

DC-DC Flyback Converter $V_{in}=800V$ $V_o=25V$ $I_o=10A$

Input : $V_{in}=800V$

Output : $V_o=25V$
 $I_o=10A$

Gate Drive : $V_d=18V$
 $R_{source}=5\Omega$
 $R_{sink}=2\Omega$

Q1 : SCT2450KE
SiC MOSFET (1200V 10A)

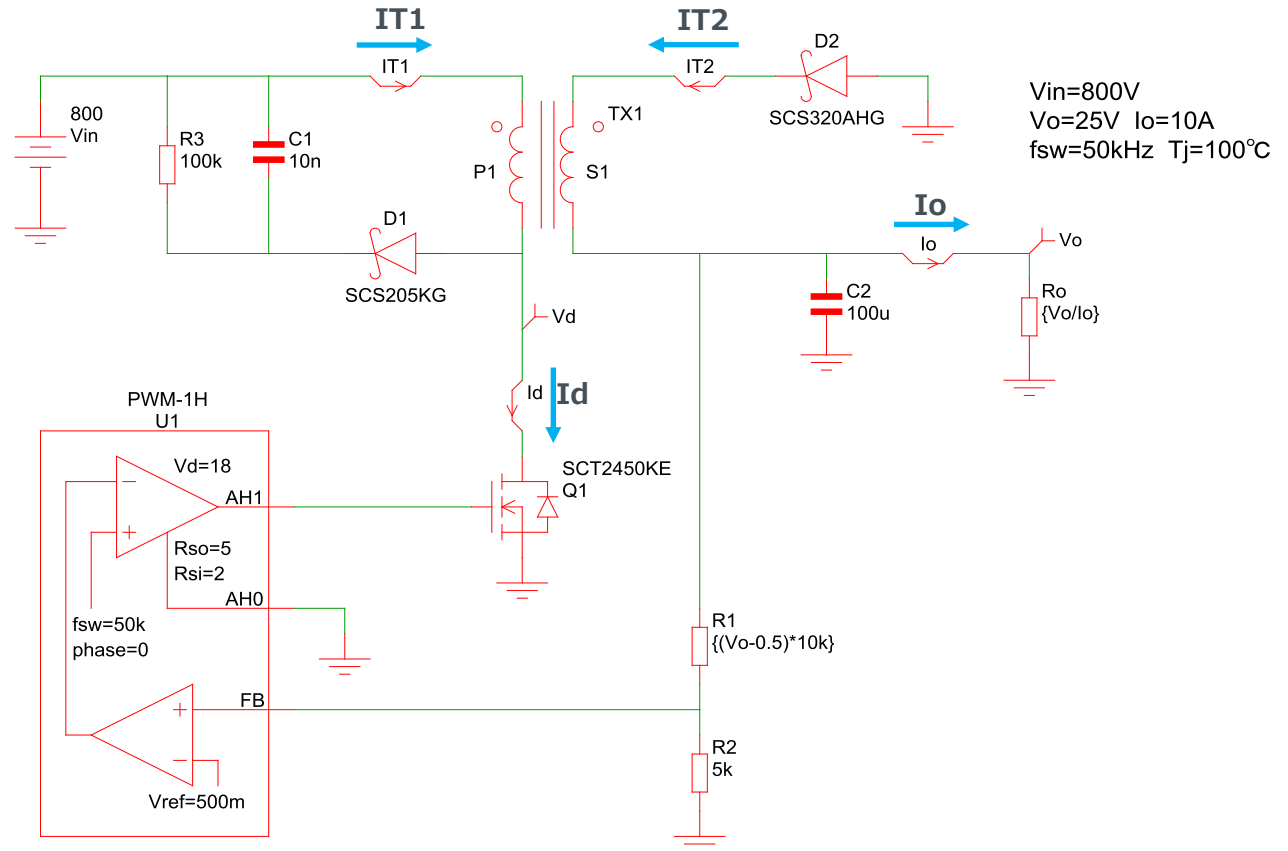
D1 : SCS205KG
SiC SBD (1200V 5A)

