

PFC CCM Synchro $V_{in}=200V$ $I_{in}=2.5A$

Input :
 $V_{in}=200V_{ac}$ $I_{in}=2.5A_{ac}$
 $f_{ps}=50HZ$

Output : $V_o=500V_{dc}$

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

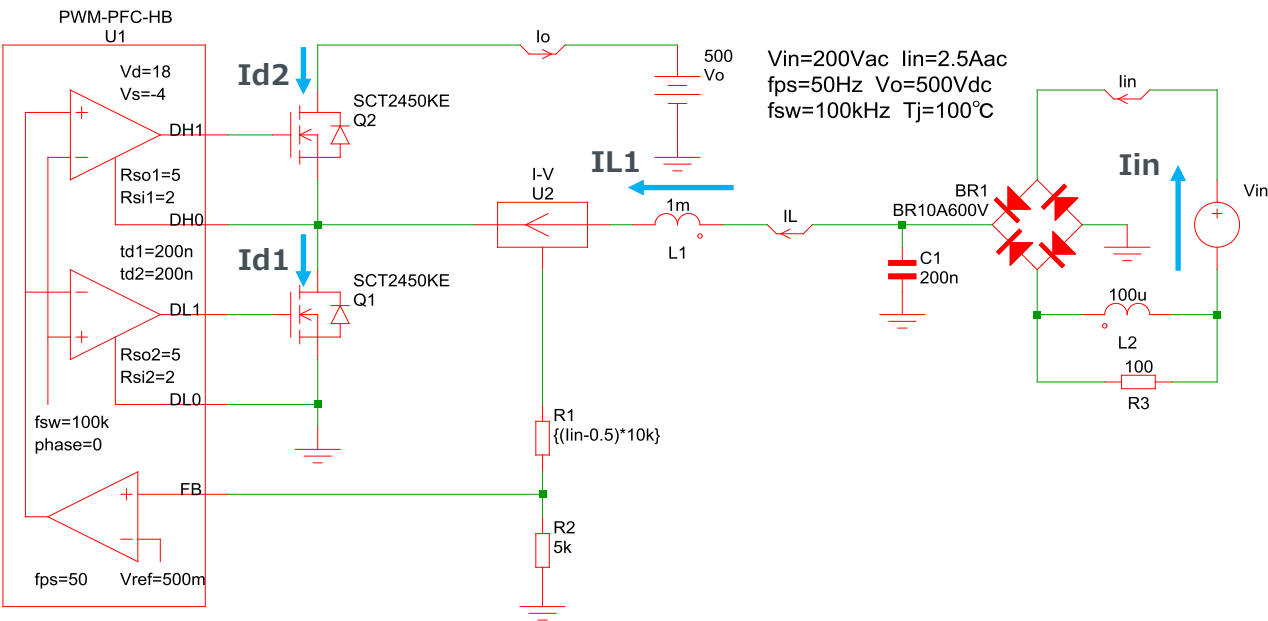
Q1,Q2 : SCT2450KE
SiC MOSFET (1200V 10A)

L1 : 1mH , L2 : 100uH

C1 : 200nF

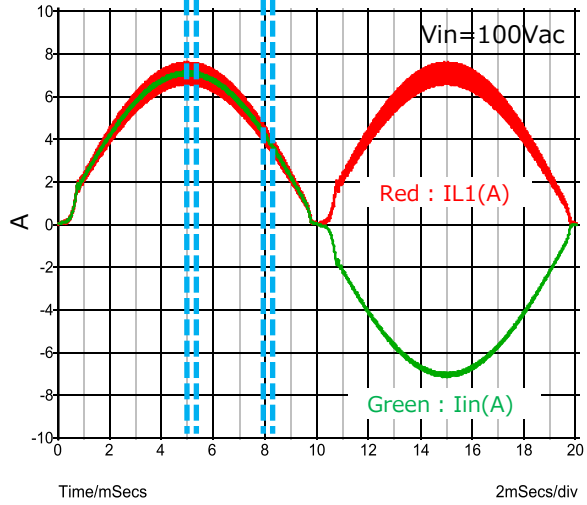
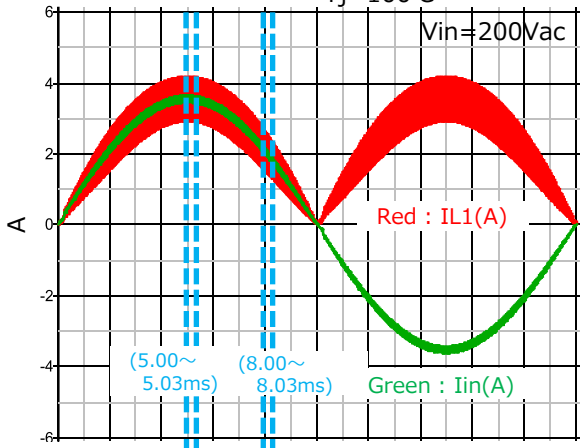
Tj : 100°C

