

# PFC Critical Current Mode 3P-Interleave Pin=600W

## PFC Critical Current Mode 3P-Interleave Simulation Circuit

Input: Pin=600W fps=50Hz  
Vps=85Vac ~ 264Vac

Output: Vo=420Vdc

fsw(max): fmax=200kHz

Gate Drive: Vd=10V  
R source=5Ω  
R sink=2Ω

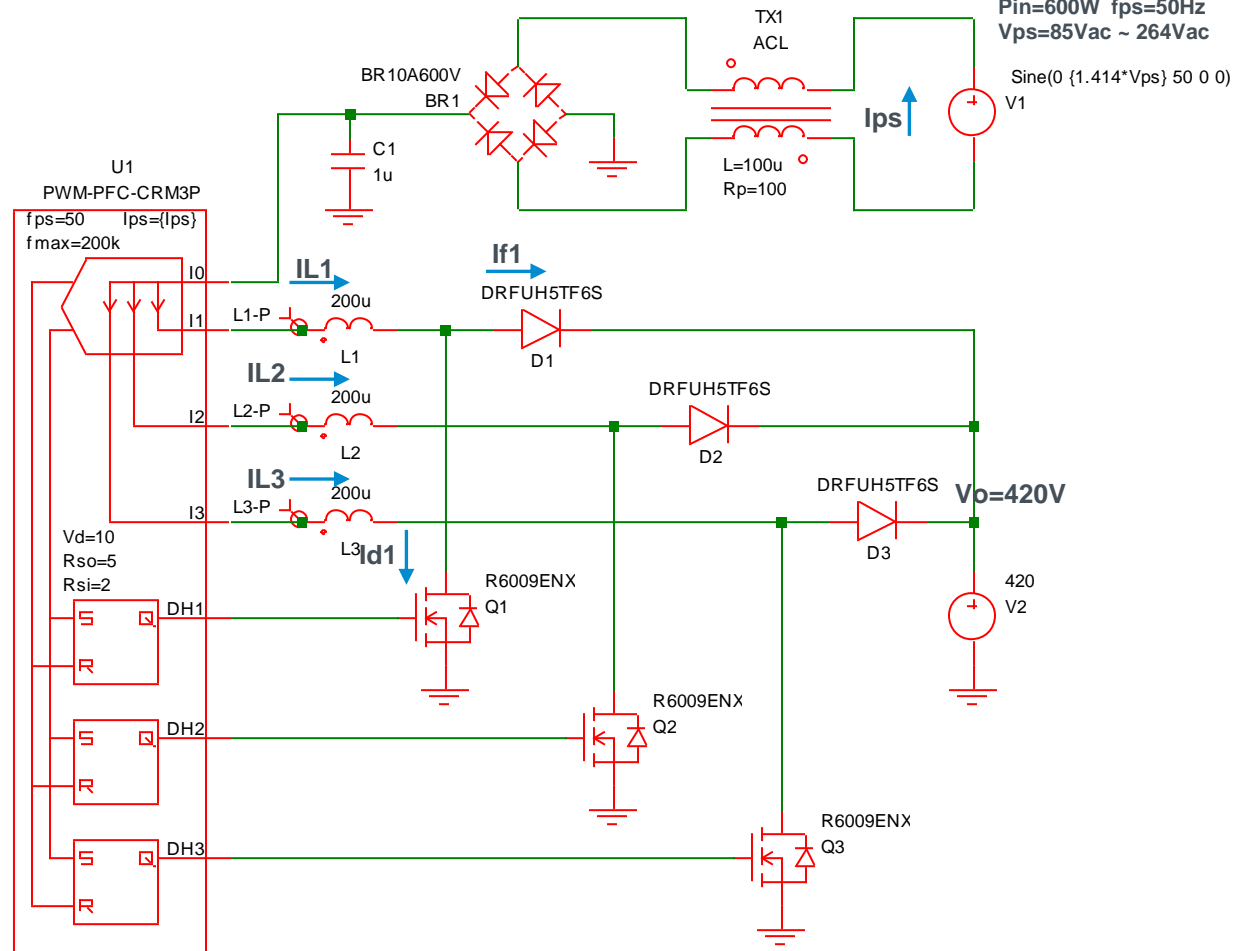
Q1,2,3: R6009ENX  
MOSFET (600V 9A)  
D1,2,3: RFUH5TF6S  
FRD (600V 5A)

