

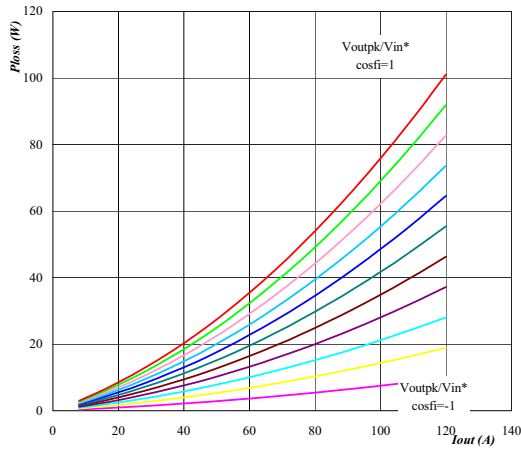
flow0

V23990-P625F2451

Output inverter application

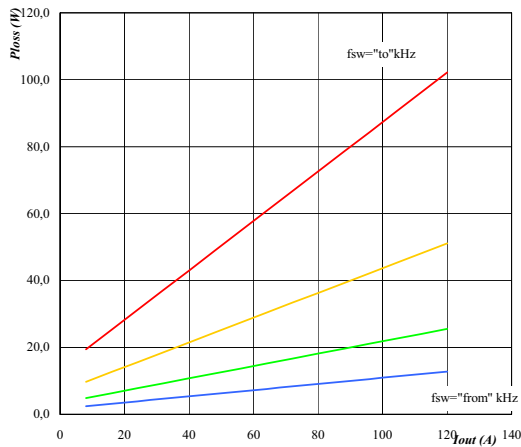
General conditions: H bridge SPWM V_{geon} 15 V
 V_{geof} 0 V

Figure 1. Typical average static loss as a function of output current
IGBT $P_{loss}=f(I_{out})$



Conditions: $T_j = 150\text{ }^{\circ}\text{C}$
 Ratio of output peak to input DC voltage parameter
 $V_{outpk}/V_{in} \cdot \cos\phi_i$ from -1 to 1
 in 0,2 steps

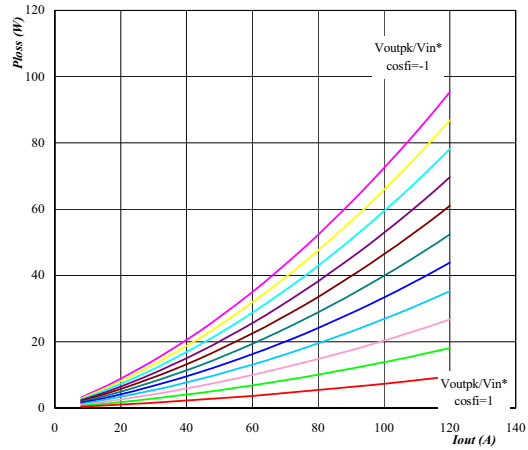
Figure 3. Typical average switching loss as a function of output current
IGBT $P_{loss}=f(I_{out})$



Conditions: $T_j = 150\text{ }^{\circ}\text{C}$
 DC link= 400 V
 Switching freq. parameter f_{sw} from 4 kHz to 32 kHz
 in * 2 steps

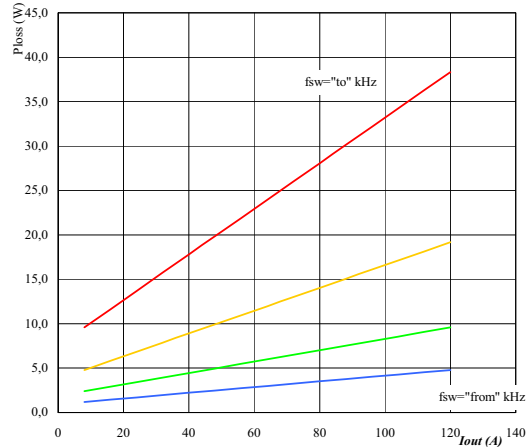
$R_{gon} = 4\text{ ohms}$ $R_{goff} = 4\text{ ohms}$

Figure 2. Typical average static loss as a function of output current
FRED $P_{loss}=f(I_{out})$



Conditions: $T_j = 150\text{ }^{\circ}\text{C}$
 Ratio of output peak to input DC voltage parameter
 $V_{outpk}/V_{in} \cdot \cos\phi_i$ from -1 to 1
 in 0,2 steps