D2 : SCS320AHG
SiC SBD (650V 20A)

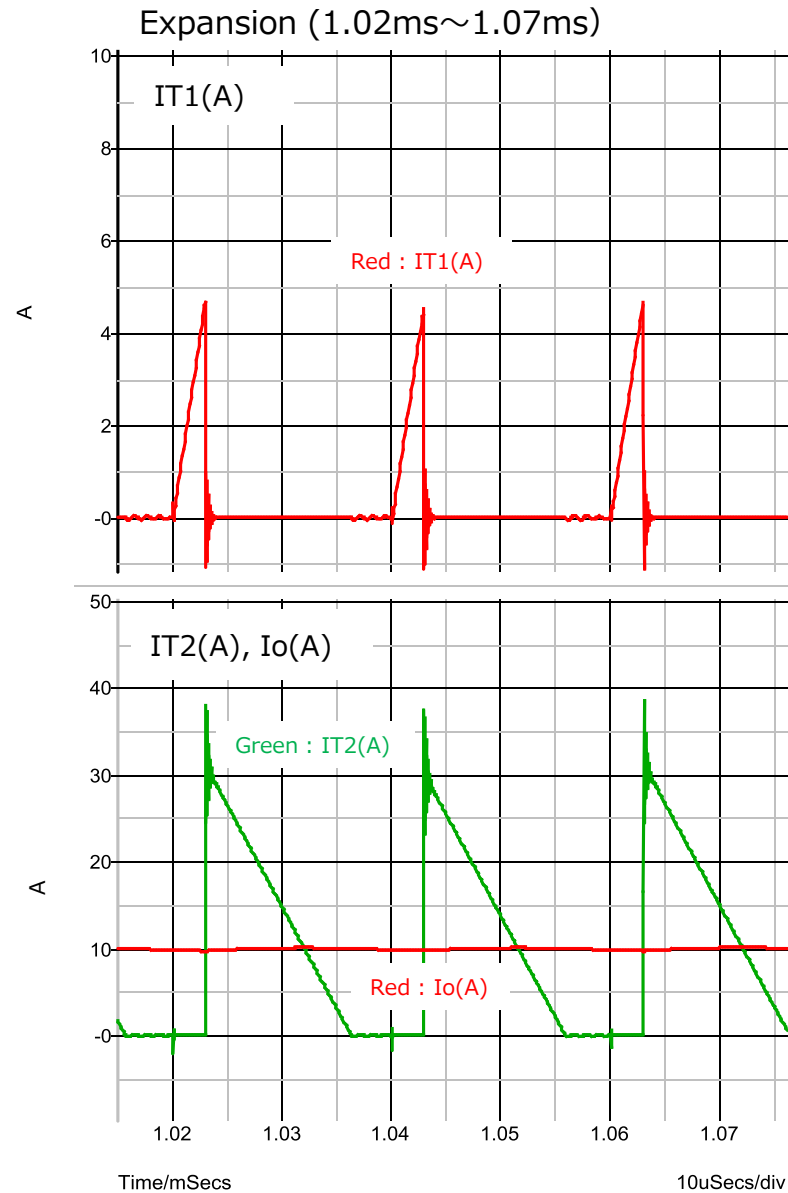
