

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

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)

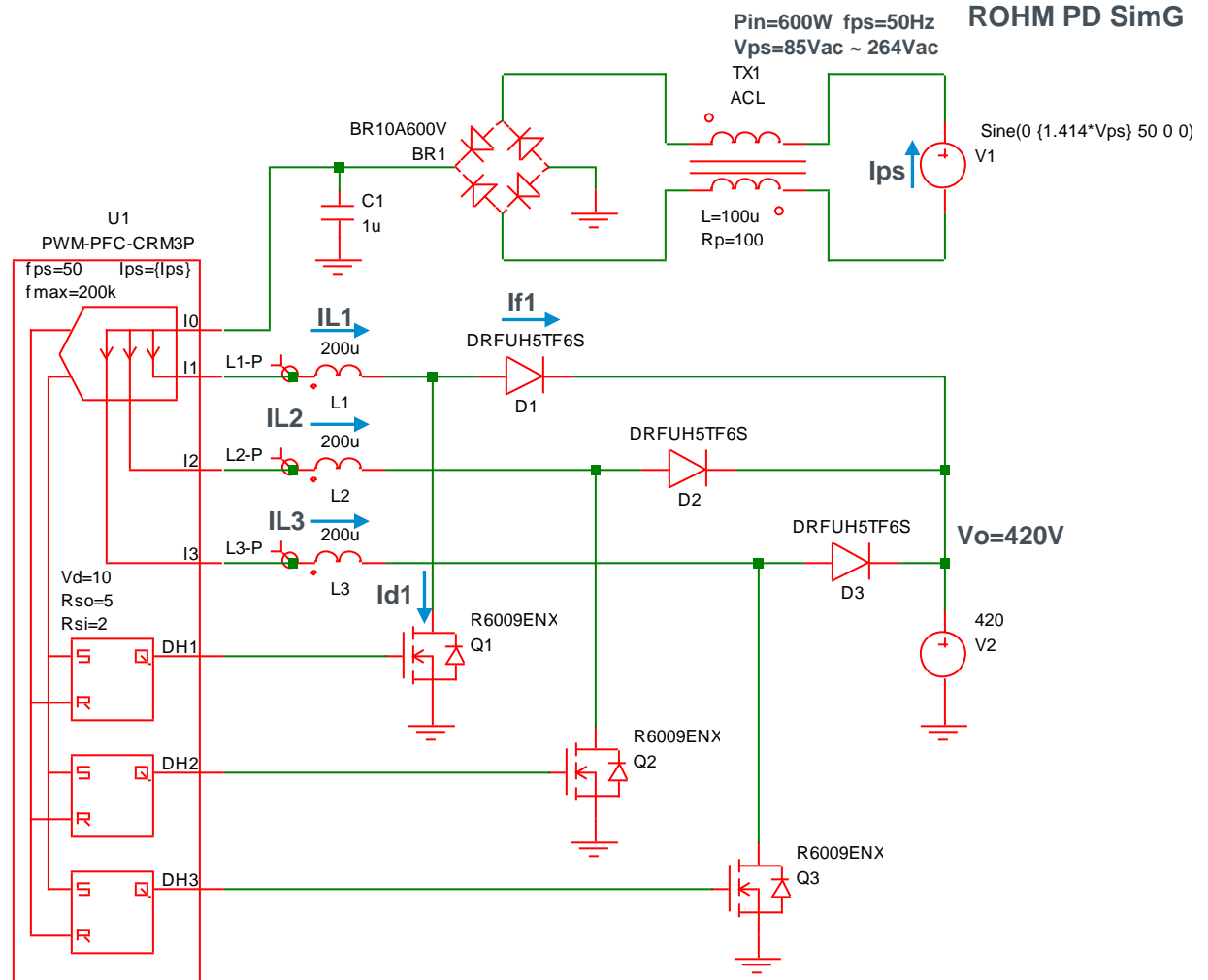
D1,2,3: R6009ENX
FRD (600V 5A)

