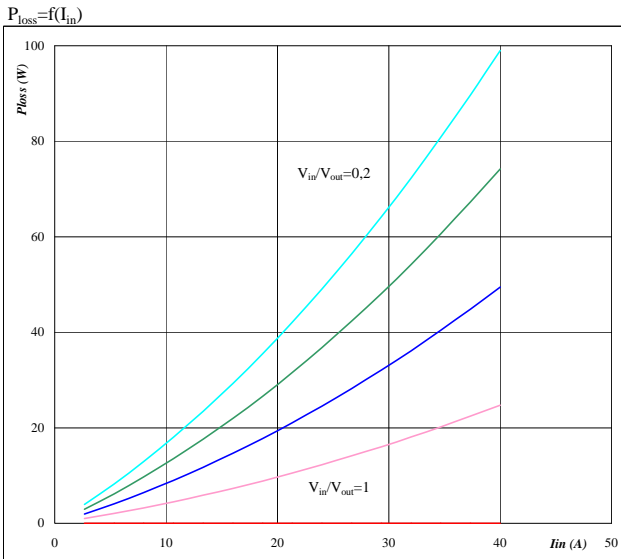


General conditions

| BOOST | |
|-------------|--------------|
| V_{GEon} | = 15 V |
| V_{GEoff} | = -15 V |
| R_{gon} | = 4 Ω |
| R_{goff} | = 4 Ω |

Figure 1. IGBT

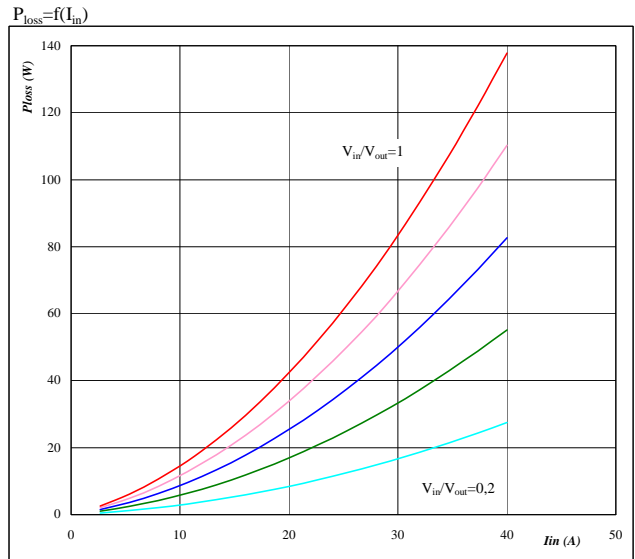
Typical average static loss as a function of input current I_{RMS}



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 2. FWD

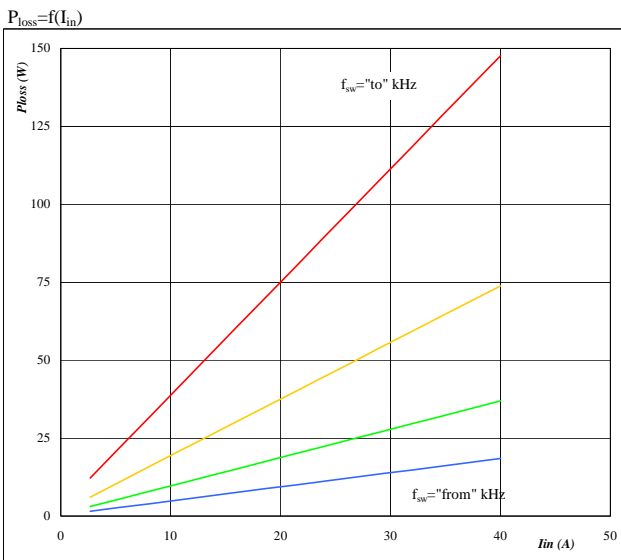
Typical average static loss as a function of input current I_{RMS}