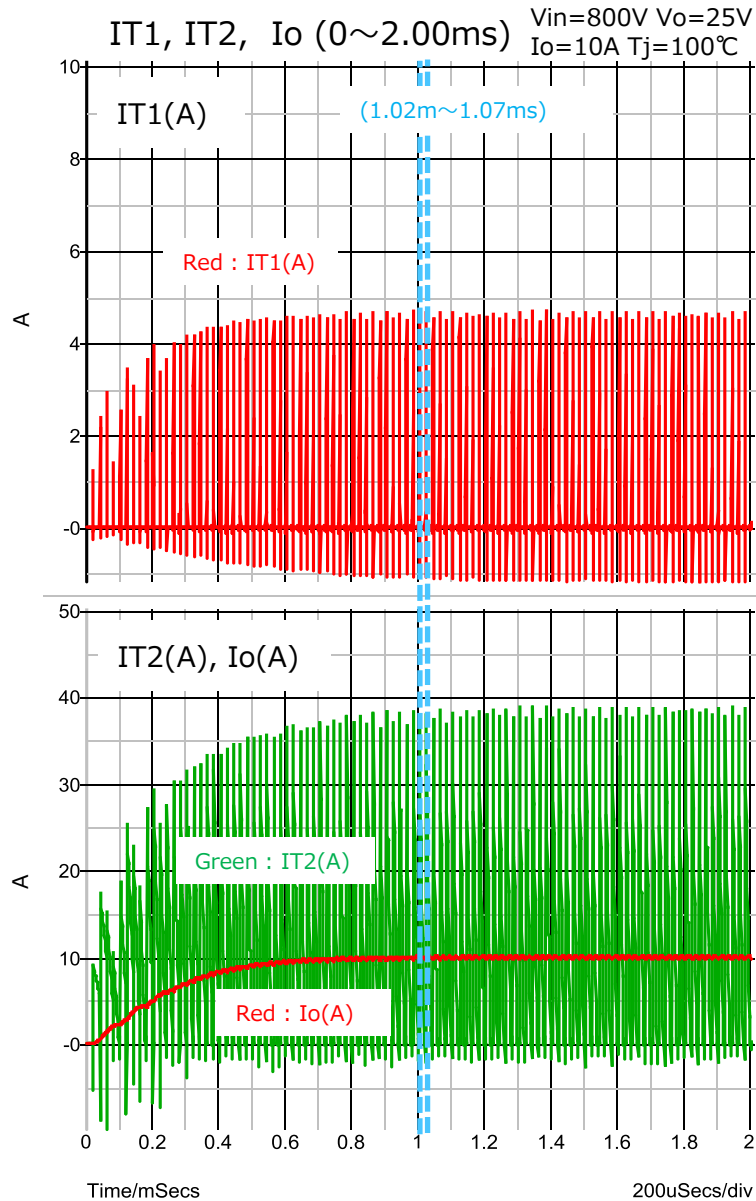
C1 : 10nF **C2 : 100uF**