L1,2,3: 200uH

BR1: 600V 10A

TX1: LPF 500uH // 100Ω

Tj=-25°C ~ 125°C



SIMatrix SPICE Simulation Data File



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

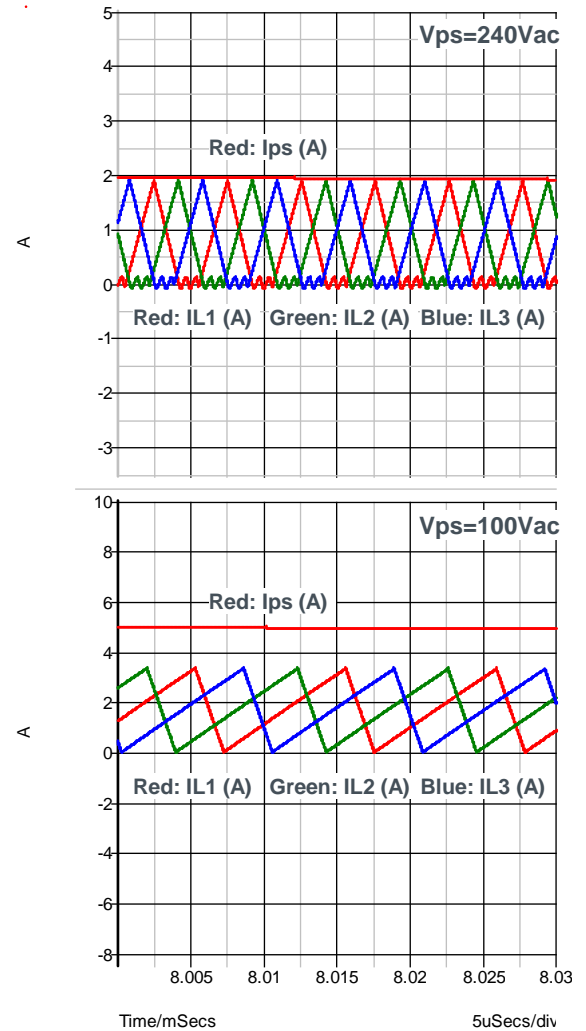
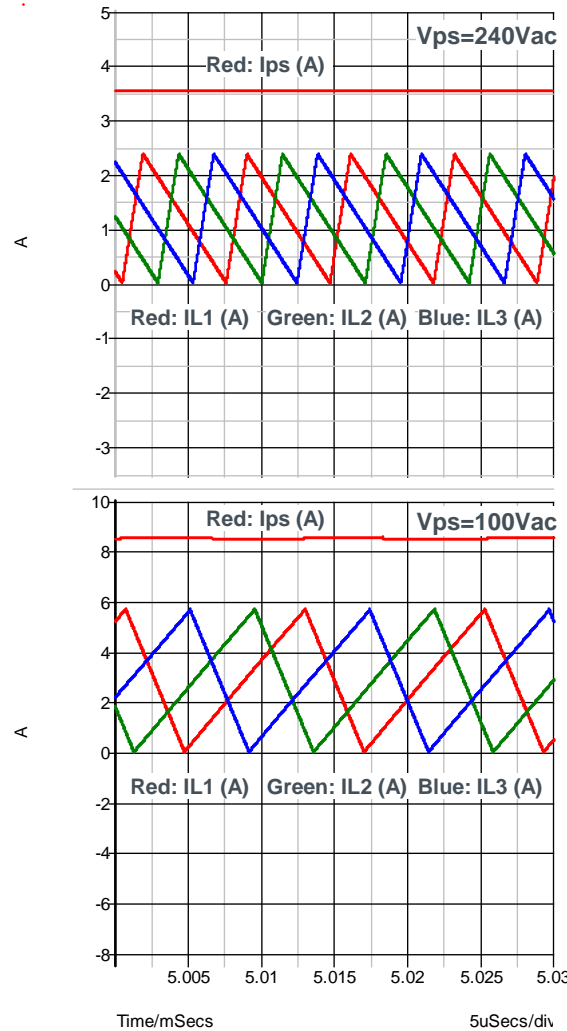
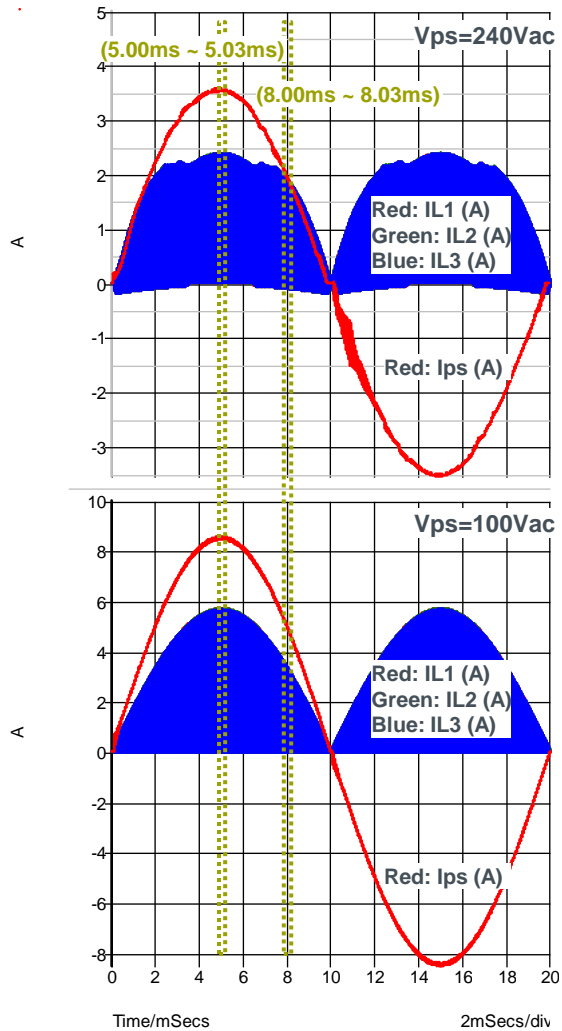
Simulation Waveform 1

