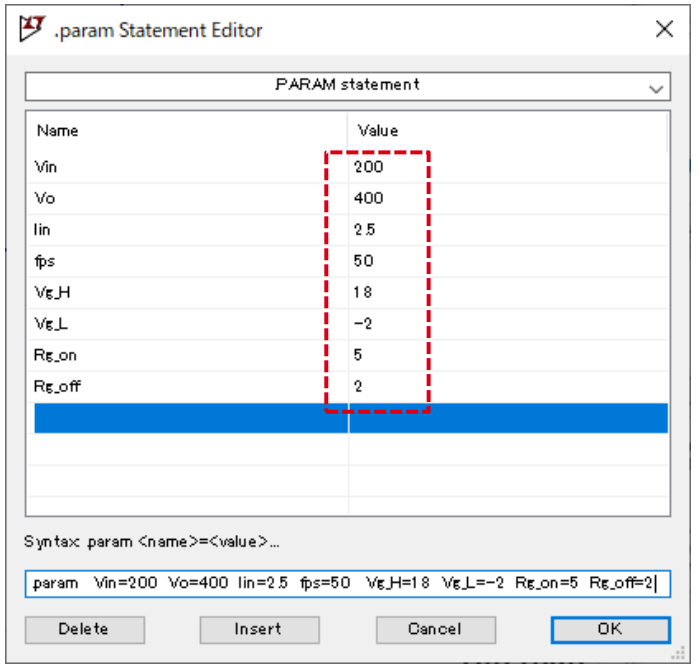
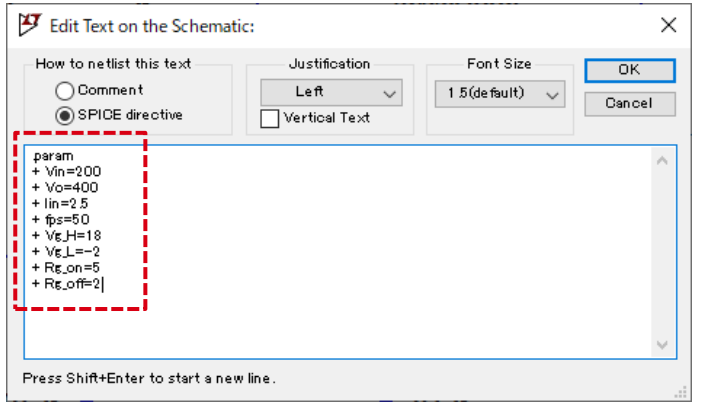
Simulation Schematic