$T_j=100^\circ C$

DC-DC Flyback Converter $V_{in}=800V$ $V_o=25V$ $I_o=10A$ Simulation Circuit



Simulation Waveform 1

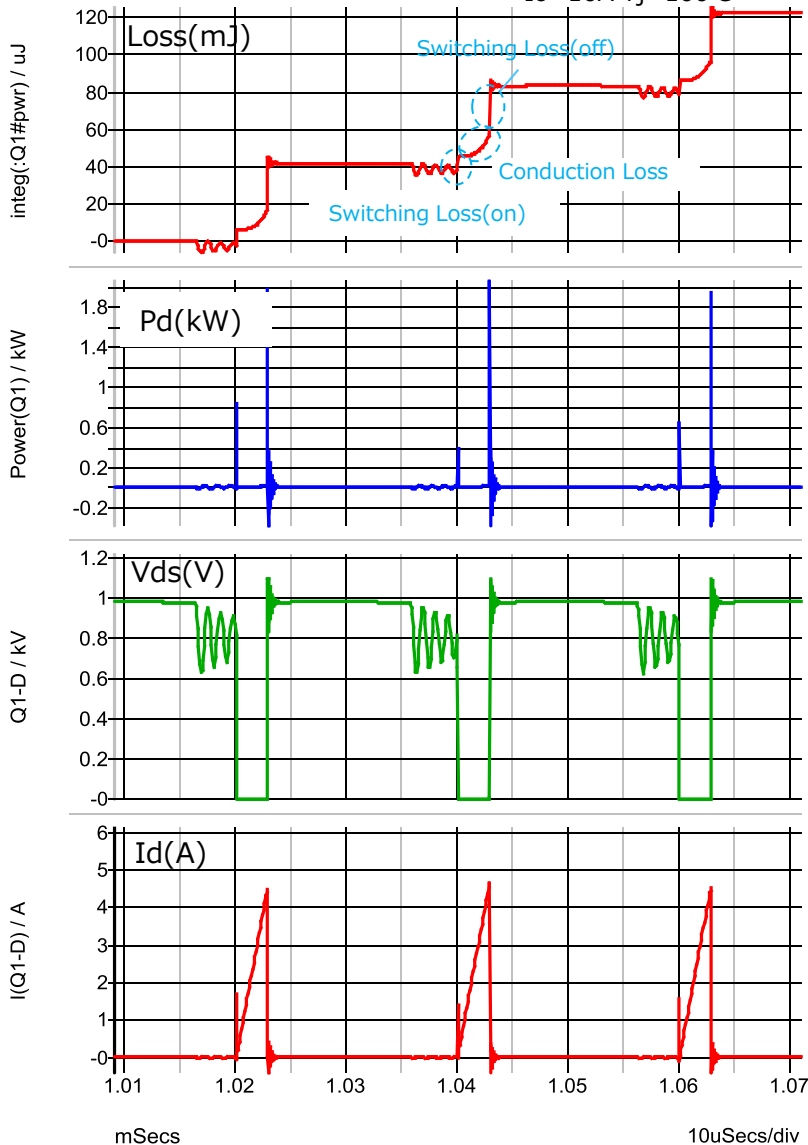


Simulation Waveform 2



