flow **Boost 0 symmetric** | **DC Boost Application** | **650 V / 30 A**

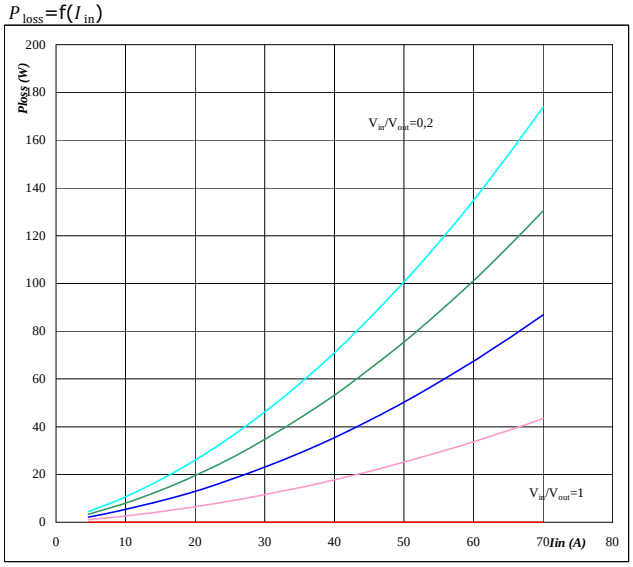
General conditions

BOOST		
V_{GEon}	=	15 V
V_{GEoff}	=	0 V
R_{gon}	=	16 Ω
R_{goff}	=	16 Ω

Figure 1. **IGBT**

Typical average static loss as a function of input current Ii$_{RMS}$

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

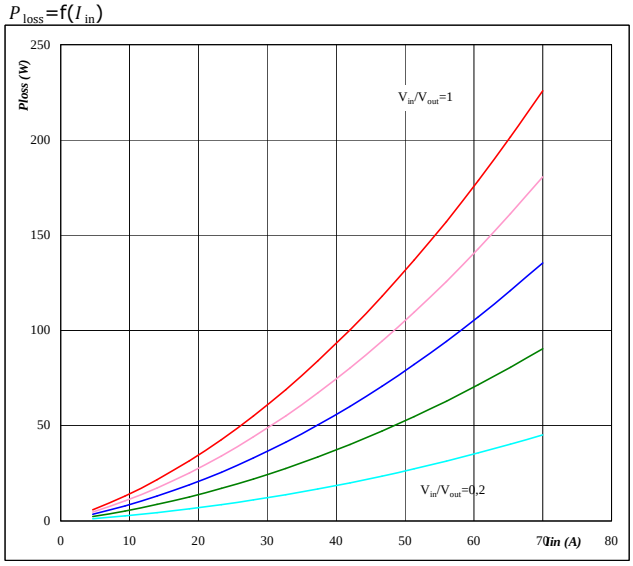


Conditions T_j= 150 °C
Ratio of input DC voltage to output DC voltage
parameter V_{in}/Vout from 0,2 to 1,0
in 0,2 steps

Figure 2. **FRED**

Typical average static loss as a function of input current Ii$_{RMS}$

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

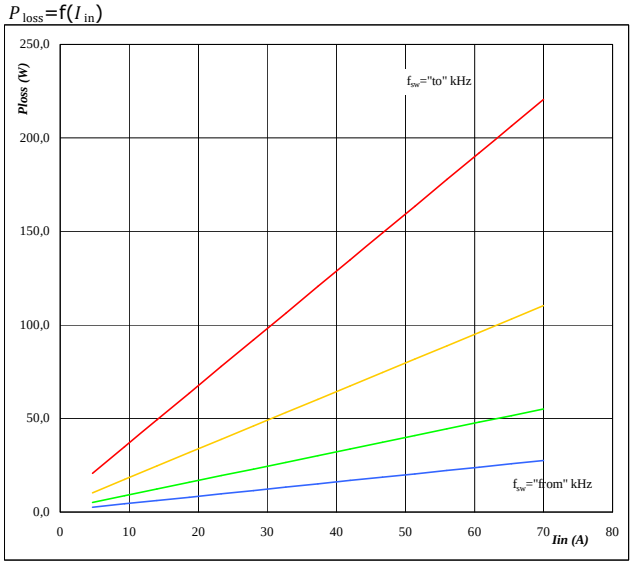


Conditions T_j= 150 °C
Ratio of input DC voltage to output DC voltage
parameter V_{in}/Vout from 0,2 to 1,0
in 0,2 steps