L1,2,3: 200uH

BR1: 600V 10A

TX1: LPF 500uH // 100Ω

Tj=-25°C ~ 125°C



ROHM PD SimG

Pin=600W fps=50Hz  
Vps=85Vac ~ 264Vac

Sine(0 {1.414\*Vps} 50 0 0)

V1

Ips

L=100u

Rp=100

C1

1u

BR1

BR10A600V

TX1

ACL

L=100u

Rp=100

Ips

V1

Sine(0 {1.414\*Vps} 50 0 0)

Vps=85Vac ~ 264Vac

Pin=600W fps=50Hz

ROHM PD SimG

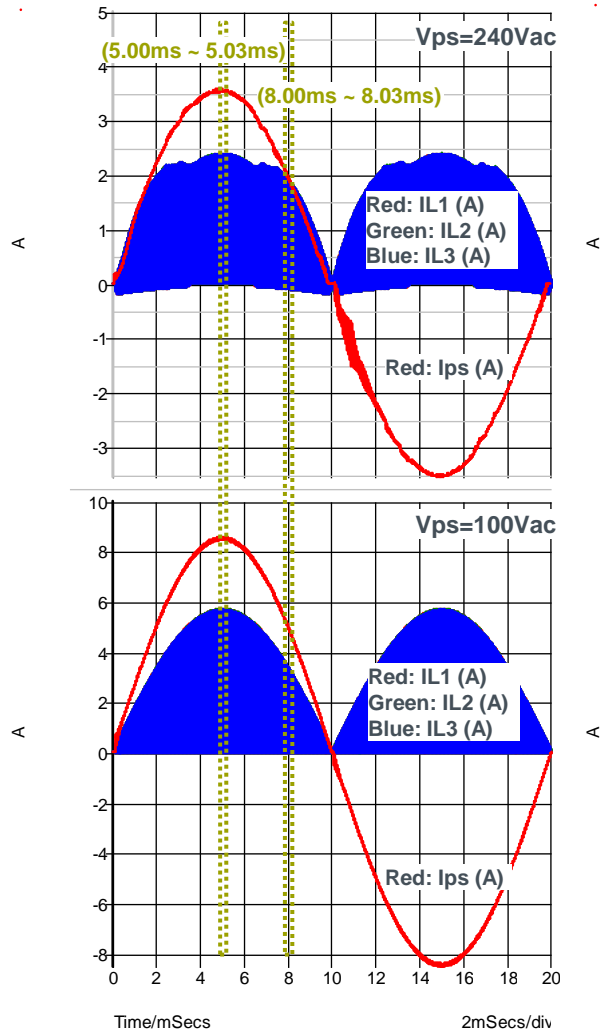
## SIMetrix SPICE Simulation Data File



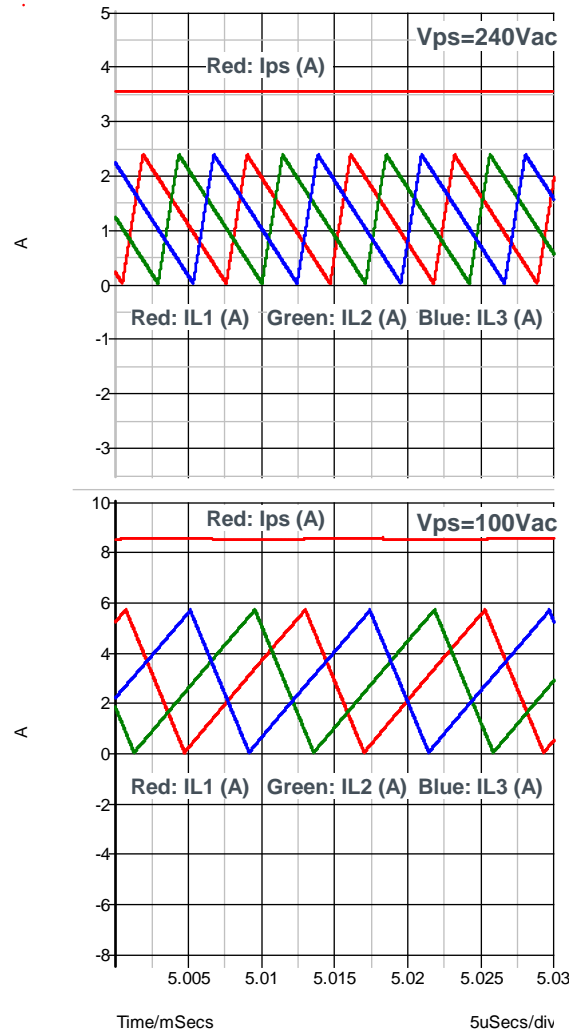
PFC Critical Current Mode 3P-Interleave Pin=600W.sxsch

# Simulation Waveform 1

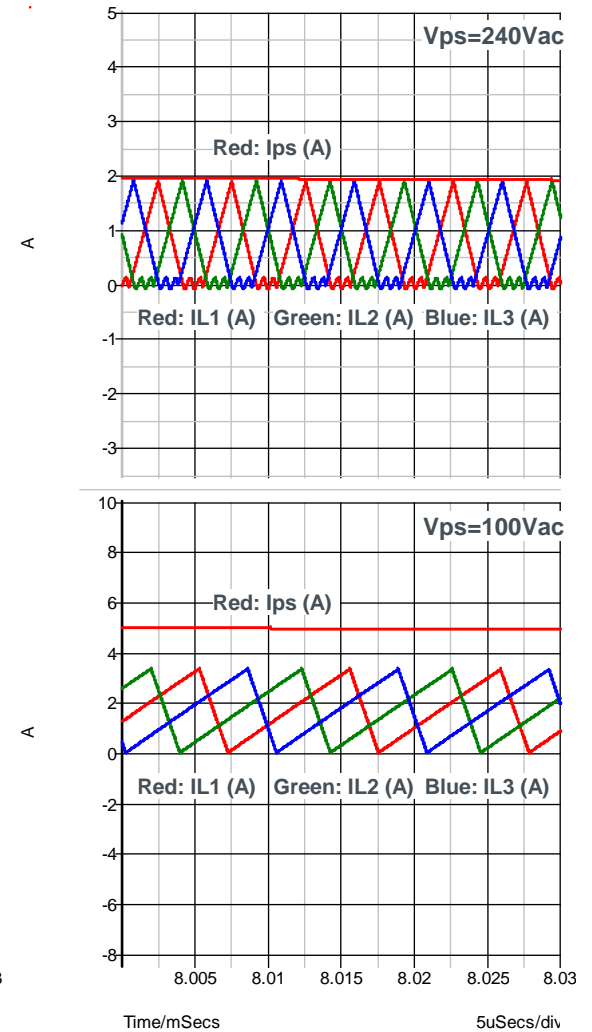
**IL1, IL2, IL3, Ips** Pin=600W Vo=420V  
Tj=100°C



