

PFC DCM Diode-Bridge-Less Synchro $V_{in}=200V$ $I_{in}=50A$

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

Output : $V_o=500V_{dc}$

Gate Drive : $V_d=18V$
 $R_{source}=2\Omega$
 $R_{sink}=1\Omega$

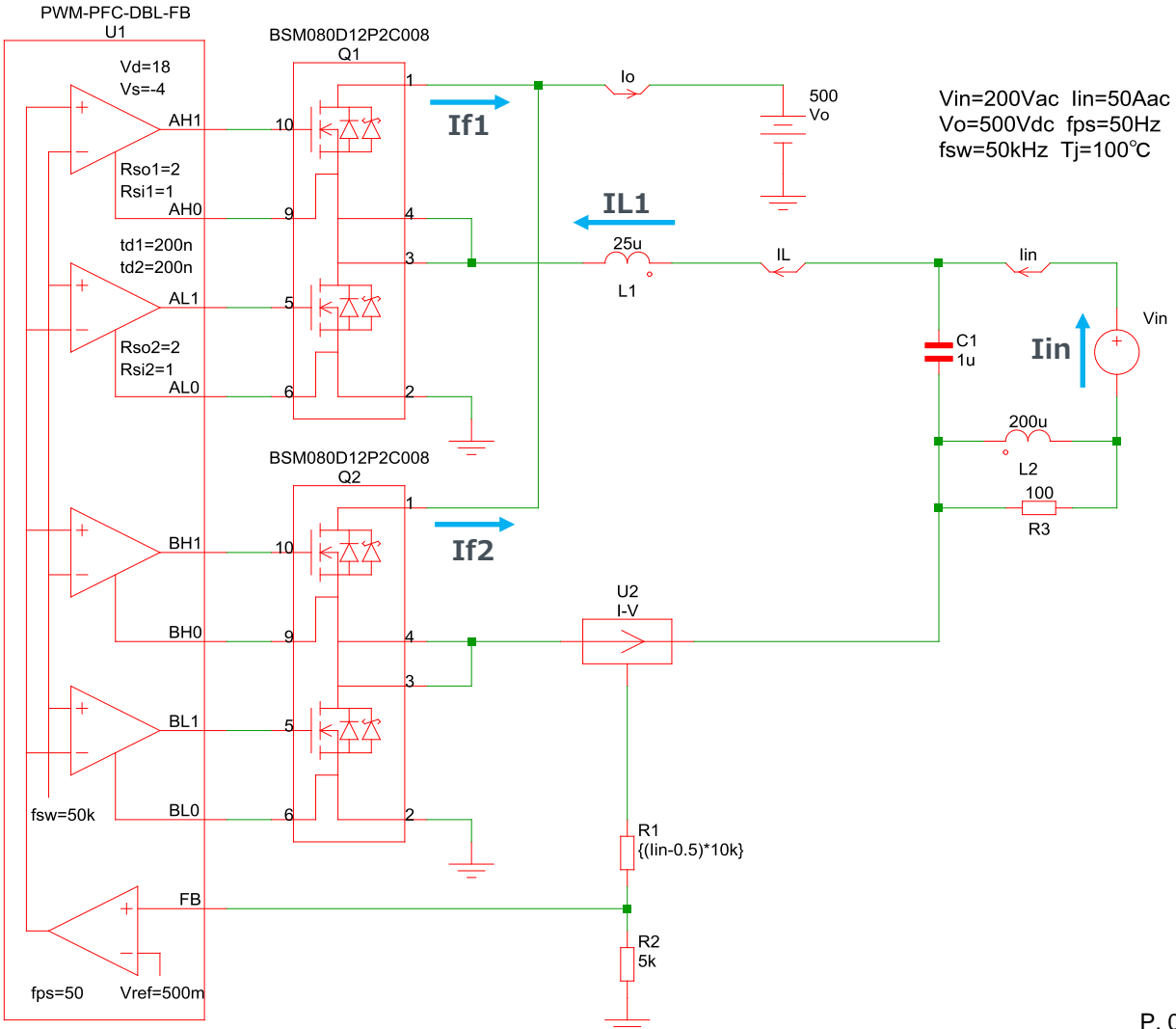
Q1,Q2 : BSM080D12P2C008
SiC Power Module
(1200V 80A)