Figure 3. **IGBT**

Typical average switching loss as a function of input current

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

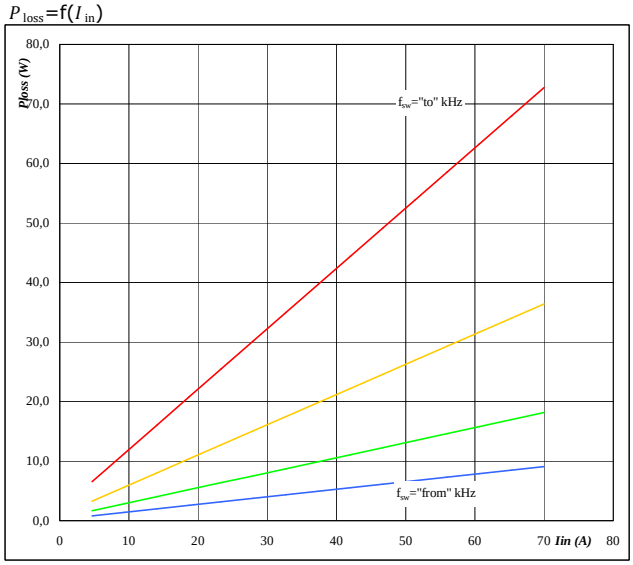


Conditions T_j= 150 °C
V_{out} = 400 V
Sw. freq. f_{sw} from 16 kHz to 128 kHz
in steps of factor 2

Figure 4. **FRED**

Typical average switching loss as a function of input current

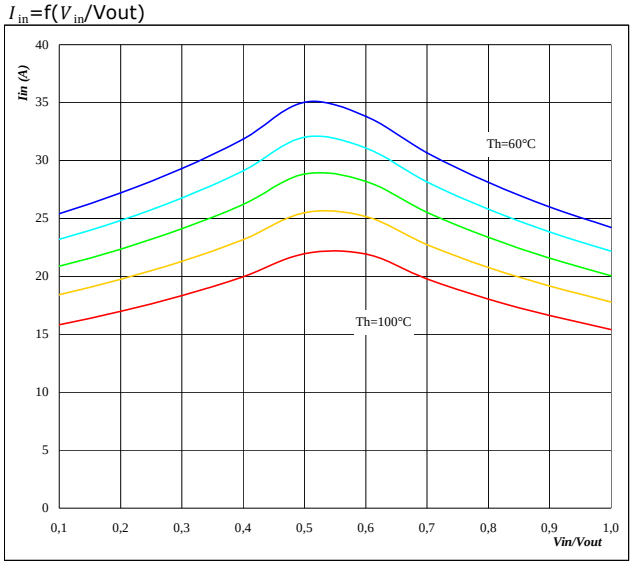
P_{loss}=f(I_{in})



Conditions T_j= 150 °C
V_{out} = 400 V
Sw. freq. f_{sw} from 16 kHz to 128 kHz
in steps of factor 2

Figure 5. **per Leg**

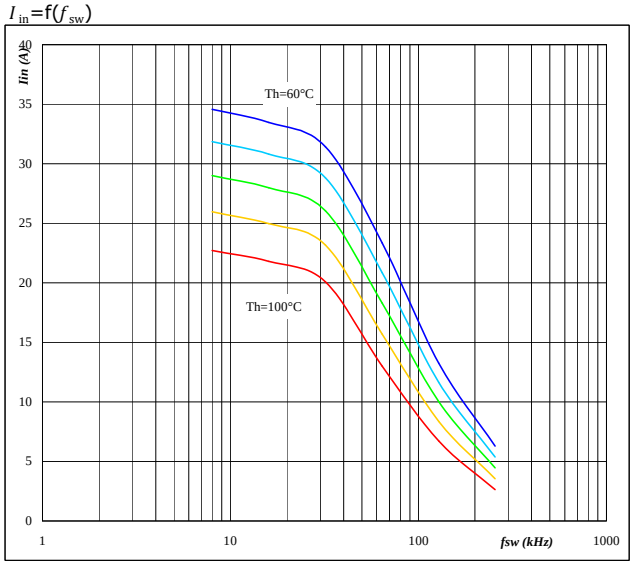
Typical available input current as a function of
V_{in}/Vout
I_{in}=f(V_{in}/Vout)



Conditions T_j= T_{jmax}-25°C
DC-link= 400 V f_{sw}= 20 kHz
parameter Heatsink temp.
T_h from 60 °C to 100 °C
in 10 °C steps