or



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

C-008. DC-DC Buck Synchro Converter Vo=800V, Io=20A

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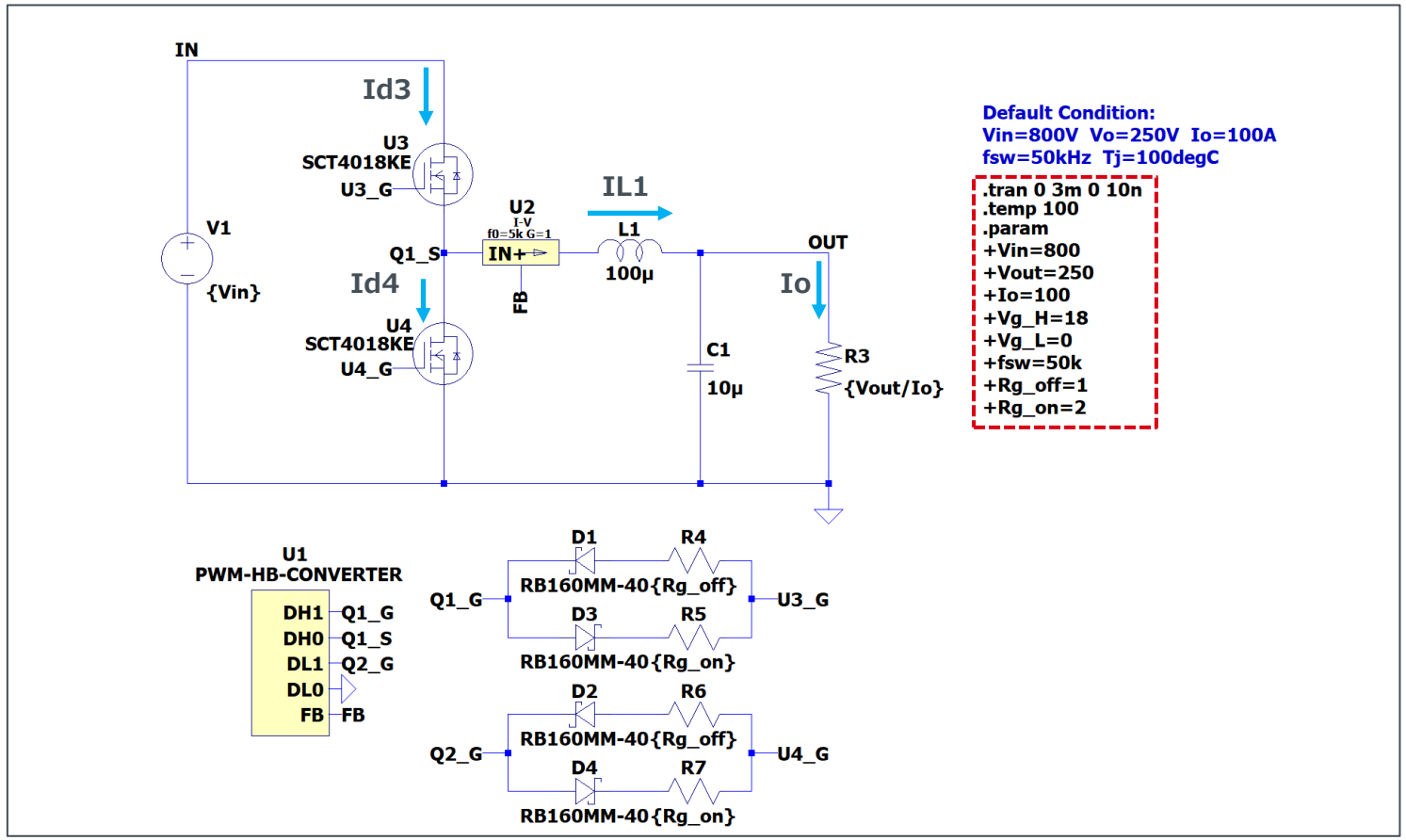
Simulation Parameters

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	Ω	Gate Resistance ON
Rg_off	Ω	Gate Resistance OFF

Components

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

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Simulation Result Waveform1

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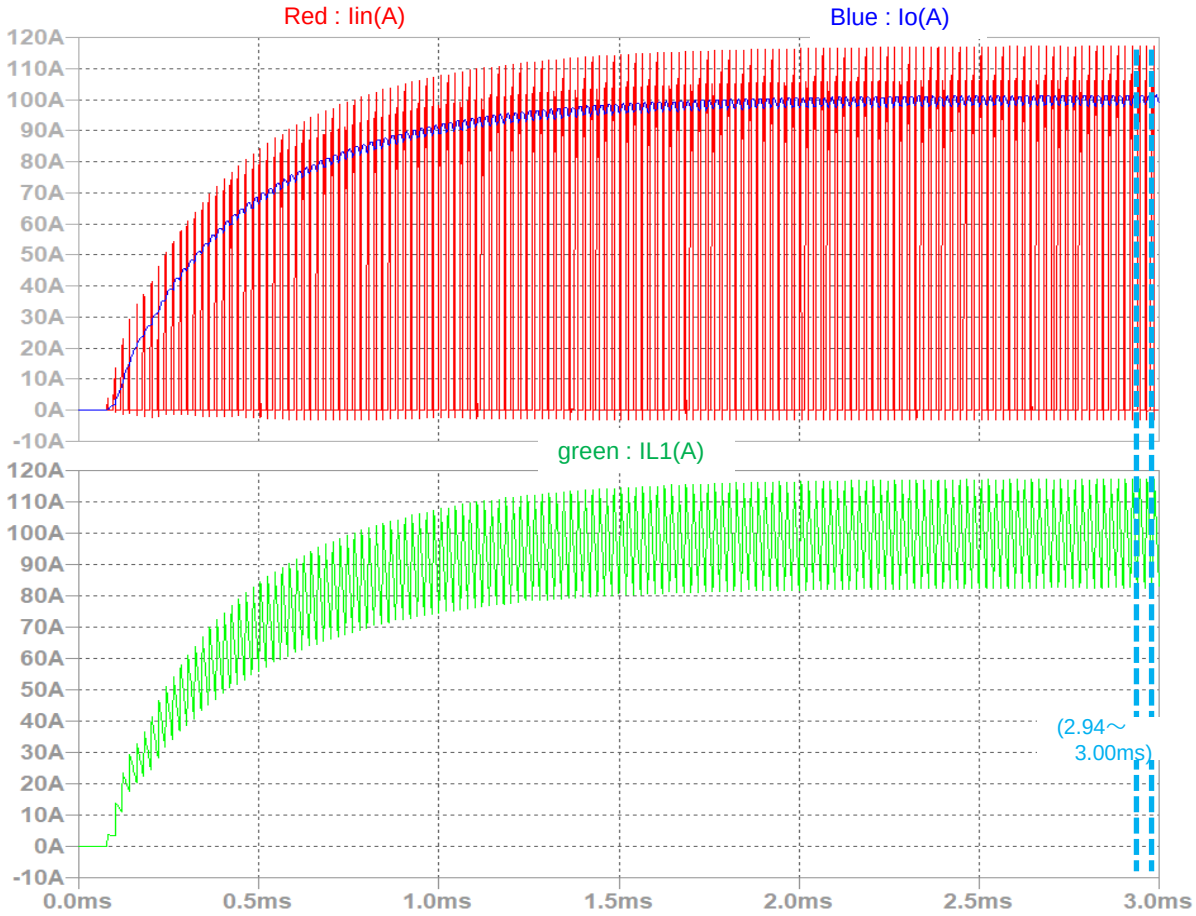
U3,4 : SiC MOSFET
SCT4018KE