ROHM PD SimG

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

Expansion (5.00ms ~ 5.03ms)

Expansion (8.00ms ~ 8.03ms)

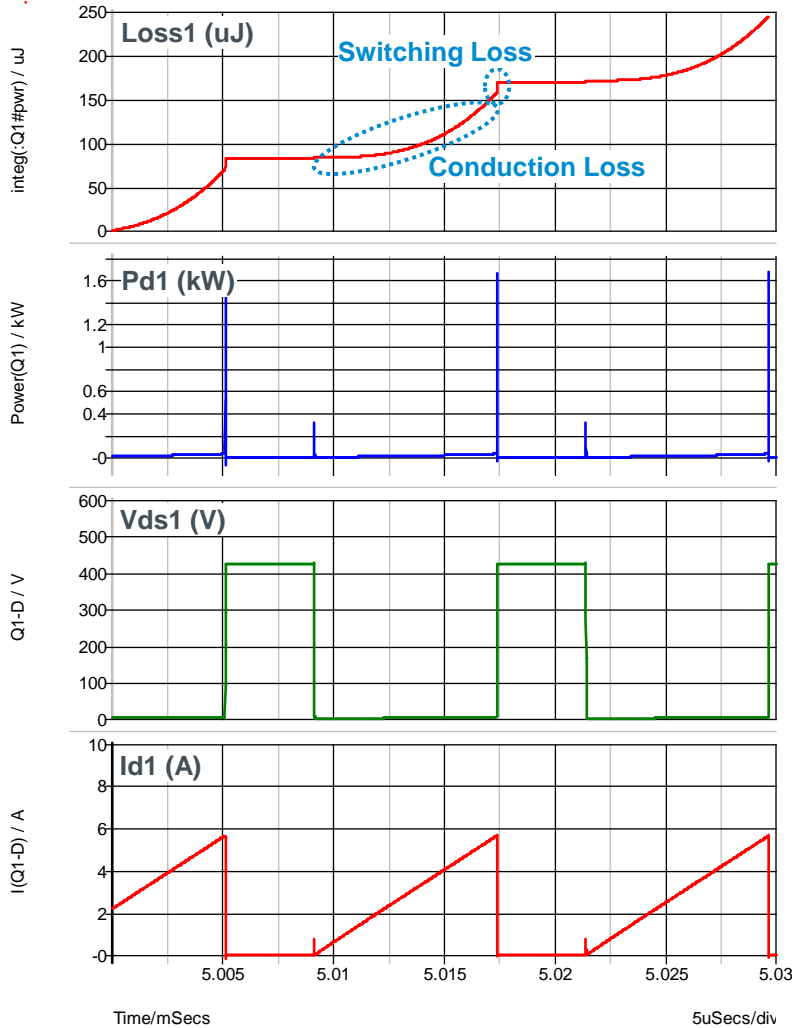


Simulation Waveform 2

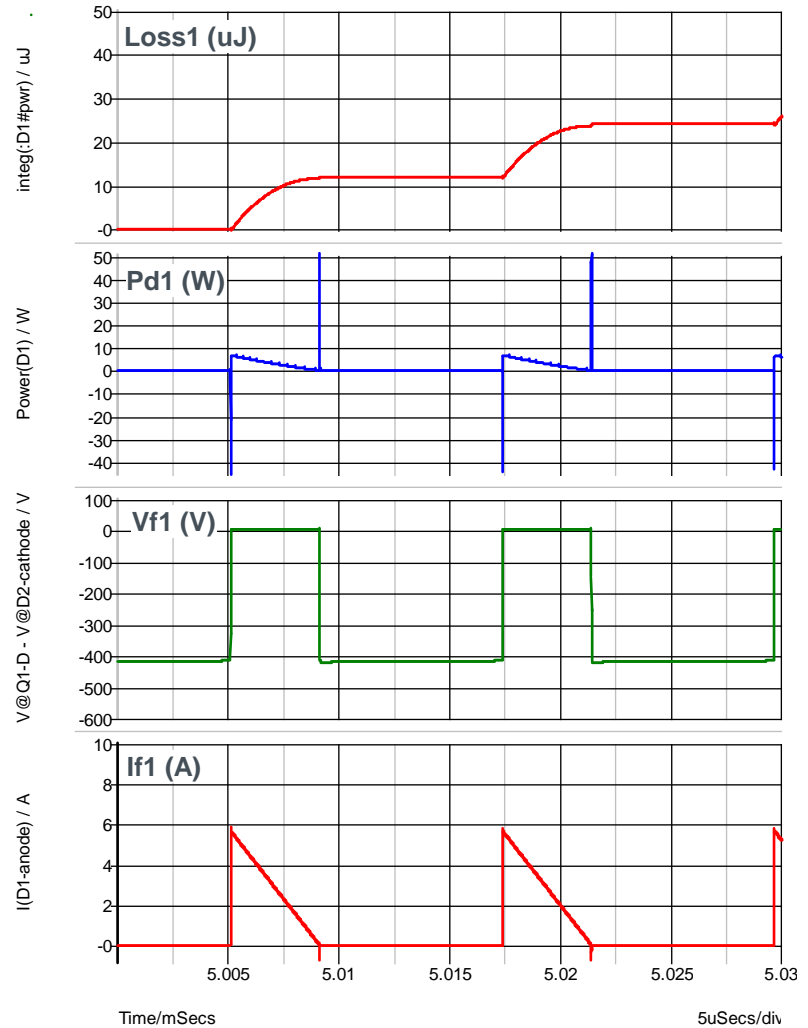


