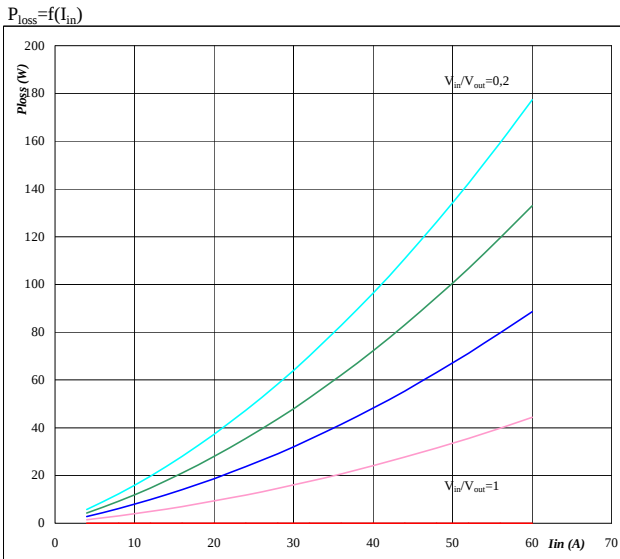
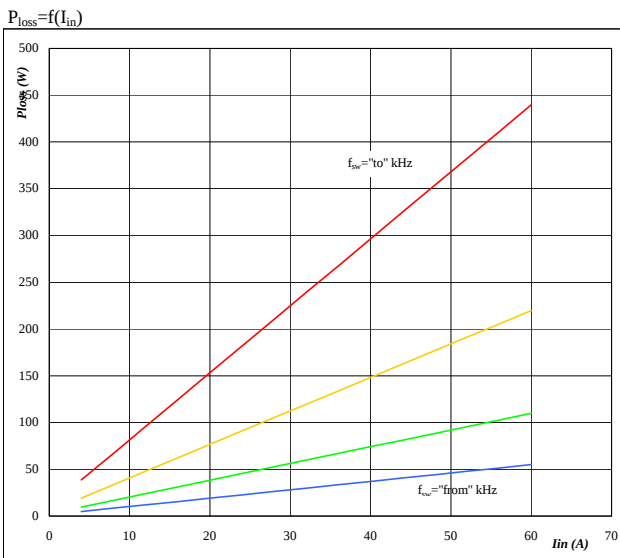


General conditions
BOOST

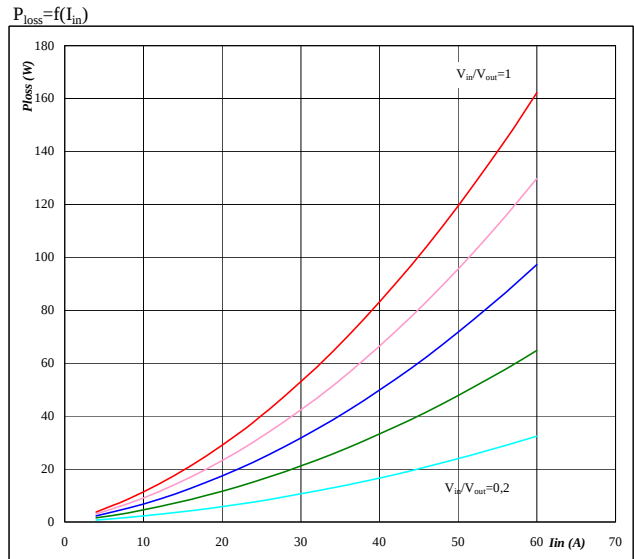
V_{GEon}	=	15 V
V_{GEoff}	=	0 V
R_{gon}	=	4 Ω
R_{goff}	=	4 Ω

Figure 1.
IGBT
Typical average static loss as a function of input current I_{RMS}