IL1, Iin ,Io

Vin=800V Io=100A
Vout=250V Tj=100℃



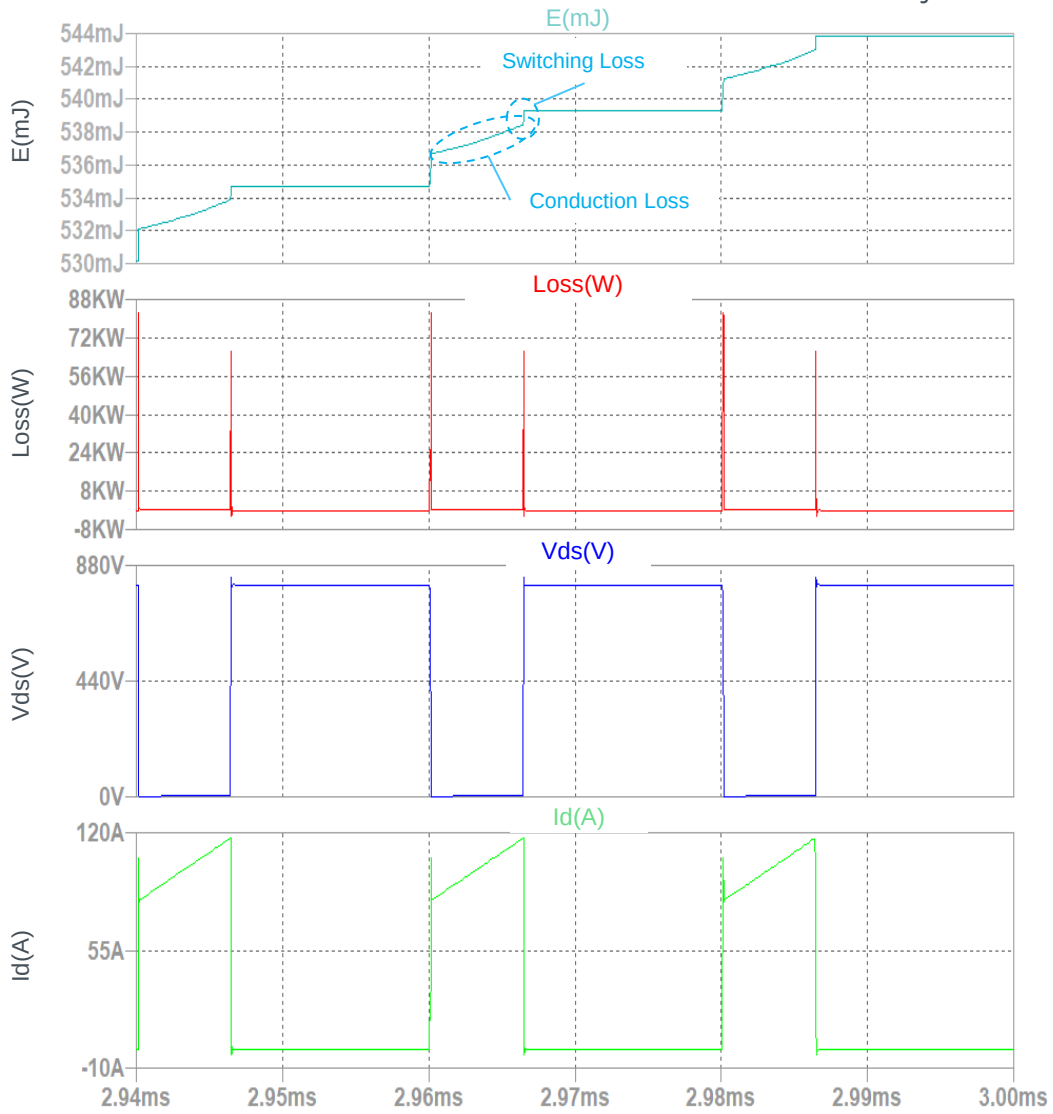
Expansion (2.94～3.00ms)