L1 : 25uH L2 : 200uH

C1 : 1uF

Tj : 100°C

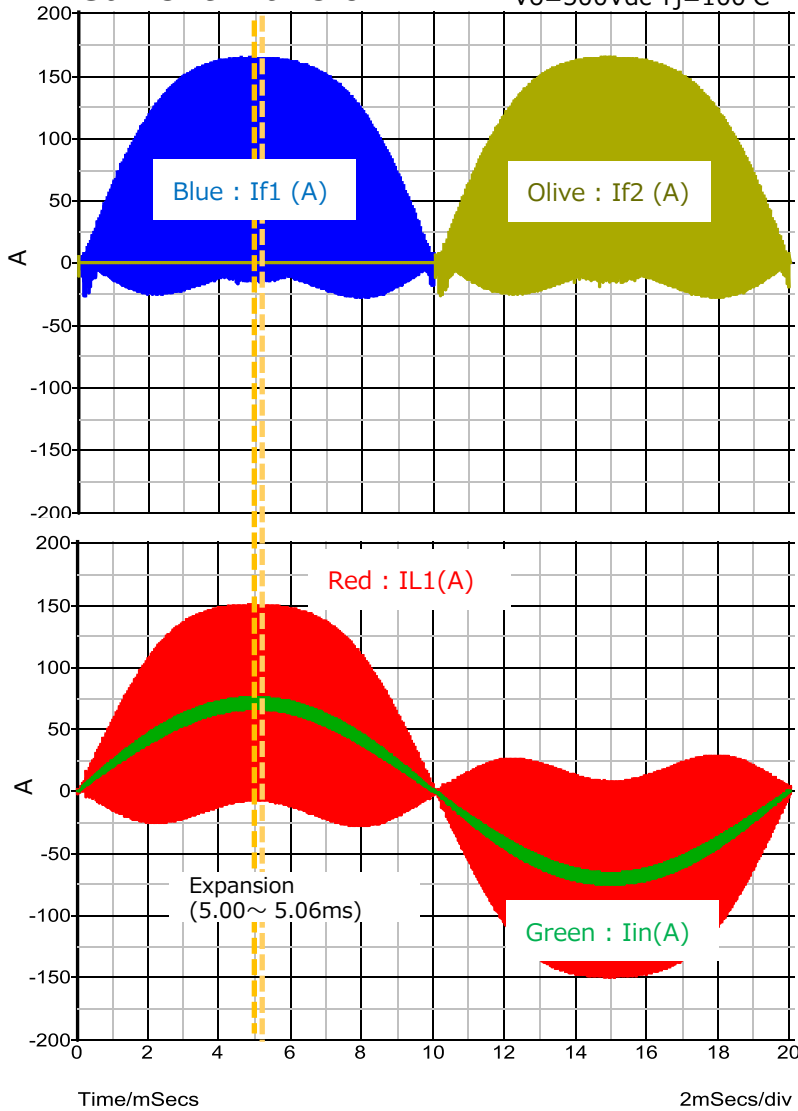
PFC Discontinuous Current Mode Diode-Bridge-Less Synchro $V_{in}=200V$ $I_{in}=50A$ Simulation Circuit