ROHM PD SimG

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

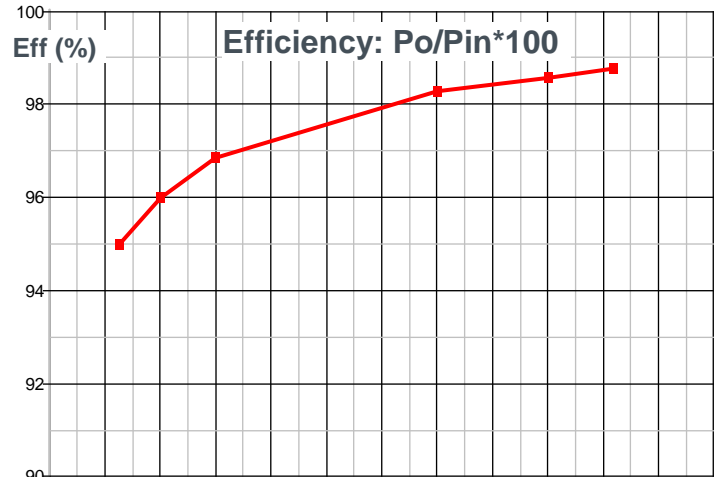


Efficiency, Power Dissipation 1

ROHM PD SimG

Vps: 85Vac ~ 264Vac

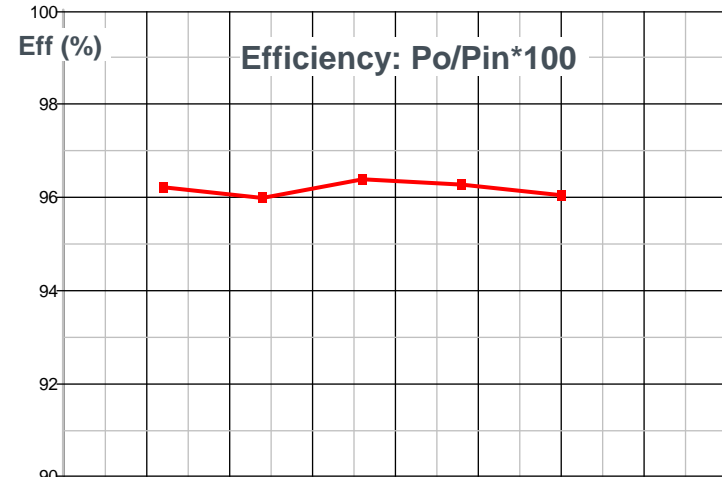
Pin=600W Vo=420V
Tj=100°C



