flow **PFC 0**	**Boost PFC Application**	**600 V / 99 mΩ**

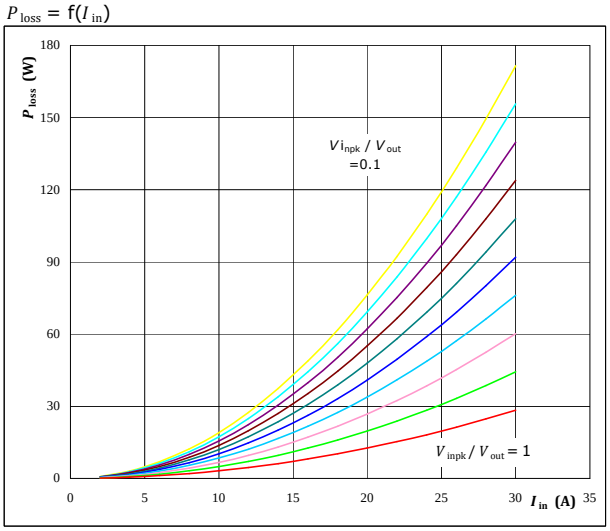
General conditions

Boost PFC	
V_{GEon}	= 10 V
V_{GEoff}	= 0 V
R_{gon}	= 2 Ω
R_{goff}	= 2 Ω
V_{in}	= V_{inpk}*sinωt