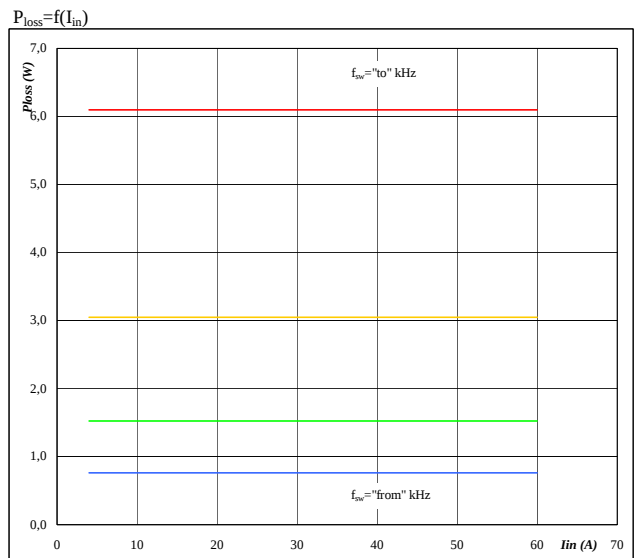
Conditions: $T_j = 125$ °C
 Ratio of input DC voltage to output DC voltage
 parameter: V_{in}/V_{out} from 0,2 to 1,0
 in 0,2 steps

Figure 3.
IGBT
Typical average switching loss as a function of input current


Conditions: $T_j = 125$ °C
 $V_{out} = 700$ V
 Sw. freq. f_{sw} from 16 kHz to 128 kHz
 in steps of factor 2

Figure 2.
FWD
Typical average static loss as a function of input current I_{RMS}


Conditions: $T_j = 125$ °C
 Ratio of input DC voltage to output DC voltage
 parameter: V_{in}/V_{out} from 0,2 to 1,0
 in 0,2 steps

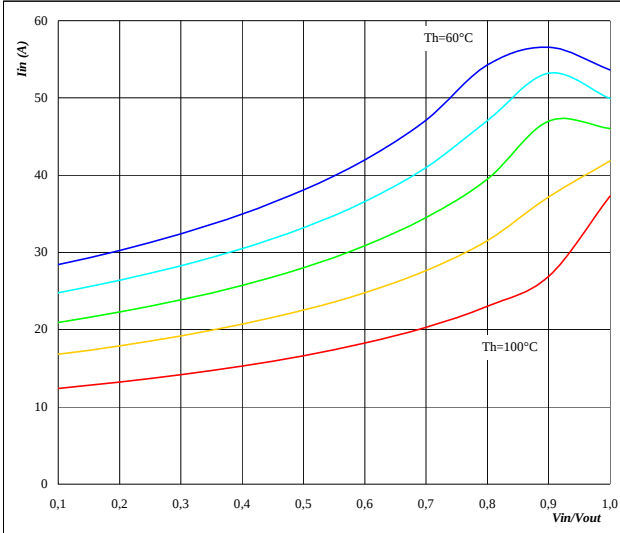
Figure 4.
FWD
Typical average switching loss as a function of input current


Conditions: $T_j = 125$ °C
 $V_{out} = 700$ V
 Sw. freq. f_{sw} from 16 kHz to 128 kHz
 in steps of factor 2

flowBOOST 0
DC Boost Application
1200V/40A
Figure 5. per Leg

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

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

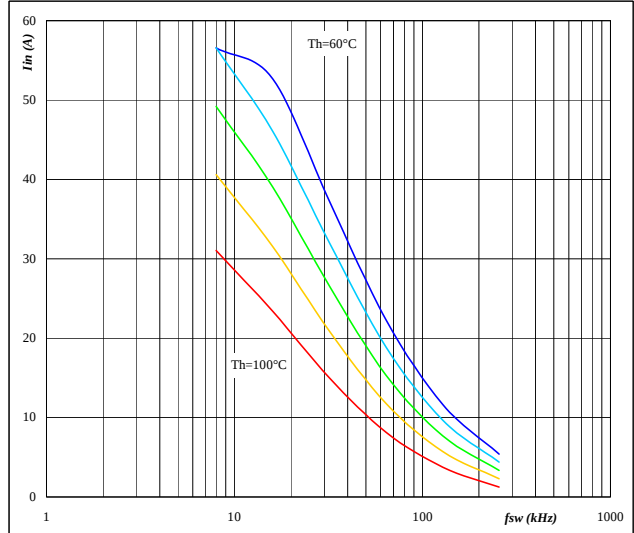


Conditions: $T_j = T_{jmax} - 25^\circ\text{C}$
 DC link= 700 V $f_{sw} = 20$ kHz
 parameter: Heatsink temp.
 Th from 60 °C to 100 °C
 in 10 °C steps

