

DC-DC Quasi-Resonant 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)

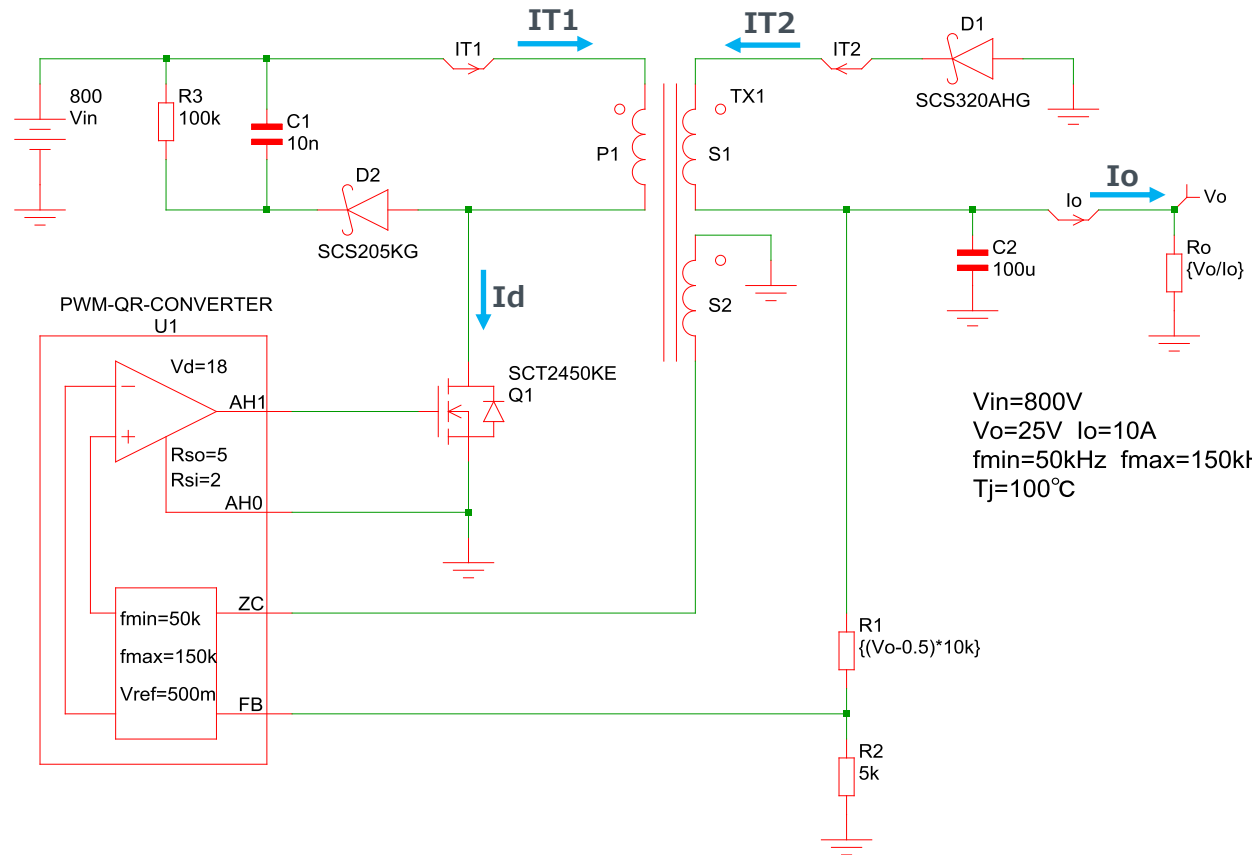
D1 : SCS320AHG
SiC SBD (650V 20A)

D2 : SCS205KG
SiC SBD (1200V 5A)