PFC Continuous Current Mode Synchro $V_{in}=200V$ $I_{in}=2.5A$ Simulation Circuit

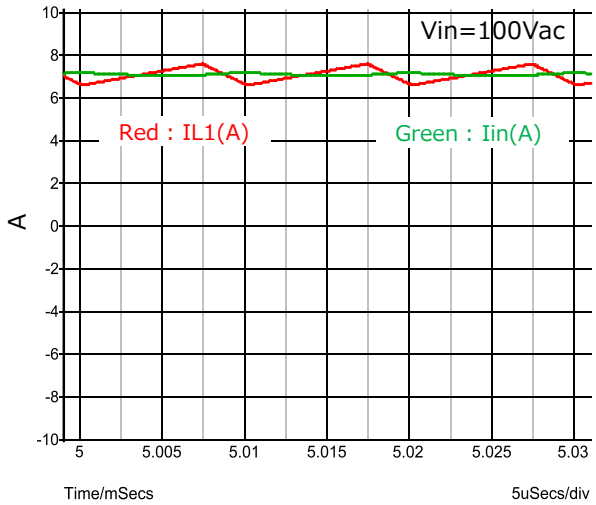
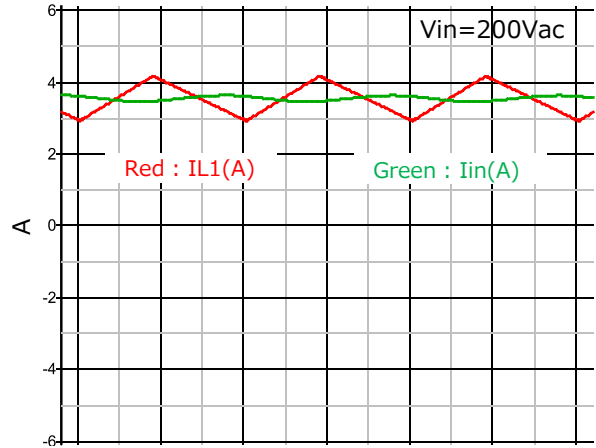


Simulation Waveform 1

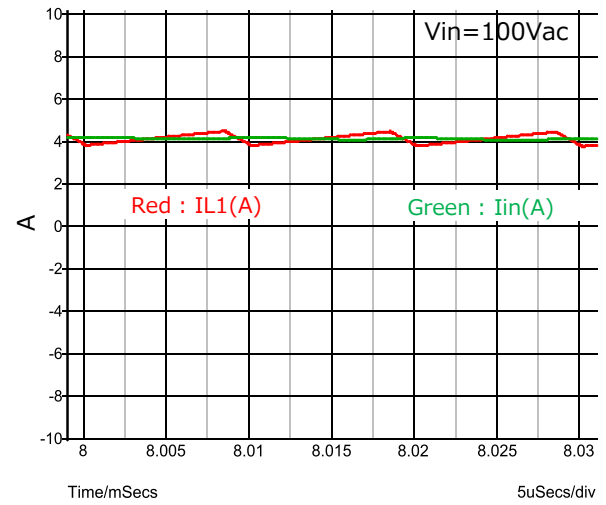
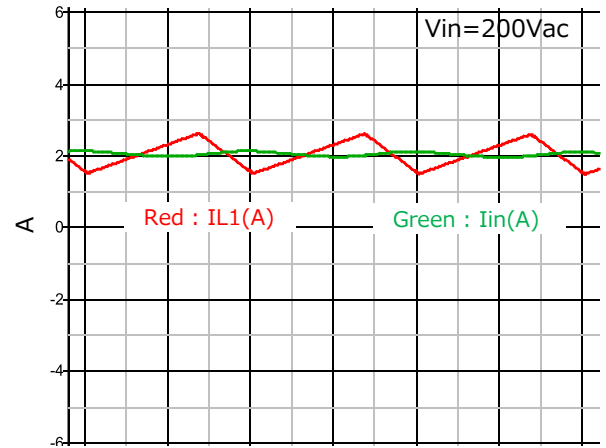
IL1, Iin
Pin=500W Vo=500Vdc
Tj=100°C



