

# PFC DCM Synchro 2-Phase $V_{in}=200V$ $I_{in}=5A$

**Input :**  
 $V_{in}=200V_{ac}$   $I_{in}=5A_{ac}$   
 $f_{ps}=50Hz$

**Output :  $V_o=500V_{dc}$**

**Gate Drive :  $V_d=10V$**   
 $R_{source}=5\Omega$   
 $R_{sink}=2\Omega$

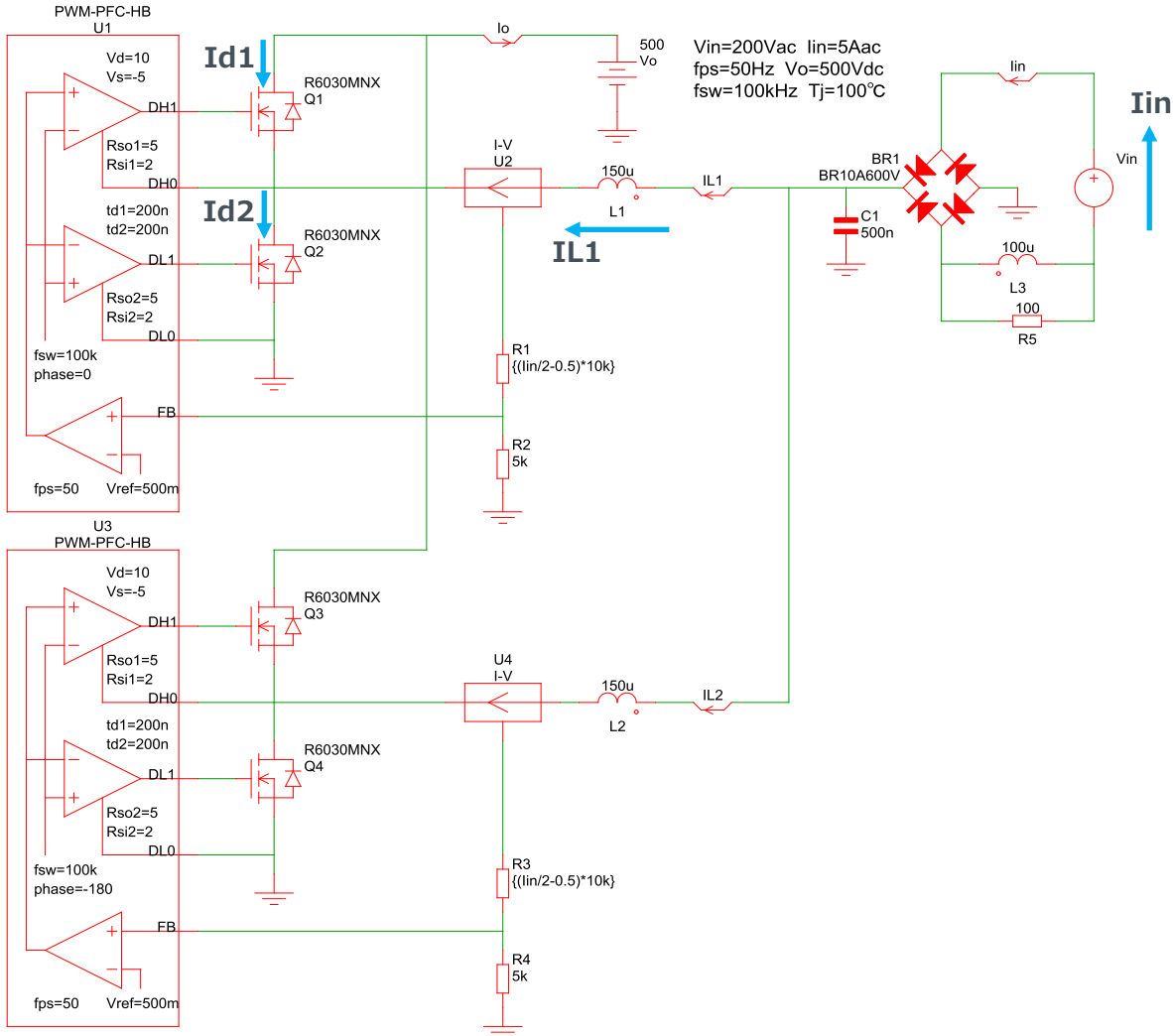
**$Q1, Q2, Q3, Q4 : R6030MNX$**   
**MOSFET (600V 30A)**