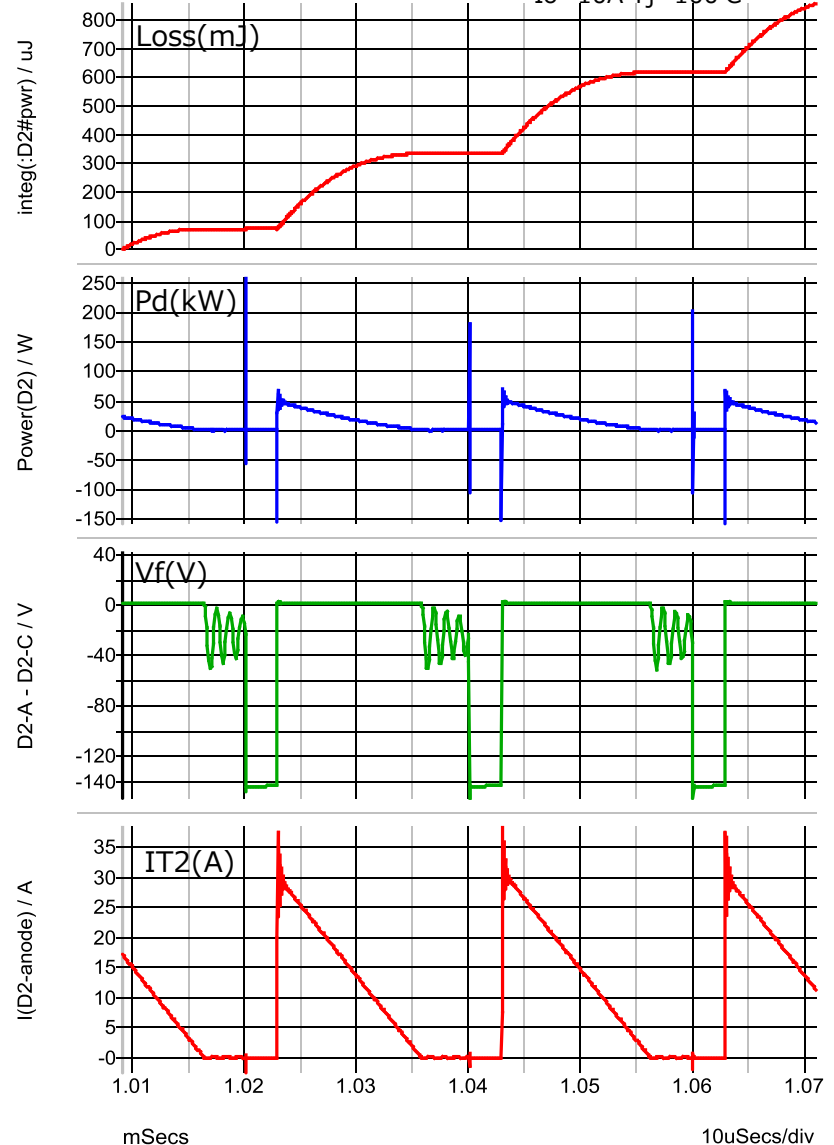
Vin=800V Vo=25V
Io=10A Tj=100°C

Q1_Loss, Pd, Vds, Id

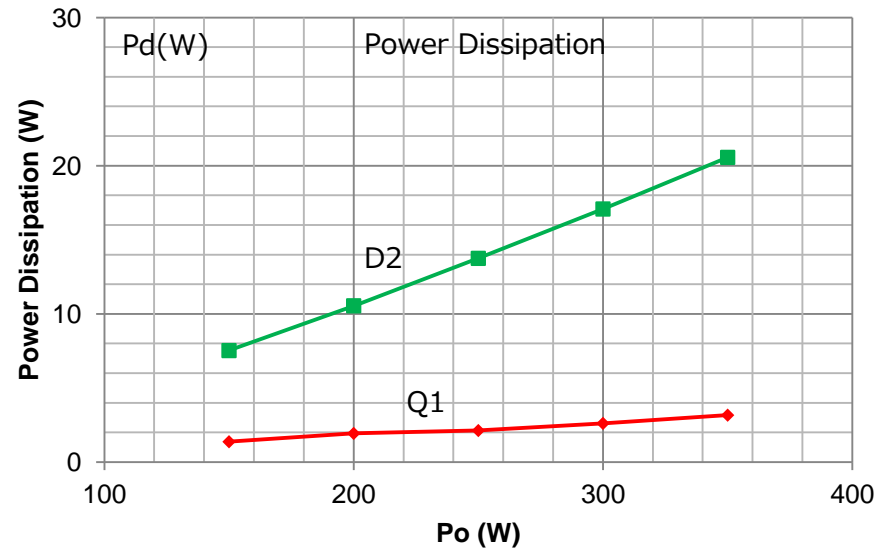
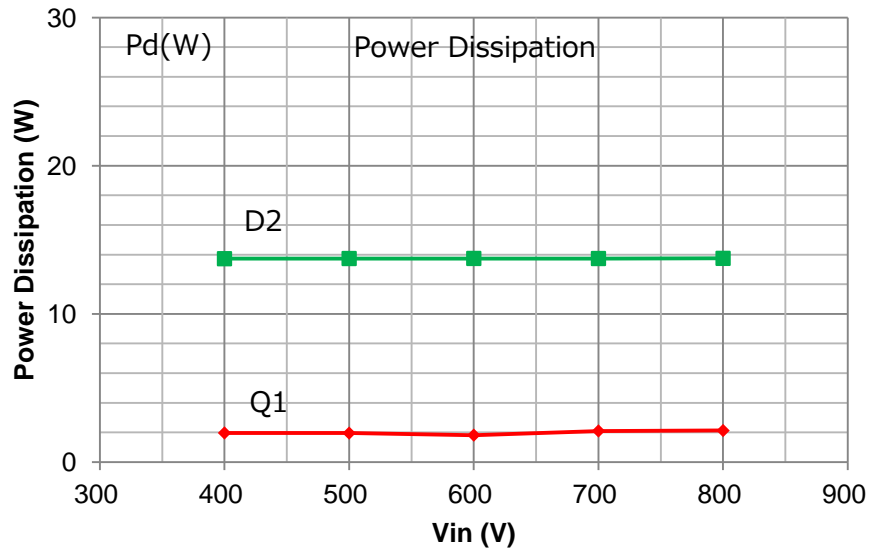