Efficiency / Percent

Pin: 120W ~ 600W

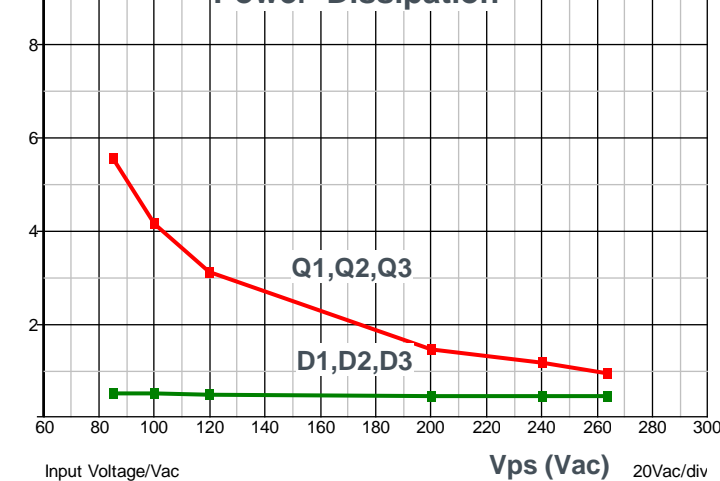
Vps=100Vac Vo=420V
Tj=100°C



Efficiency / Percent

Pd (W/pc)

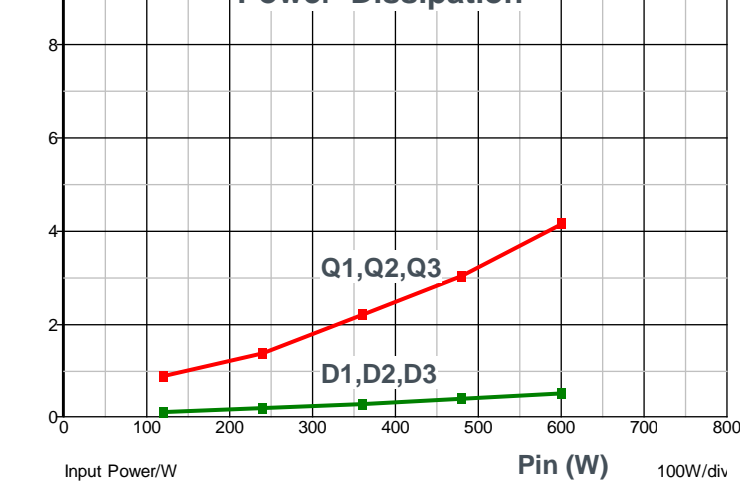
Power Dissipation



Power Dissipation / W

Pd (W/pc)