**$L1, L2 : 150\mu H$   $L3 : 100\mu H$**

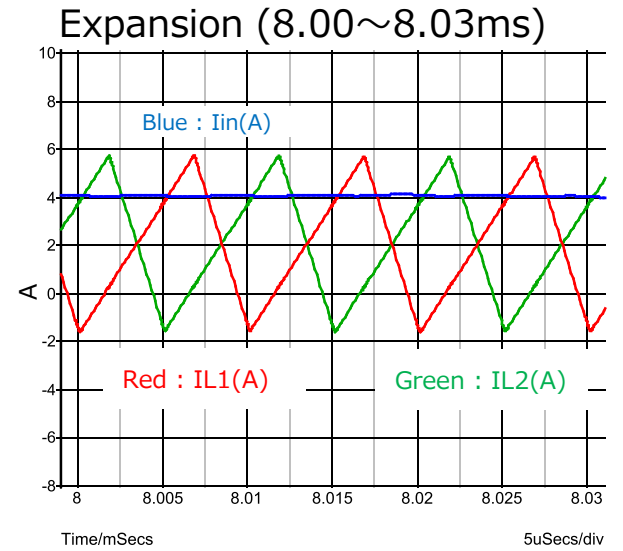
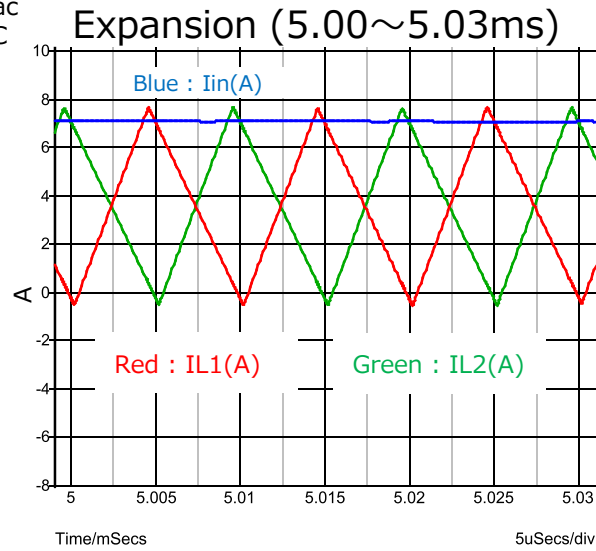
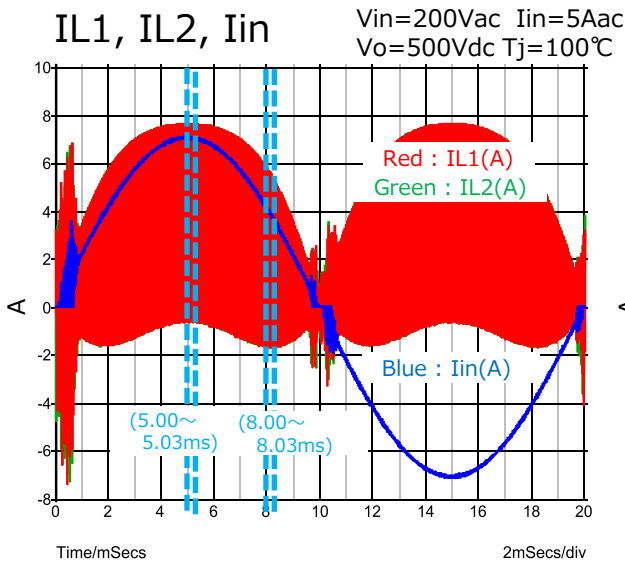
**$C1 : 500nF$**