Expansion (5.00~5.03ms)

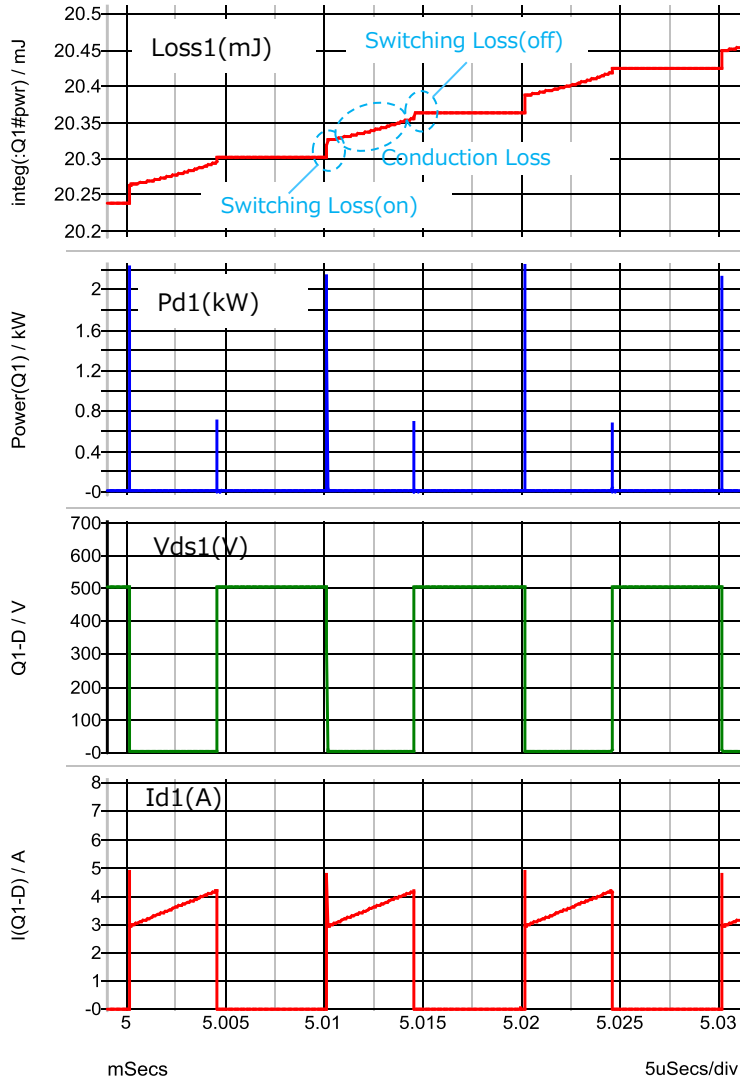


Expansion (8.00~8.03ms)