**Expansion (5.00ms ~ 5.03ms)**



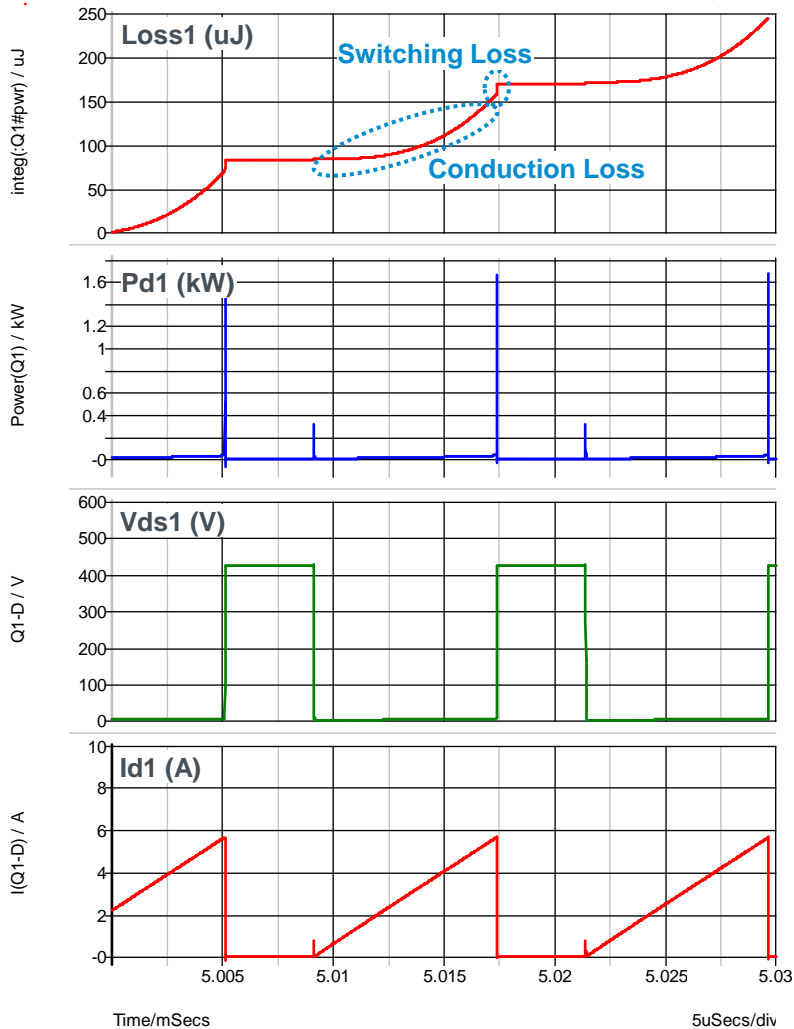
**Expansion (8.00ms ~ 8.03ms)**



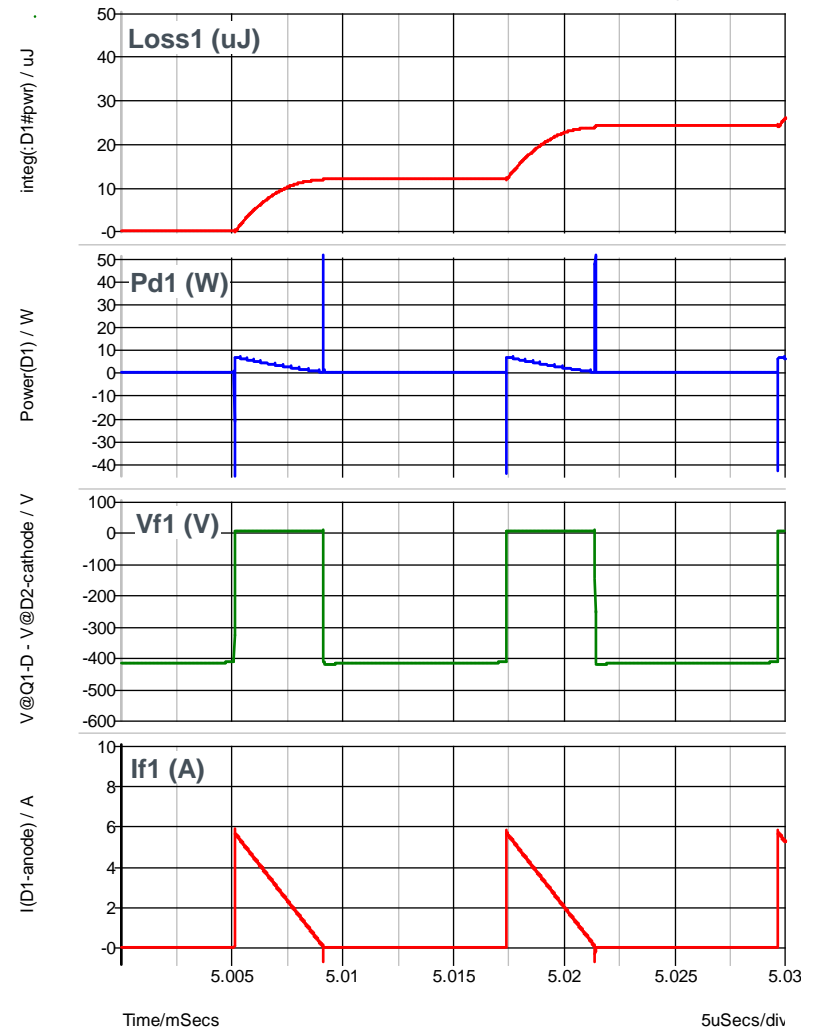
# Simulation Waveform 2

ROHM PD SimG