Power Dissipation



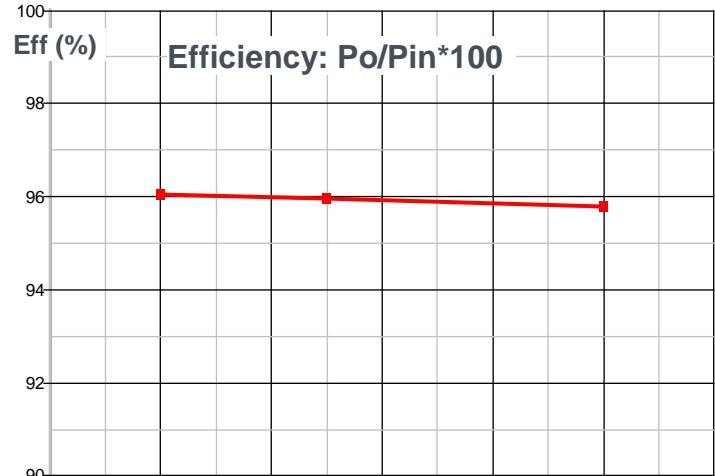
Power Dissipation / W

Efficiency, Power Dissipation 2

ROHM PD SimG

Vo: 420V ~500V

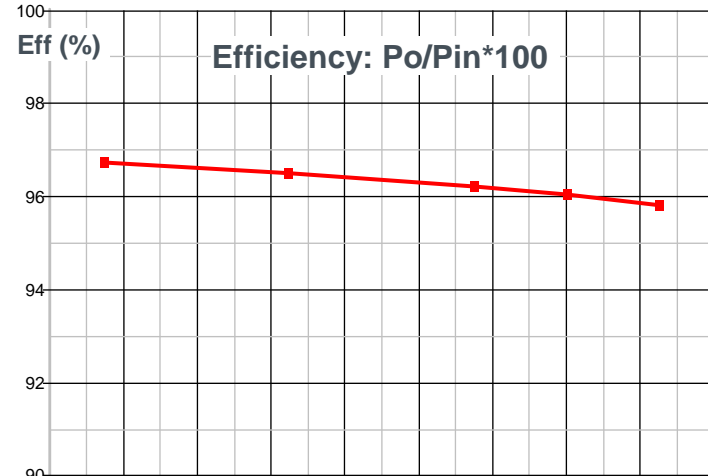
Pin=600W Vps=100Vac
Tj=100°C



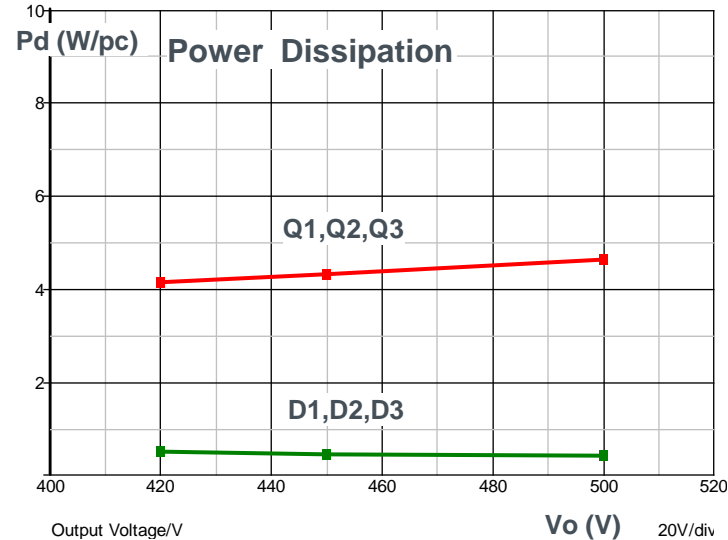
Efficiency / Percent

Tj: -25°C ~ 125°C

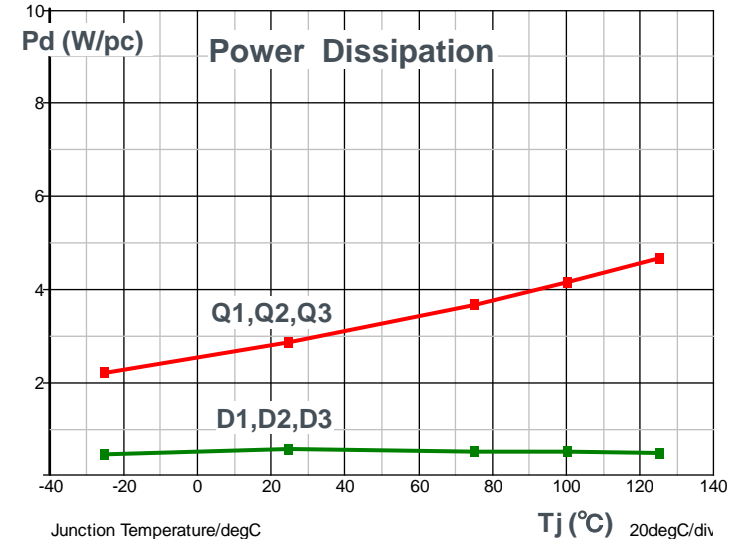
Pin=600W Vps=100Vac
Vo=420V



Efficiency / Percent



Power Dissipation / W



Power Dissipation / W