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

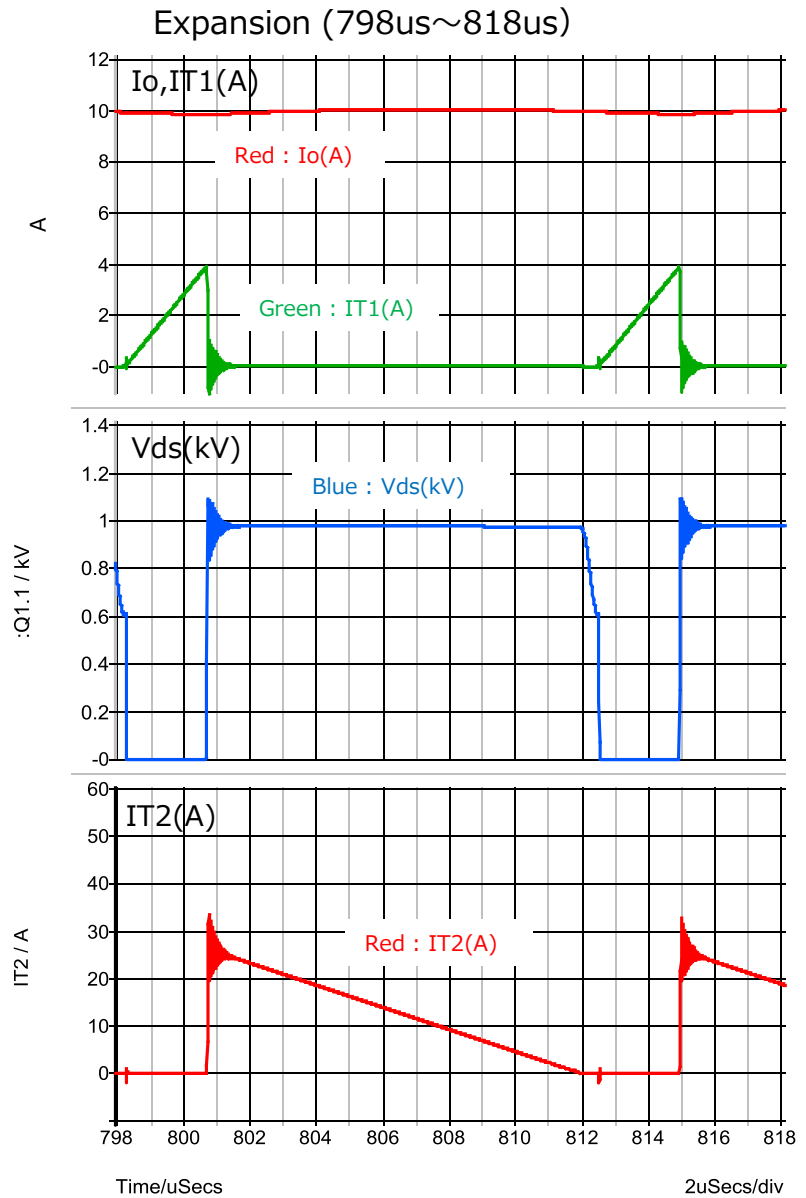