**Q1\_Loss1, Pd1, Vds1, Id1** Pin=600W Vps=100Vac  
Vo=420V Tj=100°C

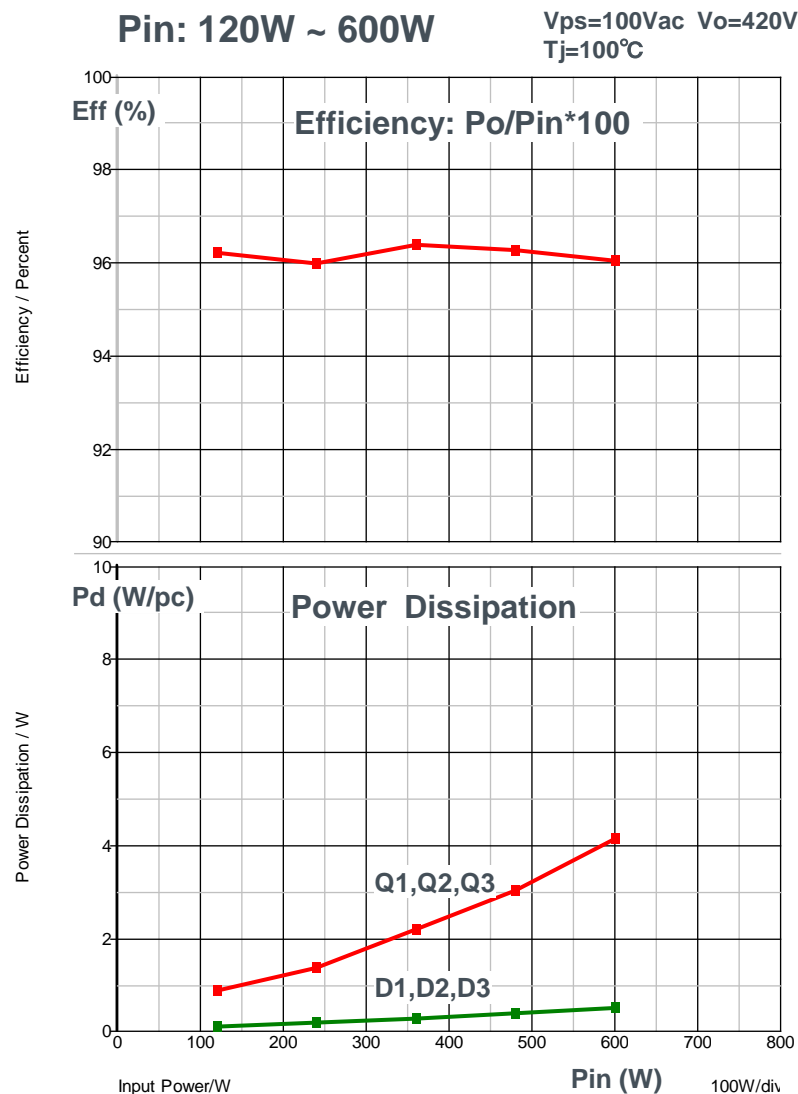
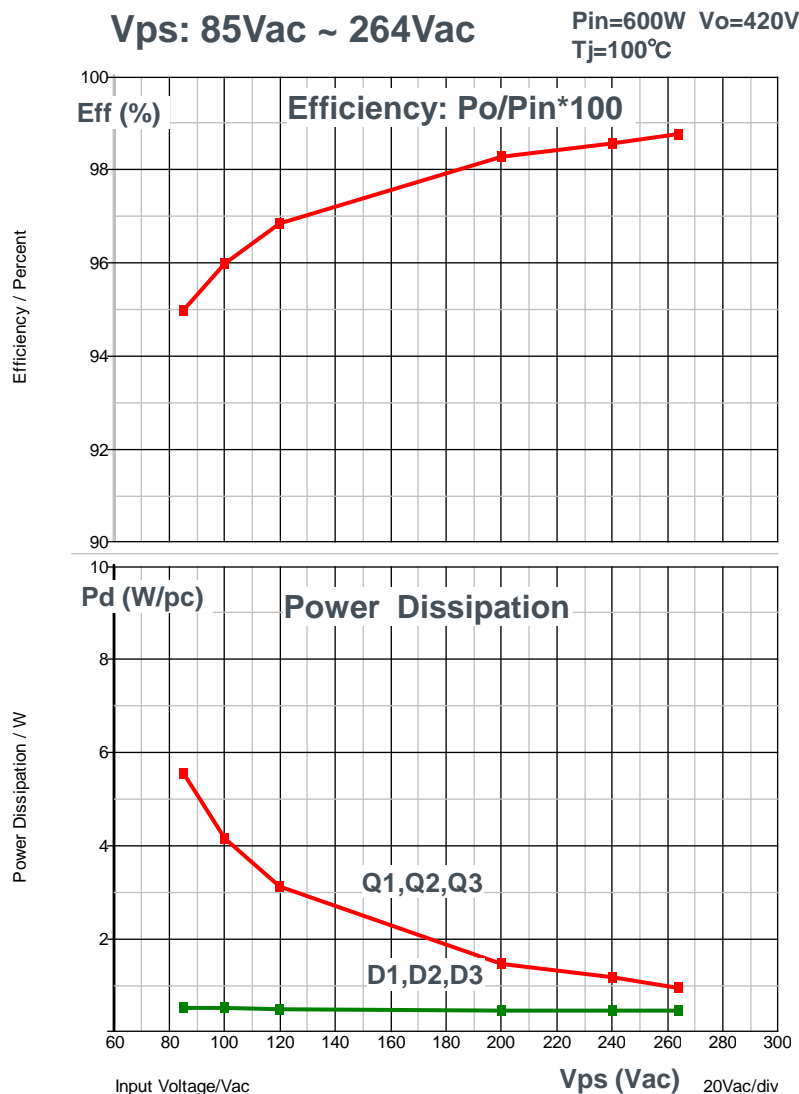


**D1\_Loss1, Pd1, Vf1, If1** Pin=600W Vps=100Vac  
Vo=420V Tj=100°C



# Efficiency, Power Dissipation 1

ROHM PD SimG



# Efficiency, Power Dissipation 2

## ROHM PD SimG