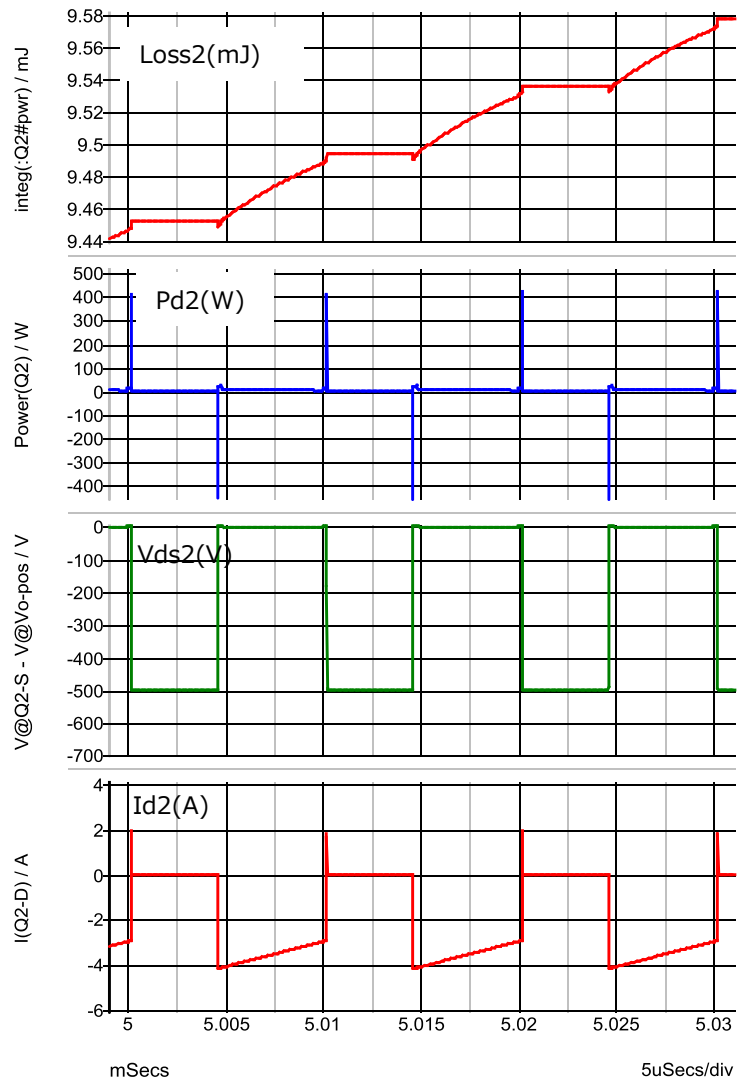


Simulation Waveform 2

Q1_Loss1, Pd1, Vds1, Id1 Vin=200Vac Iin=2.5Aac Vo=500Vdc Tj=100°C



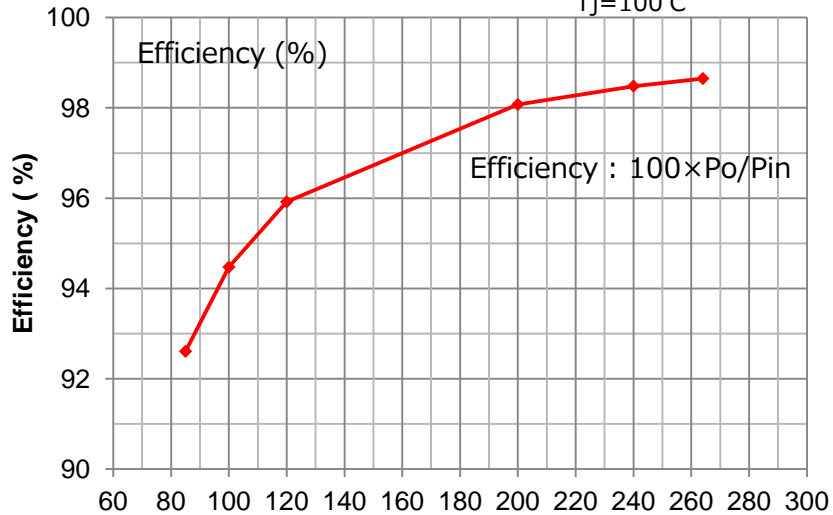
Q2_Loss2, Pd2, Vds2, Id2 Vin=200Vac Iin=2.5Aac Vo=500Vdc Tj=100°C