Figure 6. **per Leg**

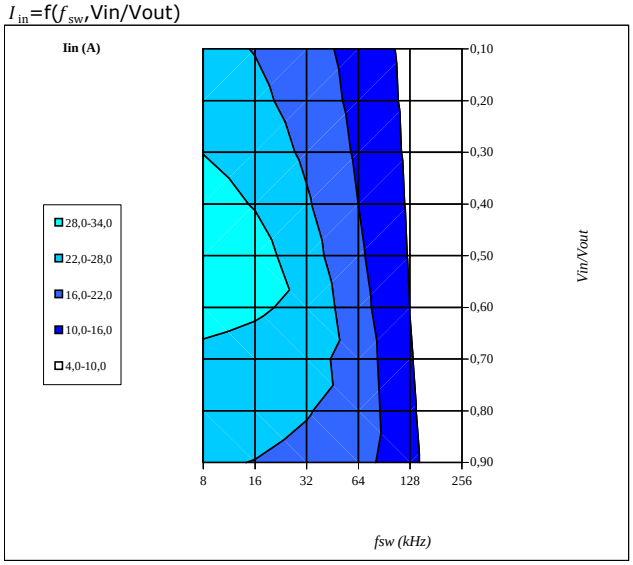
Typical available input current as a function of switching frequency
I_{in}=f(f_{sw})



Conditions T_j= T_{jmax}-25°C
DC-link= 400 V V_{in} 250 V
parameter Heatsink temp.
T_h from 60 °C to 100 °C
in 10 °C steps

Figure 7. **per Leg**

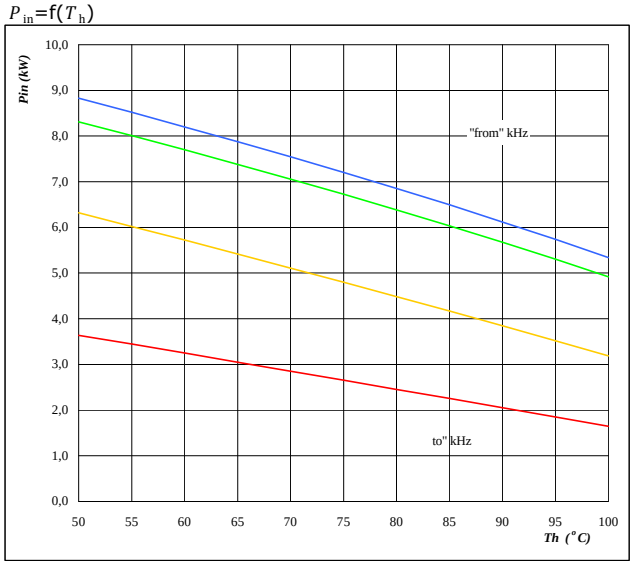
Typical available input current as a function of
f_{sw} and V_{in}/Vout
I_{in}=f(f_{sw},Vin/Vout)



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

Figure 8. **per Leg**

Typical available electric input power as a function of heatsink temperature
P_{in}=f(T_h)

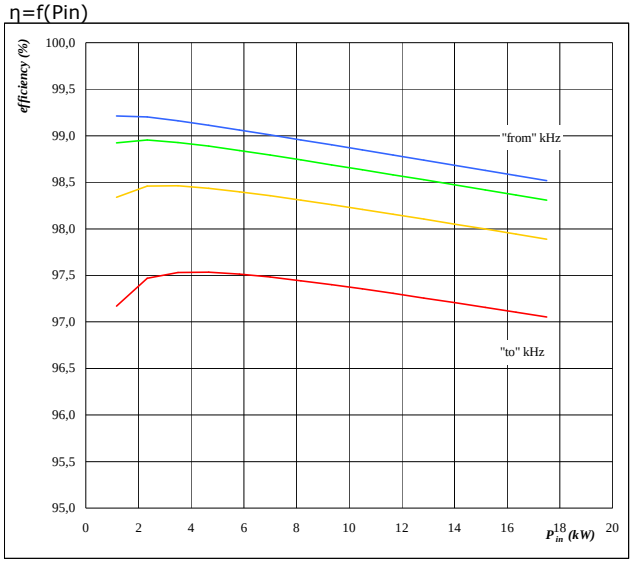


Conditions T_j= T_{jmax}-25°C
V_{in} 250 V DC-link= 400 V
Sw. freq. f_{sw} from 16 kHz to 128 kHz

Figure 9. **per Leg**

Typical efficiency as a function of input power

η=f(Pin)



Conditions	T_j=	T_{jmax}-25°C			
	V_{in}	250 V		DC-link=	400 V
parameter:					
Sw. freq.	f_{sw} from	16	kHz to	128	kHz