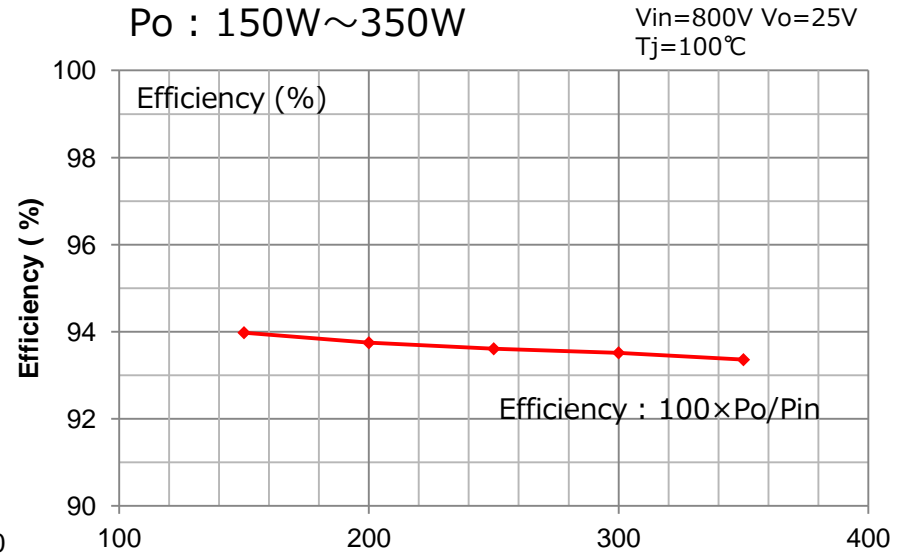
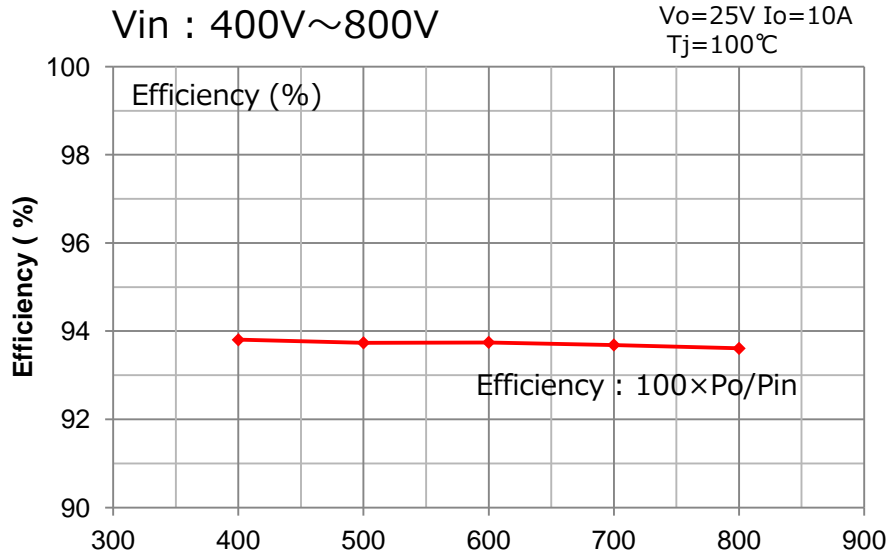


Vin=800V Vo=25V
Io=10A Tj=100°C

D2_Loss, Pd, Vf, IT2



Efficiency, Power Dissipation 1



Efficiency, Power Dissipation 2