Simulation Result Waveform2

U3,4 : SiC MOSFET
SCT4018KE

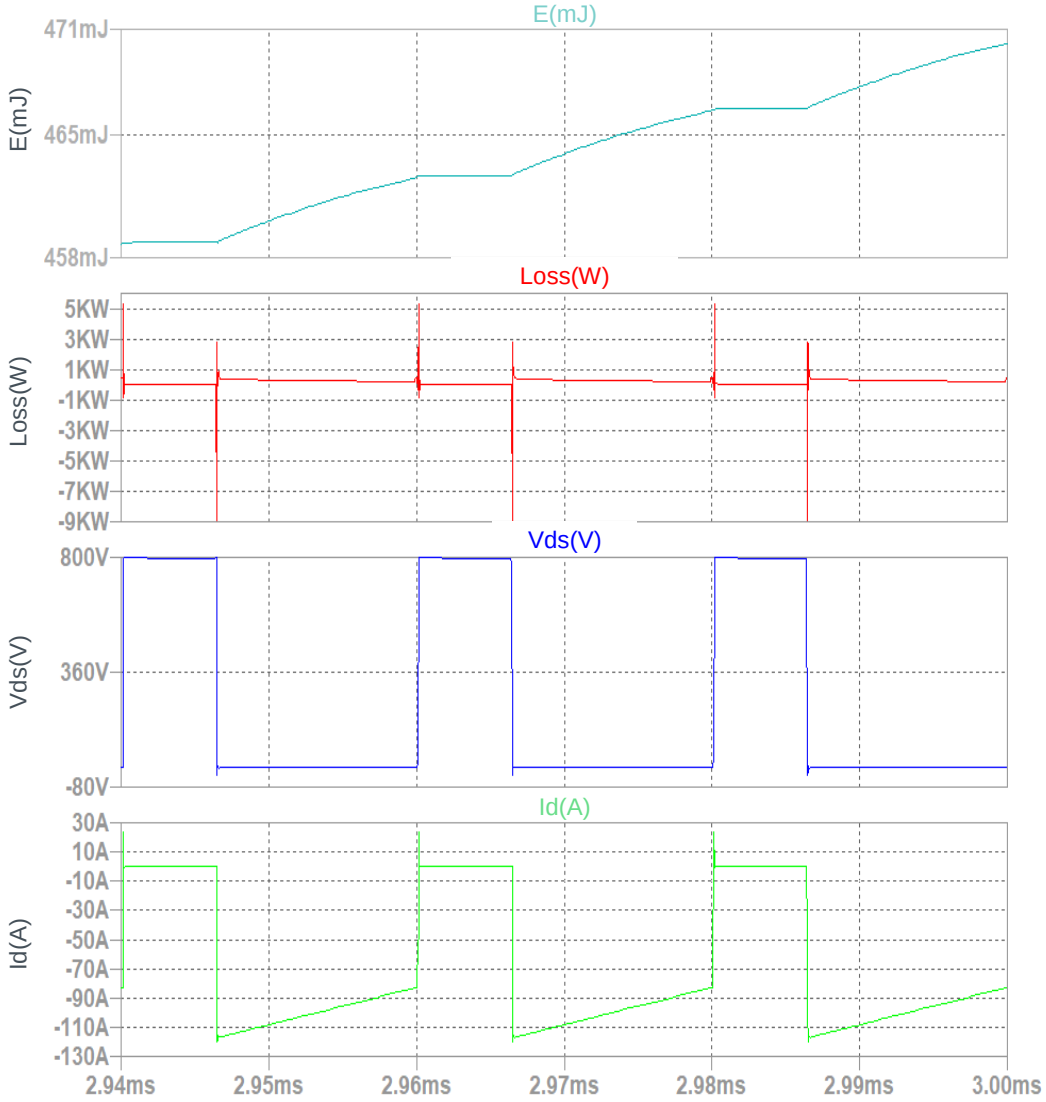
U3_E,Loss, Vds, Id

Vin=800V Io=100A
Vout=250V Tj=100℃



U4_E,Loss, Vds, Id

Vin=800V Io=100A