**$T_j : 100^\circ C$**

## PFC Discontinuous Current Mode Synchro 2-Phase $V_{in}=200V$ $I_{in}=5A$ Simulation Circuit



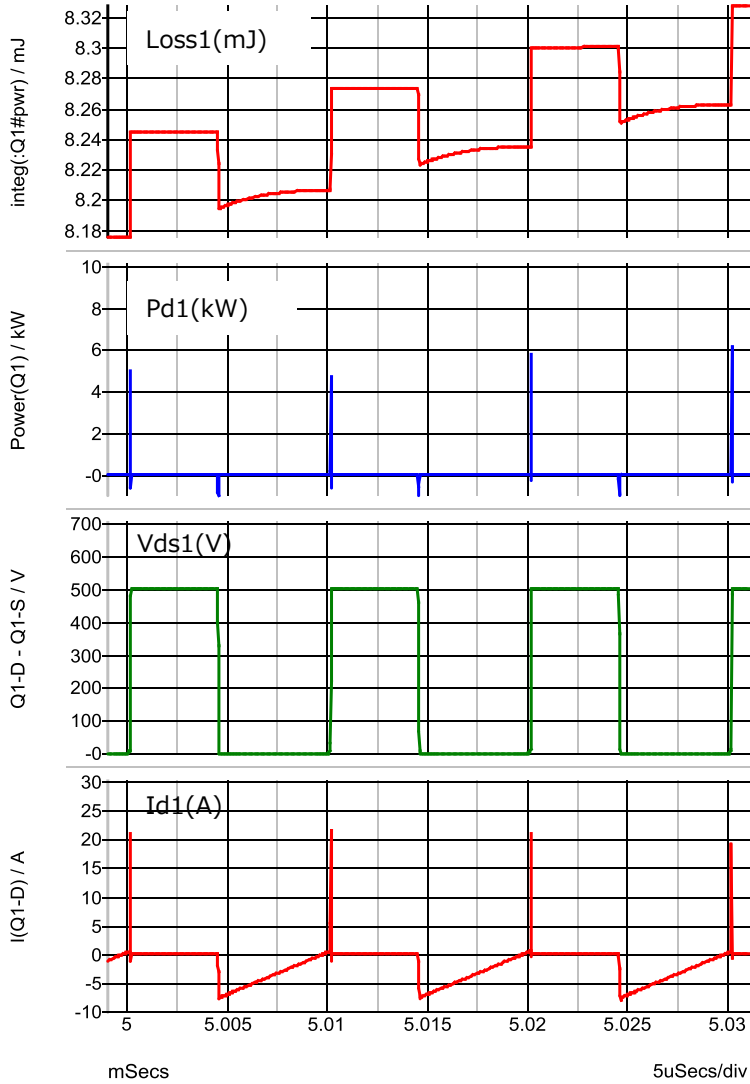
# Simulation Waveform 1



# Simulation Waveform 2

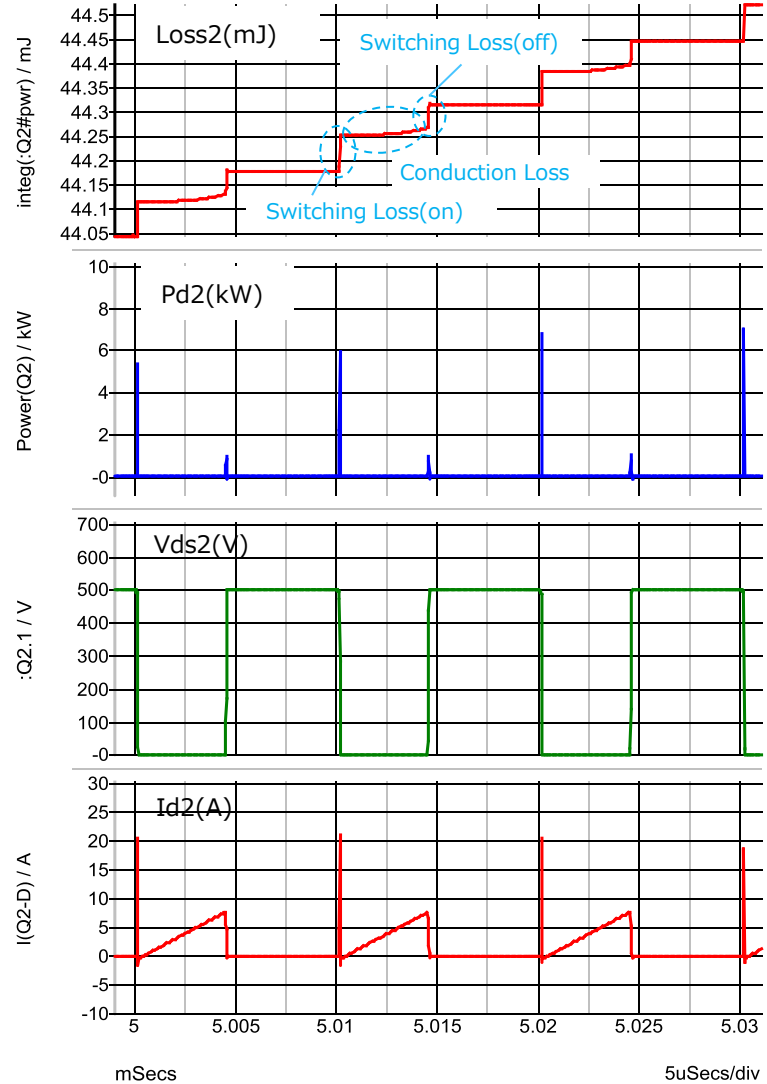
### Q1\_Loss1, Pd1, Vds1, Id1

Vin=200Vac Iin=5Aac  