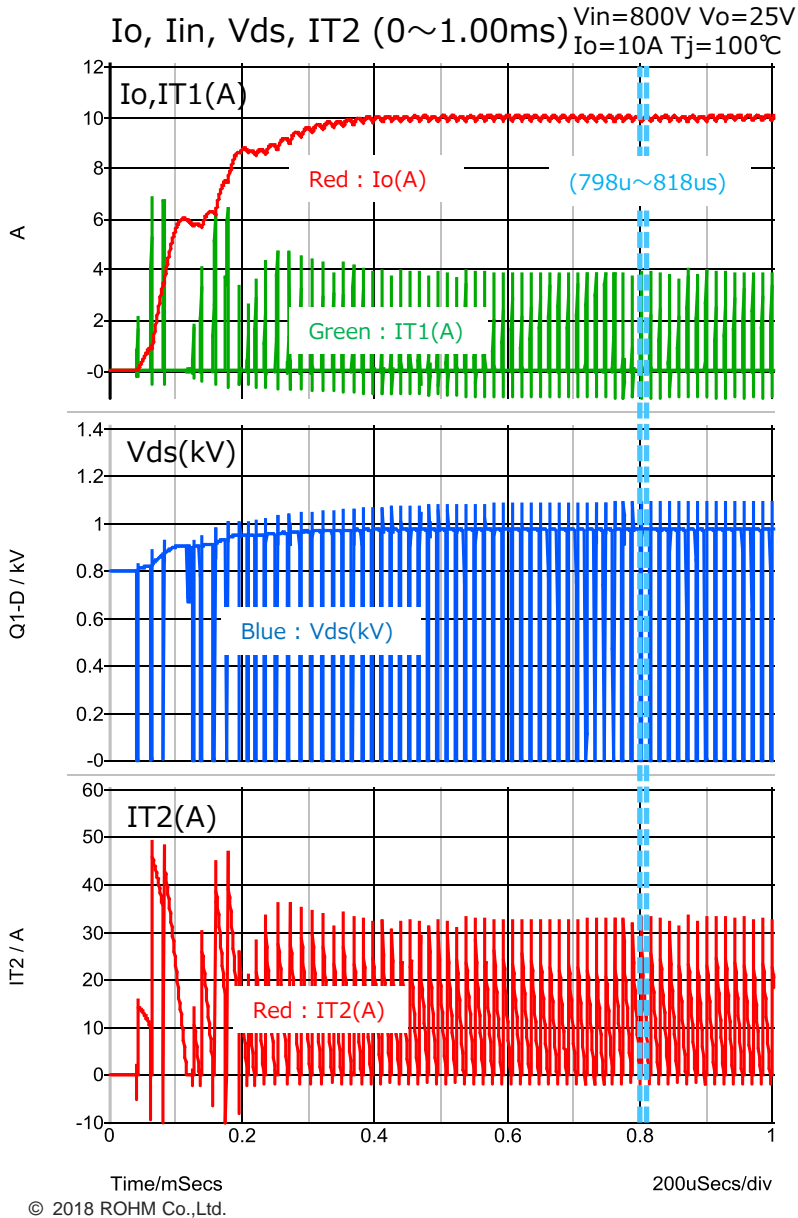
$T_j=100^\circ C$