figure 1 **MOSFET**

Typical average static loss as a function of input current

$P_{loss} = f(I_{in})$



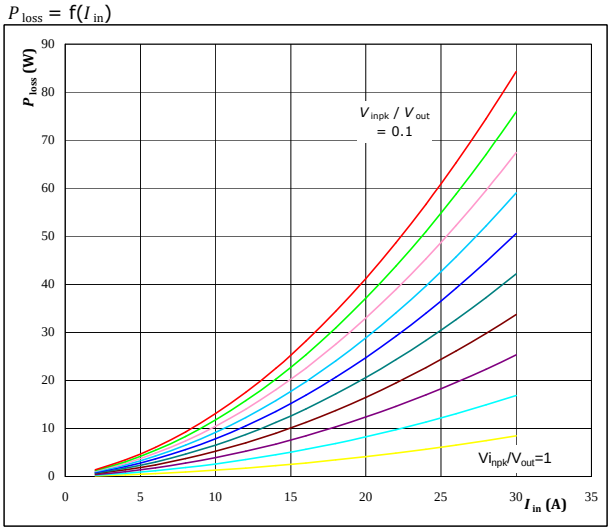
T_j = 125 °C

Vinpk / Vout from 0,1 to 1 in steps of 0,1

figure 2 **FWD**

Typical average static loss as a function of input current

$P_{loss} = f(I_{in})$



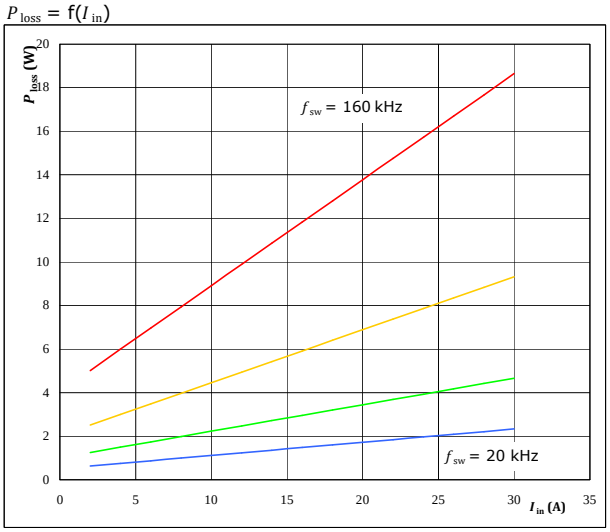
T_j = 125 °C

Vinpk / Vout from 0,1 to 1 in steps of 0,1

figure 3 **MOSFET**

Typical average switching loss as a function of input current

$P_{loss} = f(I_{in})$



T_j = 125 °C

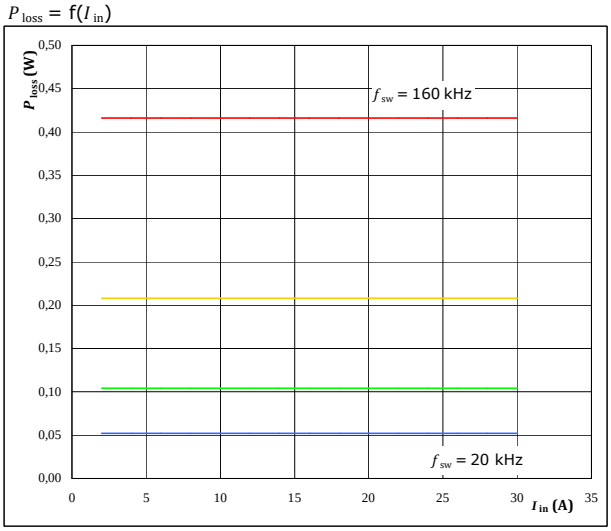
DC link = 400 V

fsw from 20 kHz to 160 kHz in steps of factor 2

figure 4 **FWD**

Typical average switching loss as a function of input current

$P_{loss} = f(I_{in})$



T_j = 125 °C

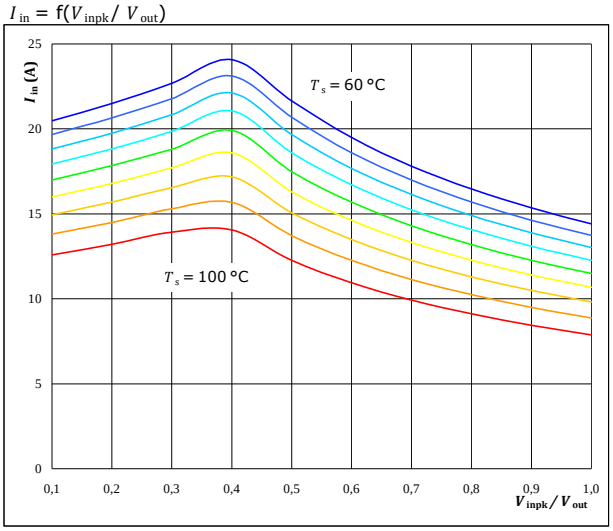
DC link = 400 V

fsw from 20 kHz to 160 kHz in steps of factor 2

figure 5 **PFC-per leg**

Typical available input current as a function of V_{inpk} / V_{out}

$I_{in} = f(V_{inpk} / V_{out})$

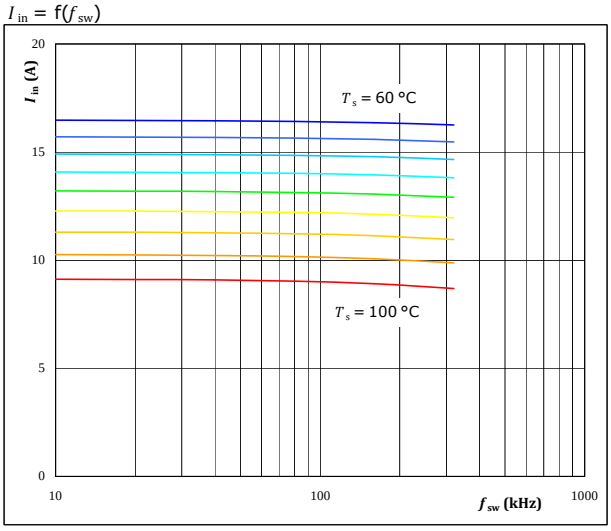


T_j = T_{jmax} - 25 °C
DC link = 400 V
f_{sw} = 20 kHz
Ts from 60 °C to 100 °C in steps of 5 °C

figure 6 **PFC-per leg**

Typical available input current as a function of switching frequency

$I_{in} = f(f_{sw})$

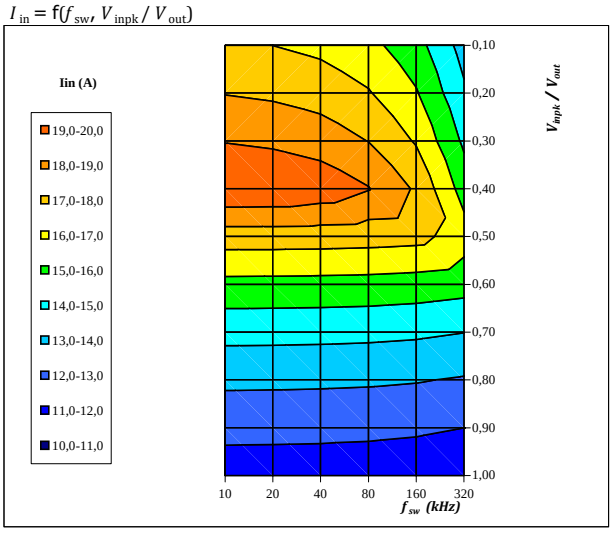


T_j = T_{jmax} - 25 °C
DC link = 400 V
V_{inpk} / V_{out} = 0,8
Ts from 60 °C to 100 °C in steps of 5 °C