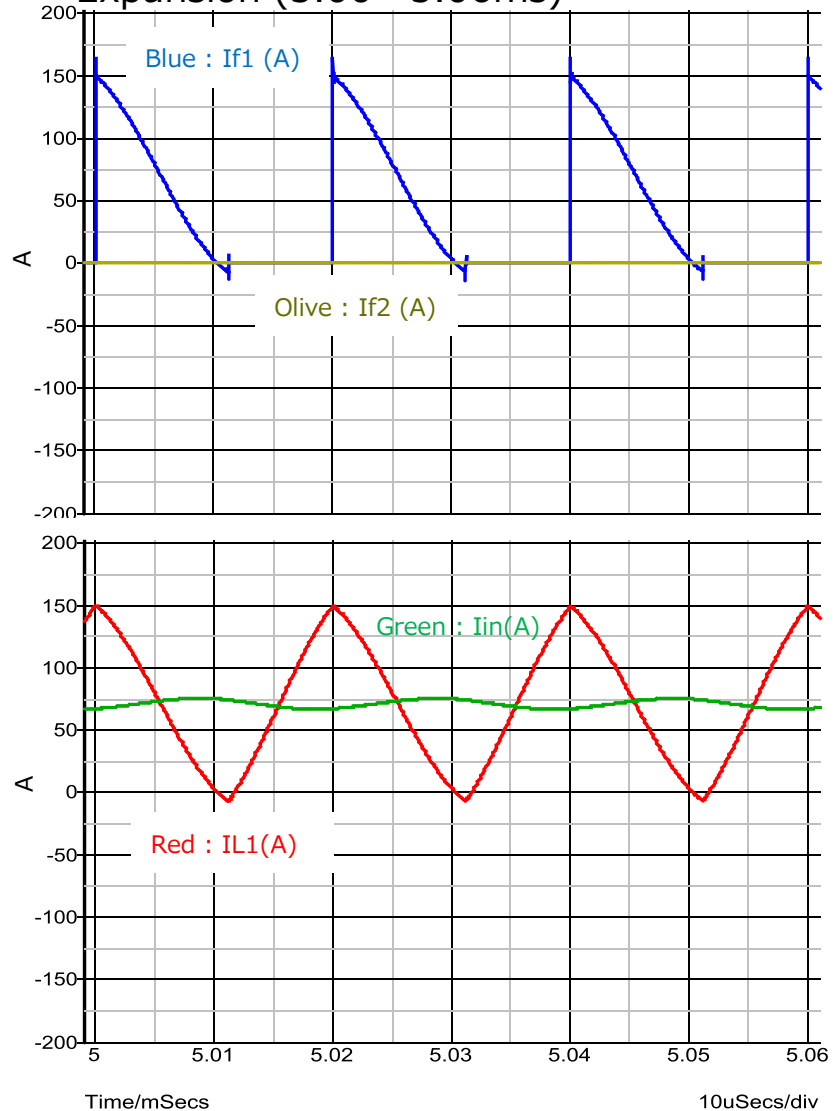
Simulation Waveform

$V_{in}=200V_{ac}$ $I_{in}=50A_{ac}$
 $V_o=500V_{dc}$ $T_j=100^{\circ}C$

Current Waveform

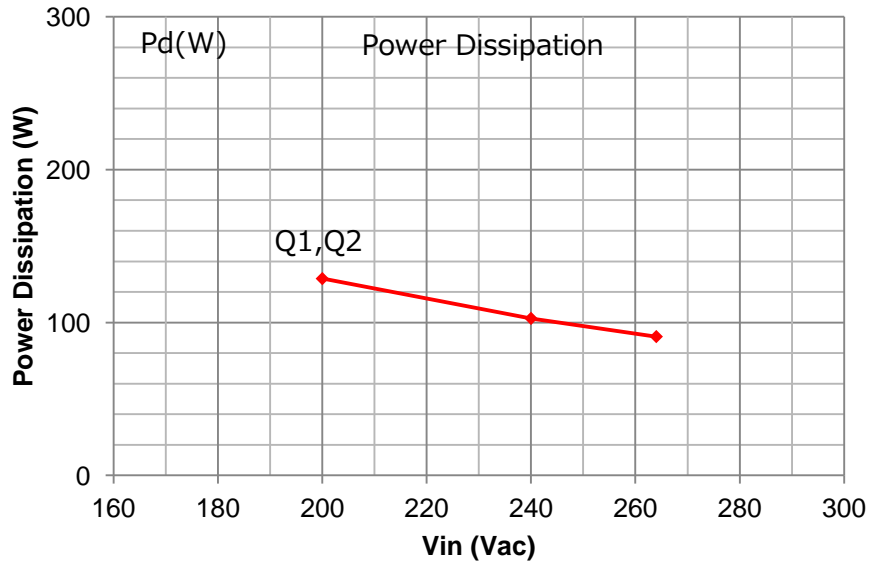
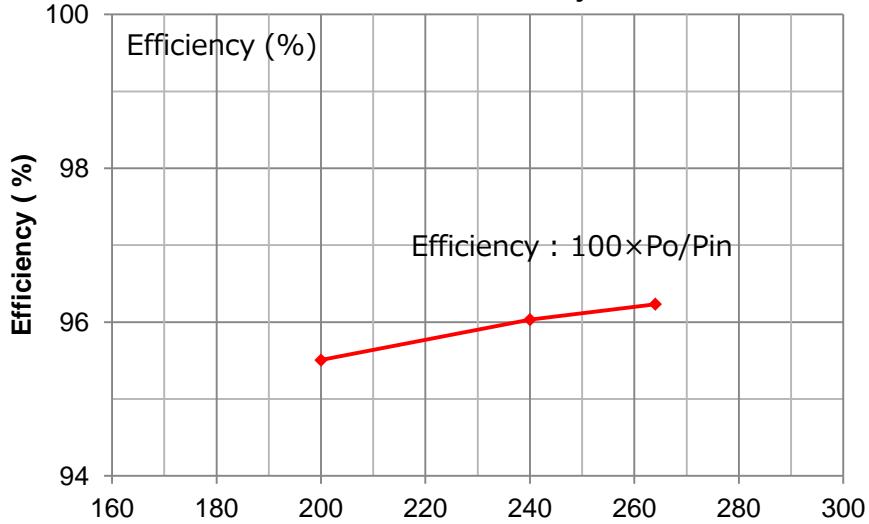


Expansion (5.00~5.06ms)



Efficiency, Power Dissipation

Vin : 200Vac~264Vac Pin=10kW Vo=500Vdc
Tj=100°C



Tj : -25°C~125°C Vin=200Vac Iin=50Aac
Vo=500Vdc