Figure 6. per Leg

Typical available input current as a function of switching frequency

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

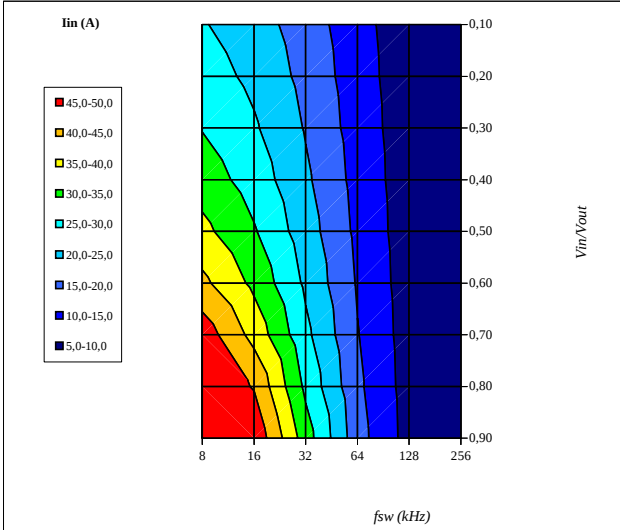


Conditions: $T_j = T_{jmax} - 25^\circ\text{C}$
 DC link= 700 V $V_{in} = 500$ V
 parameter: Heatsink temp.
 Th from 60 °C to 100 °C
 in 10 °C steps

Figure 7. per Leg

Typical available input current as a function of
 f_{sw} and V_{in}/V_{out}

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

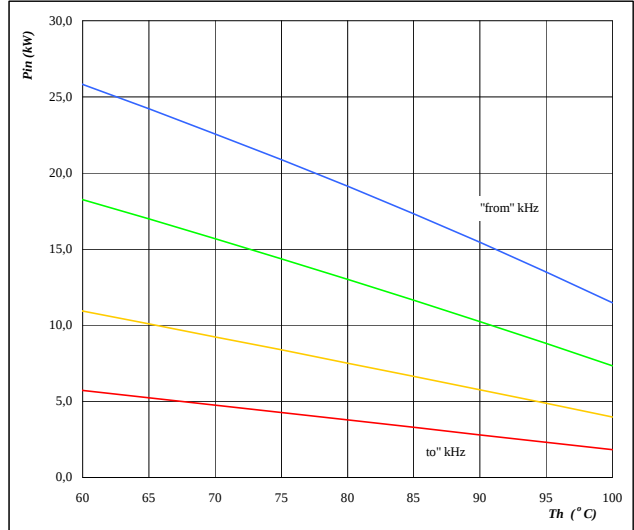


Conditions: $T_j = T_{jmax} - 25^\circ\text{C}$
 DC link= 700 V
 Th= 80 °C

Figure 8. per Leg

Typical available electric input power as a function of heatsink temperature

$$P_{in} = f(T_h)$$

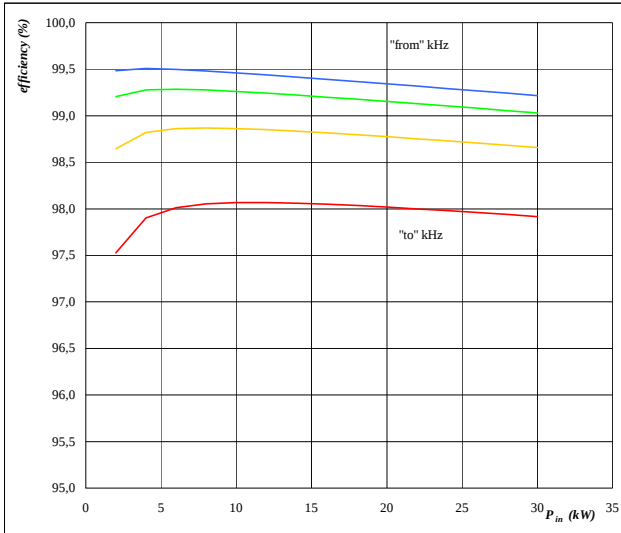


Conditions: $T_j = T_{jmax} - 25^\circ\text{C}$
 $V_{in} = 500$ V DC link= 700 V
 Sw. freq. f_{sw} from 16 kHz to 128 kHz

Figure 9. per Leg

Typical efficiency as a function of input power

$\eta = f(P_{in})$



Conditions: $T_j = T_{jmax} - 25^\circ\text{C}$

V_{in} 500 V DC link= 700 V

parameter:

Sw. freq. fsw from 16 kHz to 128 kHz