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 3. IGBT

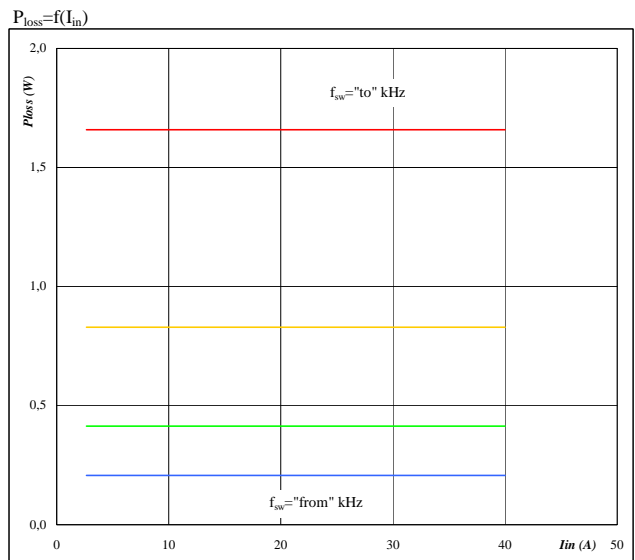
Typical average switching loss as a function of input current



Conditions: $T_j = 125$ °C
 $V_{out} = 350$ V
Sw. freq. f_{sw} from 16 kHz to 128 kHz in steps of factor 2

Figure 4. FWD

Typical average switching loss as a function of input current



Conditions: $T_j = 125$ °C
 $V_{out} = 350$ V
Sw. freq. f_{sw} from 16 kHz to 128 kHz in steps of factor 2

flowBOOST 0

DC Boost Application

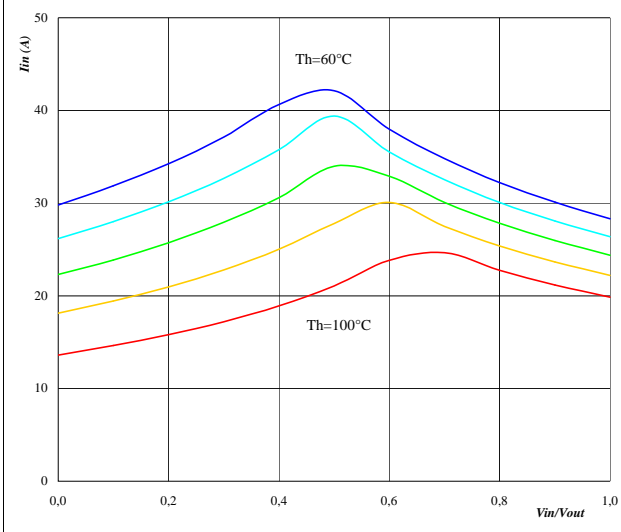
1200V/40A

Figure 5. per PHASE

Typical available input current as a function of

V_{in}/V_{out}

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

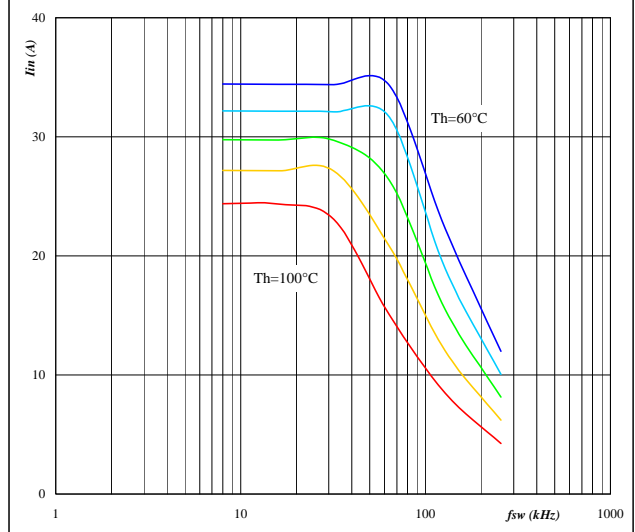


Conditions: $T_j = T_{jmax} - 25^\circ C$
 DC link= 350 V $f_{sw} = 20$ kHz
 parameter: Heatsink temp.
 Th from 60 °C to 100 °C
 in 10 °C steps