Efficiency, Power Dissipation 1

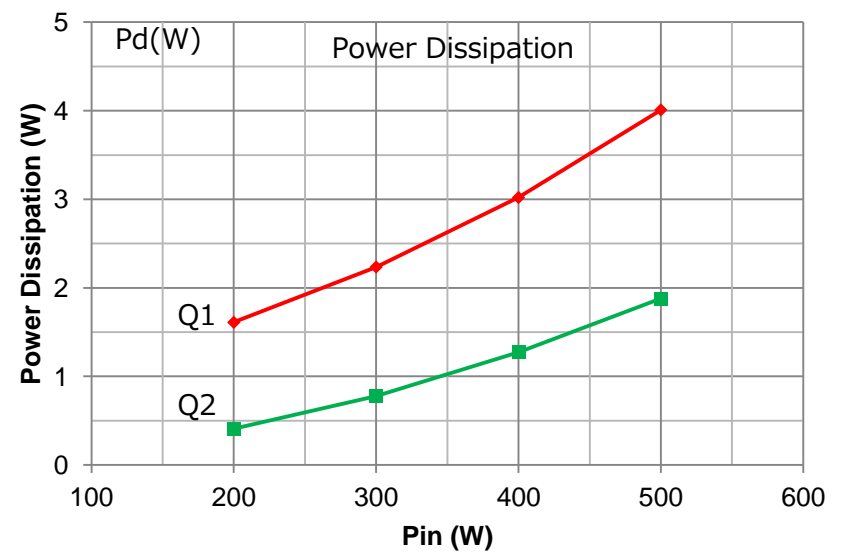
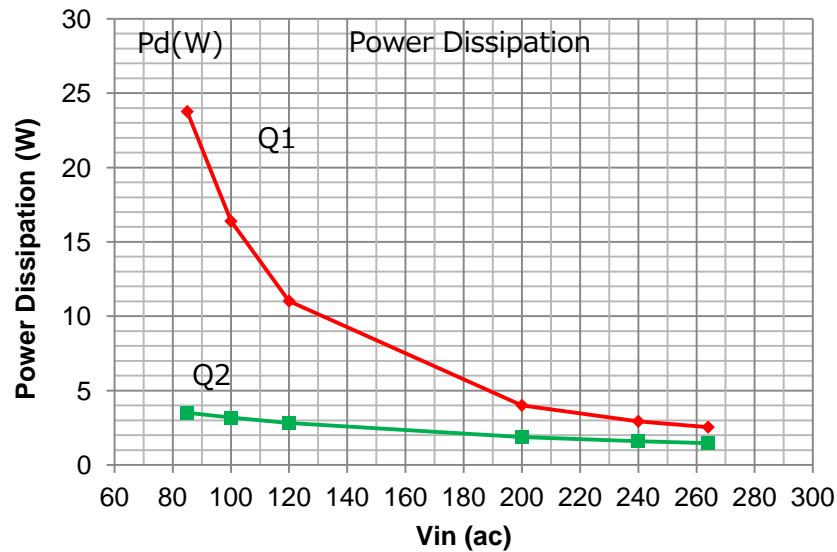
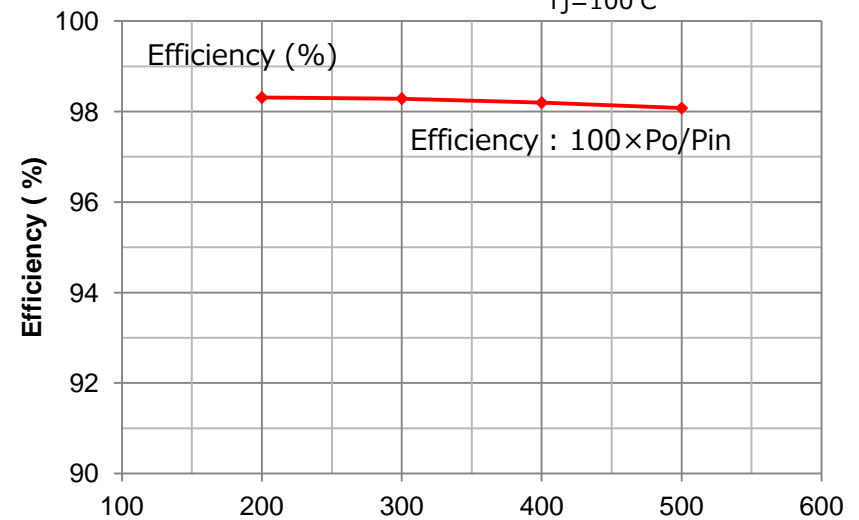
Vin : 85Vac~264Vac

Pin=500W Vo=500Vdc
Tj=100°C



Pin : 200W~500W

Vin=200Vac Vo=500Vdc
Tj=100°C



Efficiency, Power Dissipation 2