figure 7 **PFC-per leg**

Typical available input current as a function of V_{inpk} / V_{out} and switching frequency

$I_{in} = f(f_{sw}, V_{inpk} / V_{out})$

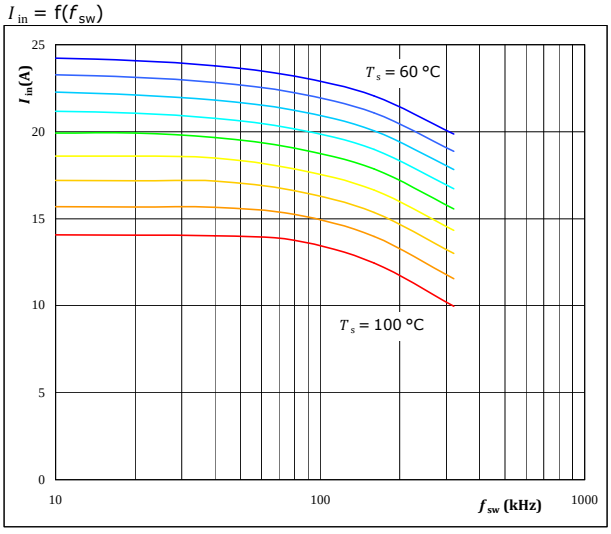


T_j = T_{jmax} - 25 °C
DC link = 400 V
T_s = 80 °C

figure 8 **PFC-per leg**

Typical available input current as a function of switching frequency

$I_{in} = f(f_{sw})$

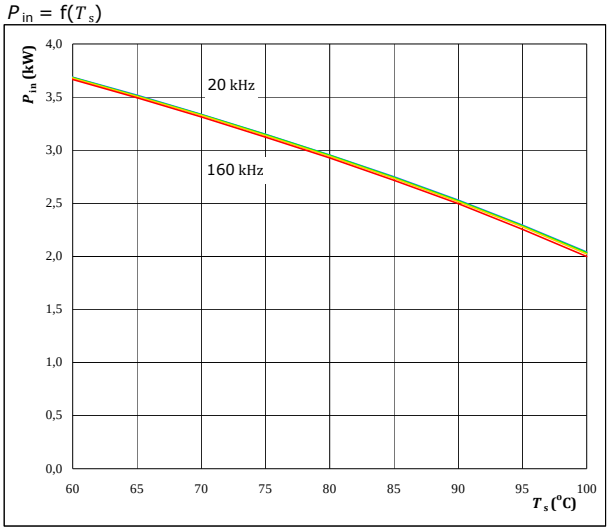


T_j = T_{jmax} - 25 °C
DC link = 400 V
V_{inpk} / V_{out} = 0,4
Ts from 60 °C to 100 °C in steps of 5 °C

figure 9 **PFC-per leg**

Typical available electric input power as a function of heatsink temperature

$P_{in} = f(T_s)$

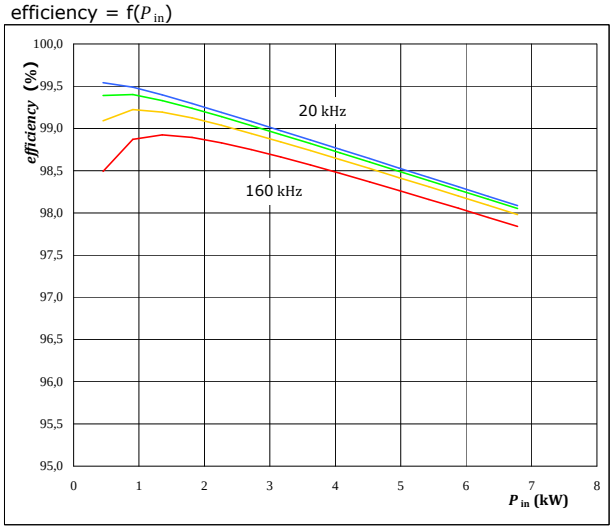


T_j = T_{jmax} - 25 °C
DC link = 400 V
V_{inpk} / V_{out} = 0,8
fsw from 20 kHz to 160 kHz in steps of factor 2