Figure 6. per PHASE

Typical available input current as a function of
switching frequency

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



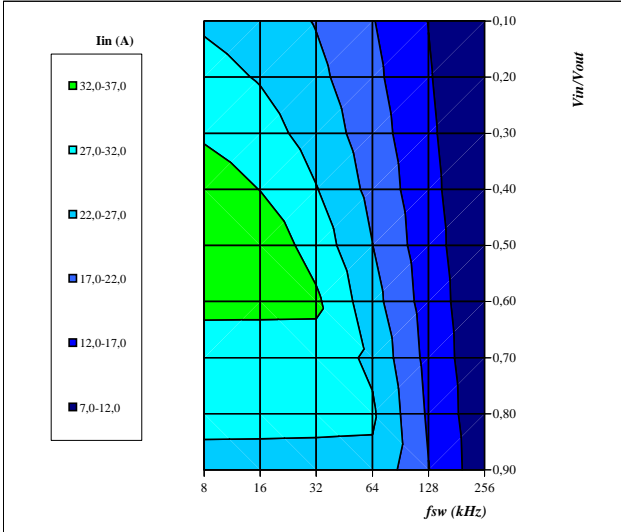
Conditions: $T_j = T_{jmax} - 25^\circ C$
 DC link= 350 V $V_{in} = 250$ V
 parameter: Heatsink temp.
 Th from 60 °C to 100 °C
 in 10 °C steps

Figure 7. per PHASE

Typical available input current as a function of

f_{sw} and V_{in}/V_{out}

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

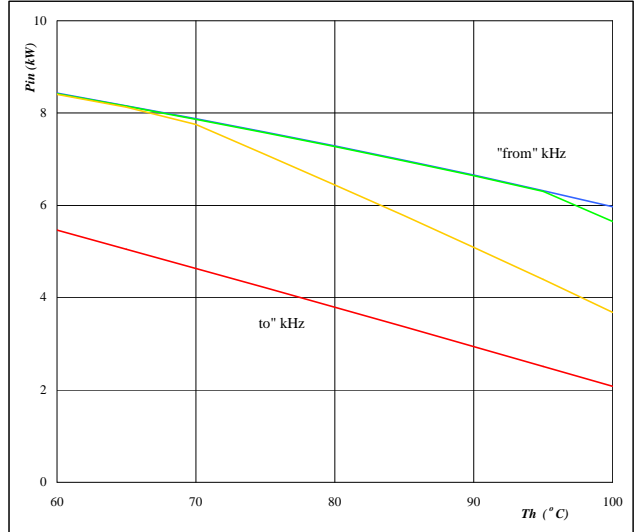


Conditions: $T_j = T_{jmax} - 25^\circ C$
 DC link= 350 V
 Th= 80 °C

Figure 8. per PHASE

Typical available electric input power as a function
of heatsink temperature

$P_{in}=f(T_h)$

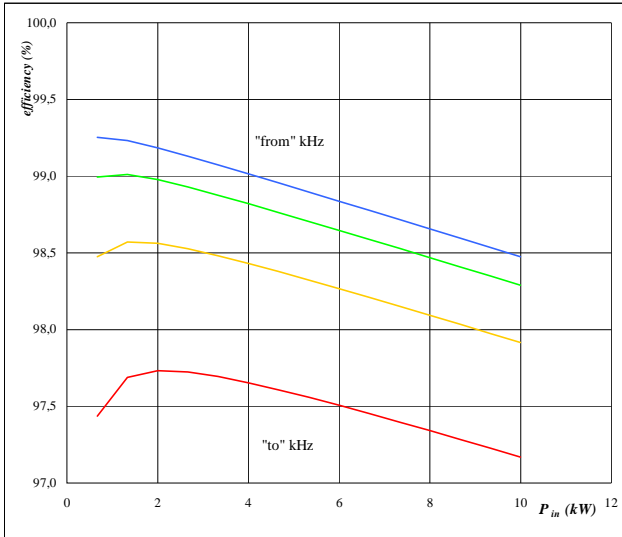


Conditions: $T_j = T_{jmax} - 25^\circ C$
 $V_{in} = 250$ V DC link= 350 V
 Sw. freq. f_{sw} from 16 kHz to 128 kHz

Figure 9. per PHASE

Typical efficiency as a function of input power

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



Conditions: $T_j = T_{jmax} - 25^\circ\text{C}$
 $V_{in} = 250\text{ V}$ DC link = 350 V
 parameter:
 Sw. freq. fsw from 16 kHz to 128 kHz