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

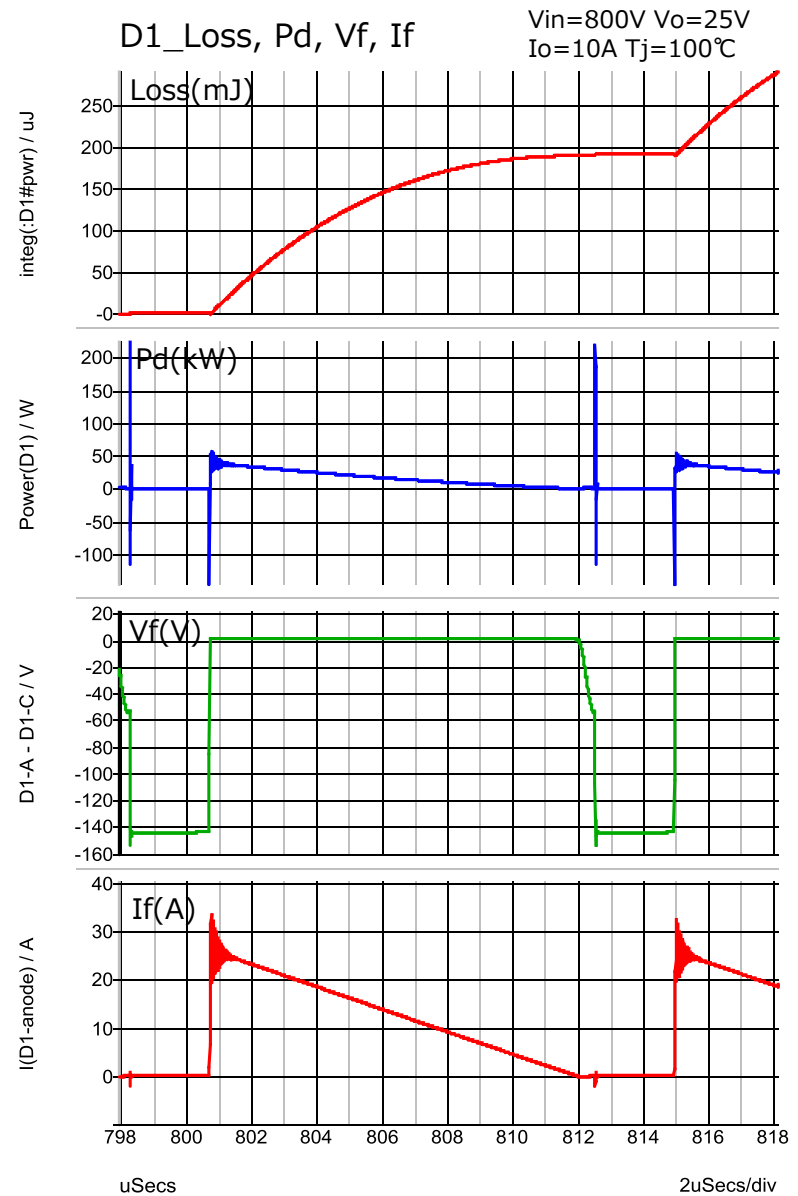
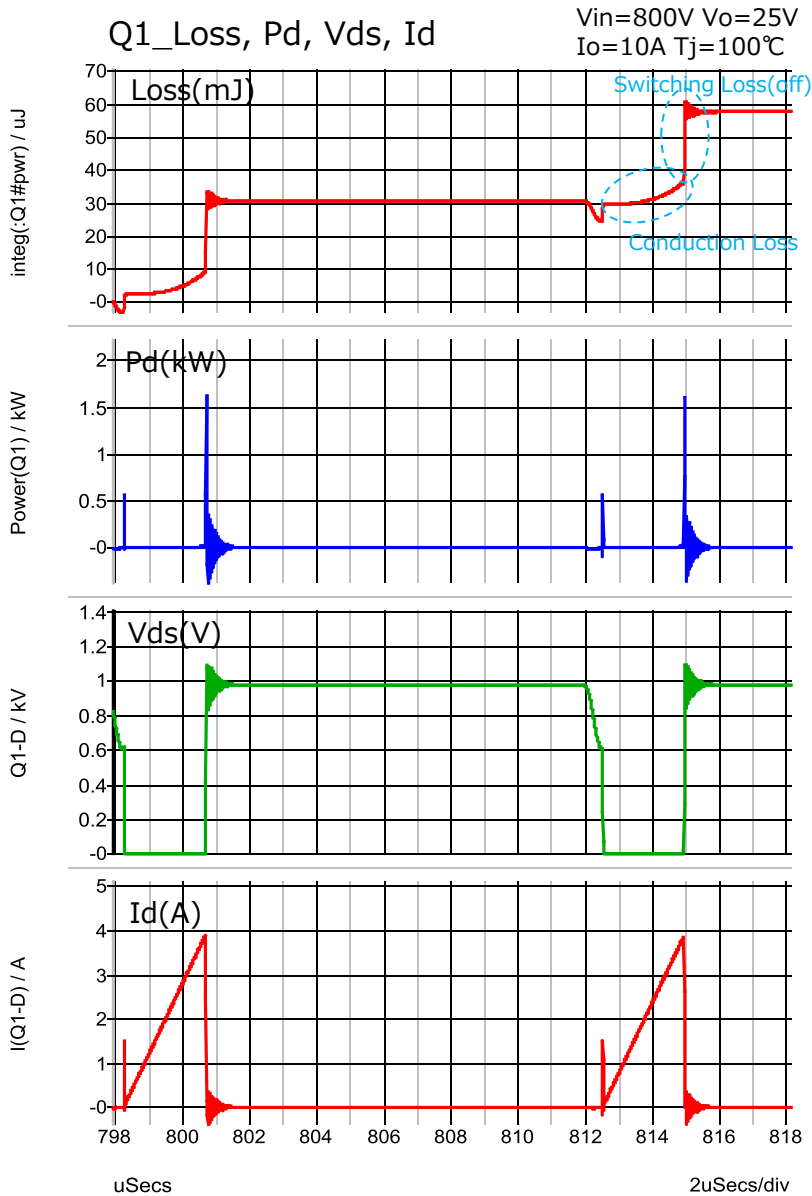