Vo=500Vdc Tj=100°C



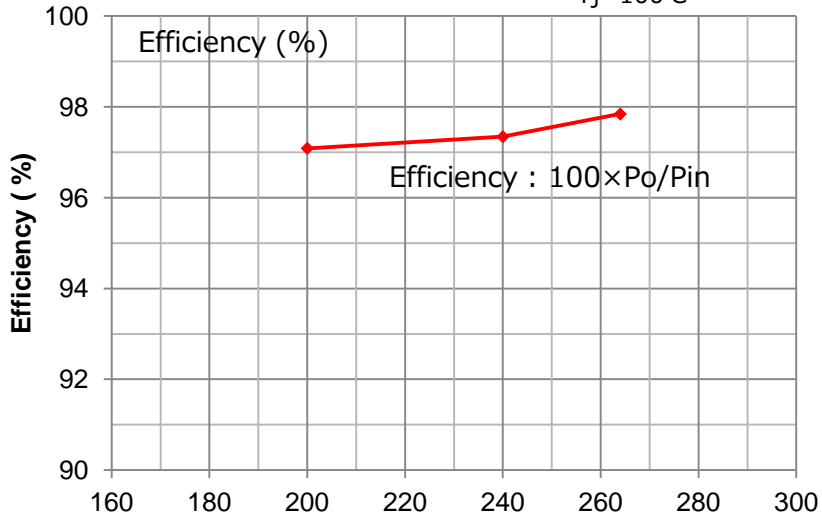
### Q2\_Loss2, Pd2, Vds2, Id2

Vin=200Vac Iin=5Aac  
Vo=500Vdc Tj=100°C



# Efficiency, Power Dissipation

Vin : 200Vac~264Vac Pin=1kW Vo=500Vdc Tj=100°C



Tj : -25°C~125°C Vin=200Vac Iin=5Aac Vo=500Vdc