Vout=250V Tj=100℃



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Default setting

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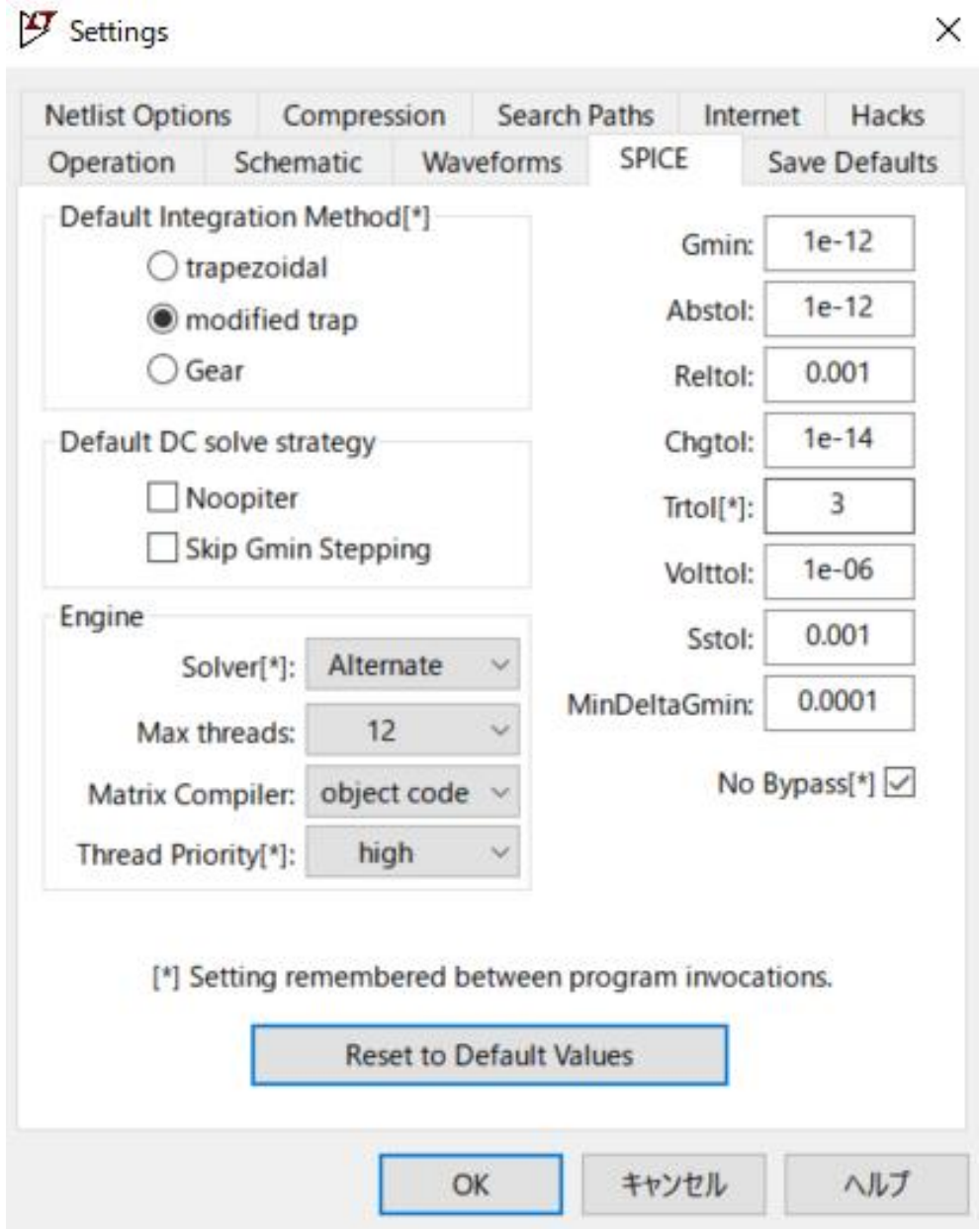