$V_{in}=800V$
 $V_o=25V$ $I_o=10A$
 $f_{min}=50kHz$ $f_{max}=150kHz$
 $T_j=100^\circ C$

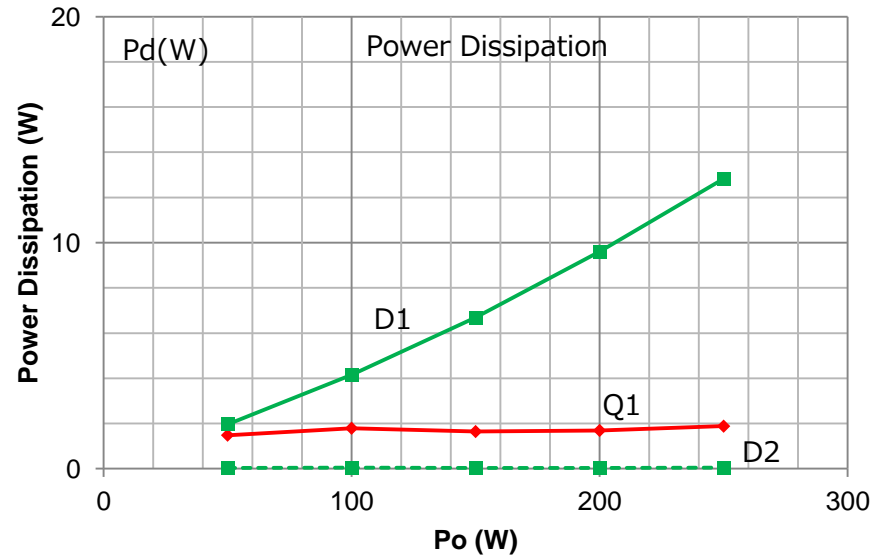
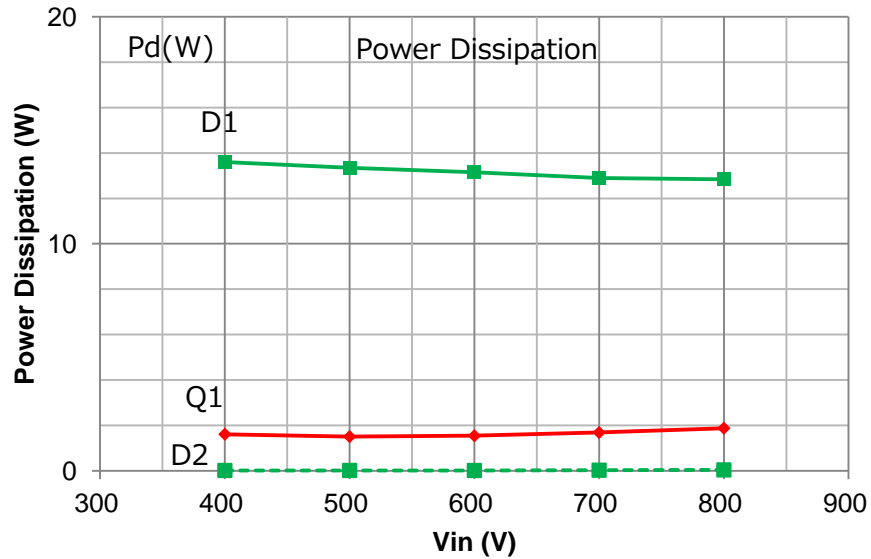