figure 10 **PFC-per leg**

Typical efficiency as a function of input power

efficiency = $f(P_{in})$

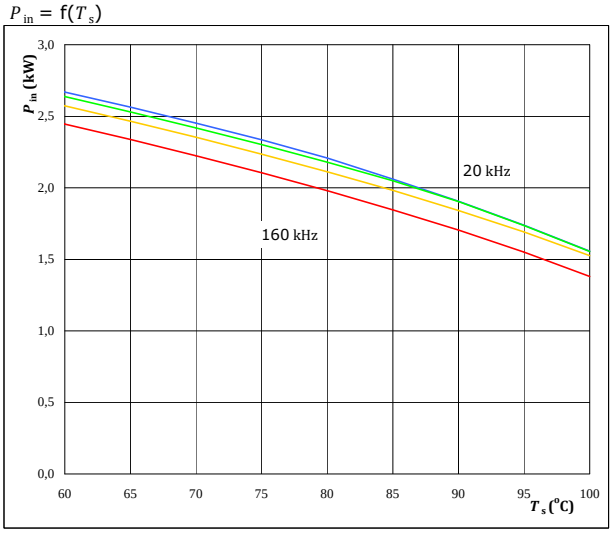


T_j = T_{jmax} - 25 °C
DC link = 400 V
V_{inpk} / V_{out} = 0,8
fsw from 20 kHz to 160 kHz in steps of factor 2

figure 11 **PFC-per leg**

Typical available electric input power as a function of heatsink temperature

$P_{in} = f(T_s)$

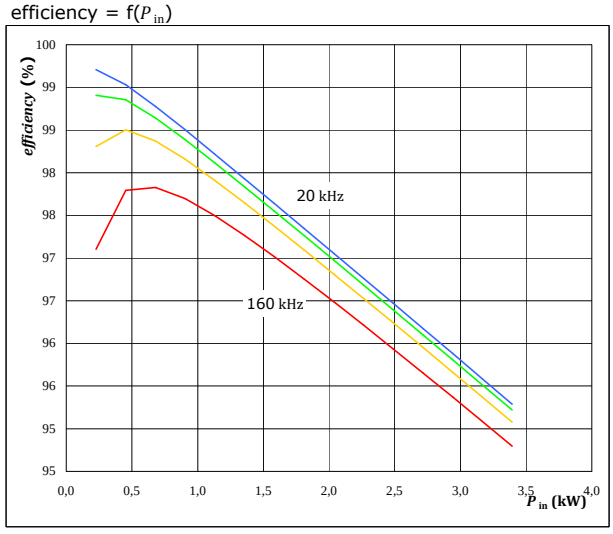


T_j = T_{jmax} - 25 °C
DC link = 400 V
V_{inpk} / V_{out} = 0,4
fsw from 20 kHz to 160 kHz in steps of factor 2

figure 12 **PFC-per leg**

Typical efficiency as a function of input power

efficiency = $f(P_{in})$

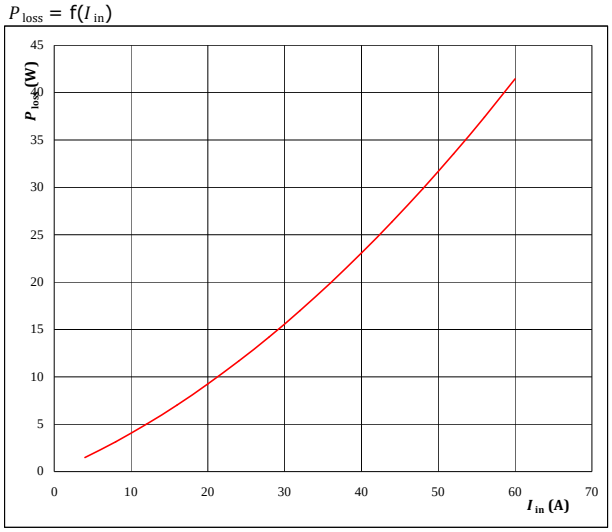


T_j = T_{jmax} - 25 °C
DC link = 400 V
V_{inpk} / V_{out} = 0,4
fsw from 20 kHz to 160 kHz in steps of factor 2

figure 13 — **Rectifier**

Typical average static loss as a function of input current

P_{loss} = f(I_{in})