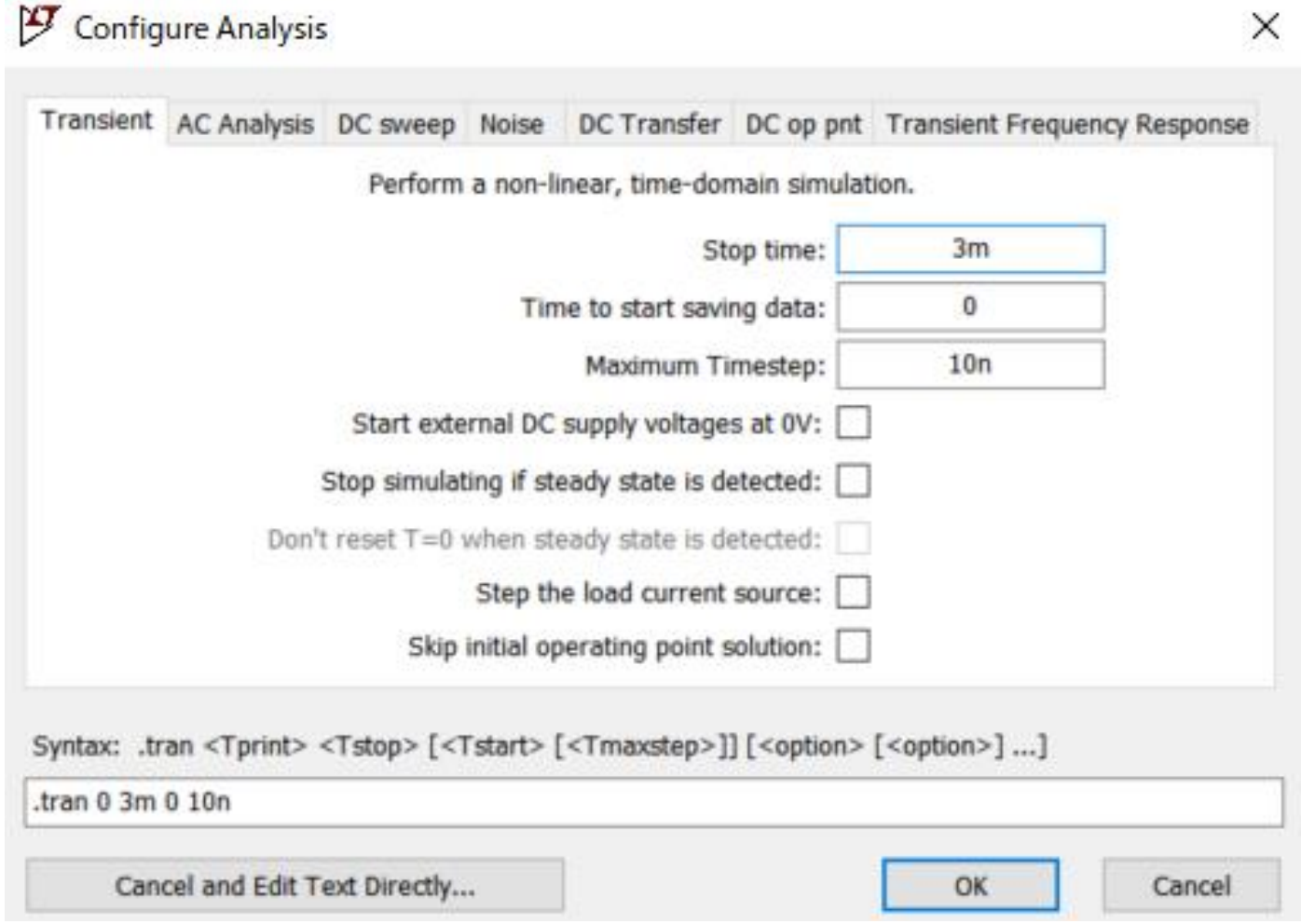

※LTspice version:24.1.3

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