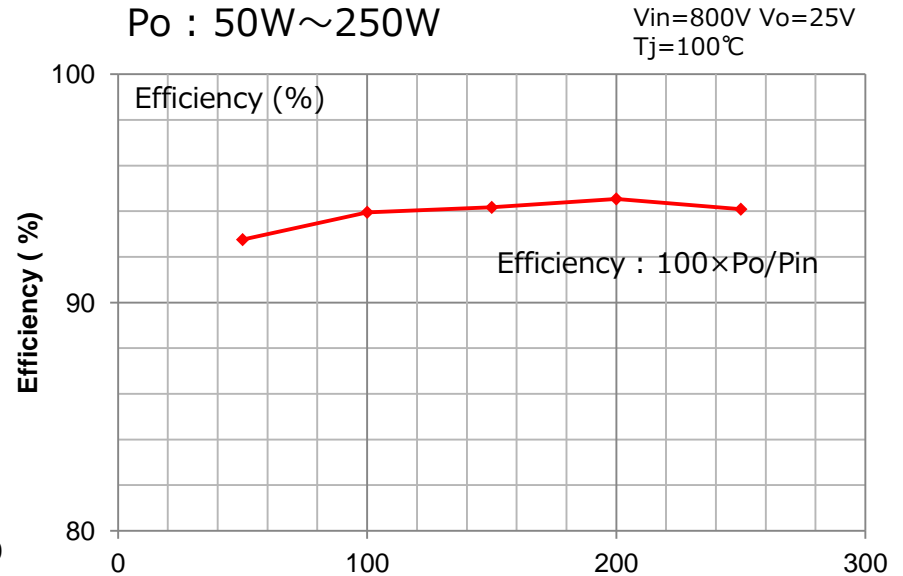
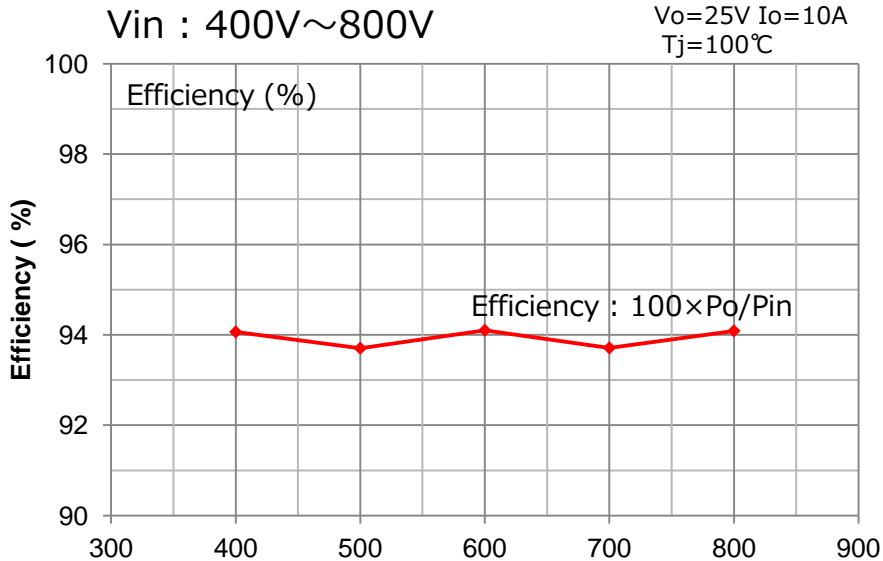
Simulation Waveform 1



Simulation Waveform 2



Efficiency, Power Dissipation 1



Efficiency, Power Dissipation 2