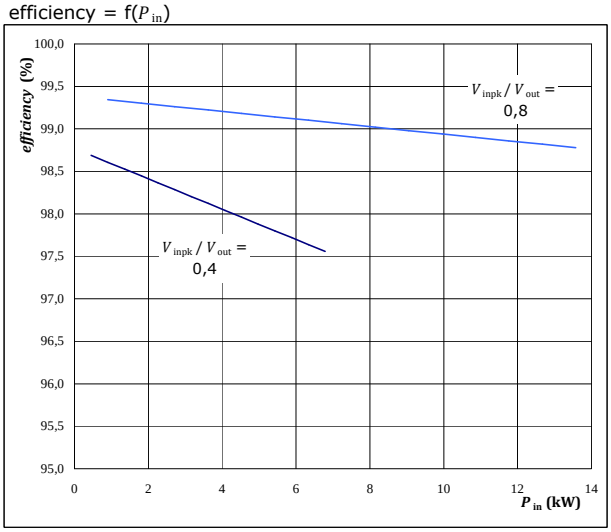


T_j = 125 °C

figure 14 — **Rectifier Bridge**

Typical efficiency as a function of input power

efficiency = f(P_{in})

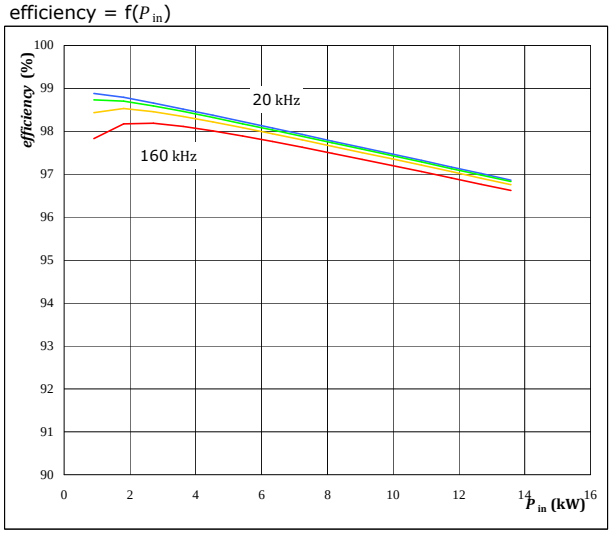


T_j = 125 °C

figure 15 — **Overall**

Typical efficiency as a function of input power

efficiency = f(P_{in})

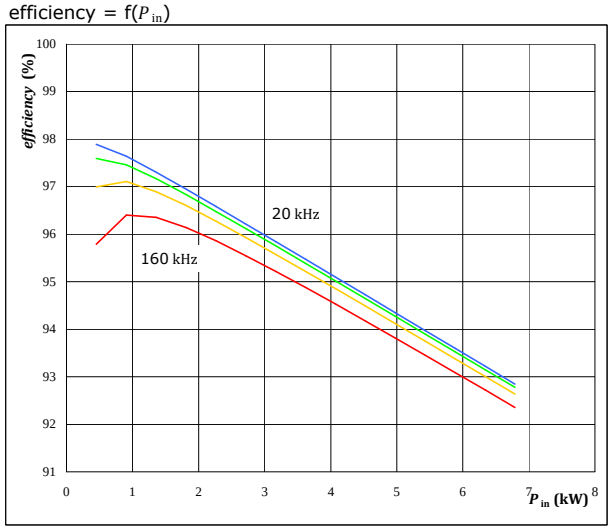


T_j = T_{jmax} - 25 °C
DC link = 400 V
V_{inpk} / V_{out} = 0,8
fsw from 20 kHz to 160 kHz in steps of factor 2

figure 16 — **Overall**

Typical efficiency as a function of input power

efficiency = f(P_{in})



T_j = T_{jmax} - 25 °C
DC link = 400 V
V_{inpk} / V_{out} = 0,4
fsw from 20 kHz to 160 kHz in steps of factor 2