Figure 4. Typical average switching loss as a function of output current
FRED $P_{loss}=f(I_{out})$

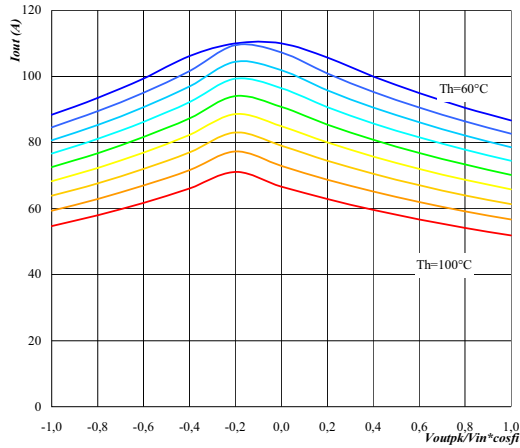


Conditions: $T_j = 150\text{ }^{\circ}\text{C}$
 DC link= 400 V
 Switching freq. parameter f_{sw} from 4 kHz to 32 kHz
 in * 2 steps

Output inverter application

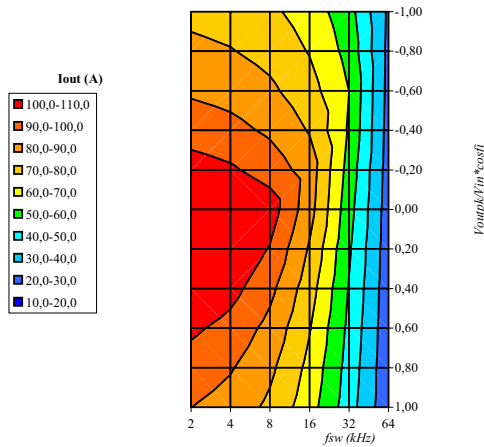
General conditions: H bridge SPWM
 $V_{geon} = 15 \text{ V}$
 $V_{geoff} = 0 \text{ V}$

Figure 5. Typical available 50Hz output current as a function of $V_{outpk}/V_{in} \cdot \cos\phi$
Phase $I_{out} = f(M_i \cdot \cos\phi_i)$



Conditions:
 $T_j = 150 \text{ }^\circ\text{C}$
DC link = 400 V
 $f_{sw} = 18 \text{ kHz}$
Heatsink temp. T_h from 60 °C to 100 °C
parameter in 5 °C steps

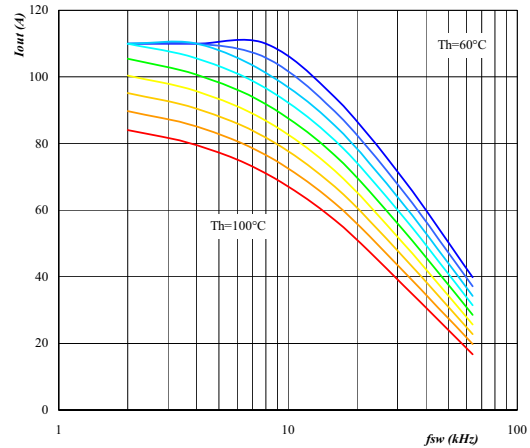
Figure 7. Typical available 50Hz output current as a function of $V_{outpk}/V_{in} \cdot \cos\phi$ and f_{sw}
Phase $I_{out} = f(f_{sw}, V_{outpk}/V_{in} \cdot \cos\phi_i)$



Conditions:
 $T_j = 150 \text{ }^\circ\text{C}$
DC link = 400 V
 $T_h = 90 \text{ }^\circ\text{C}$

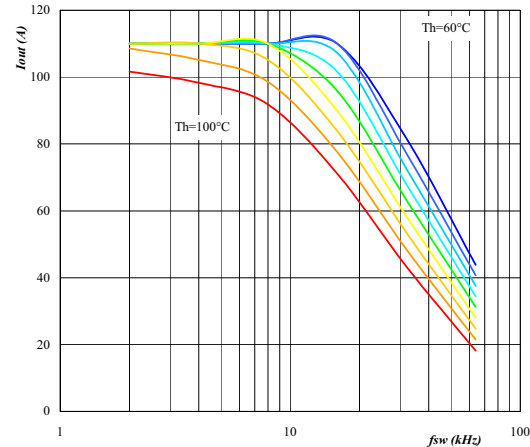
$R_{gon} = 4 \text{ ohms}$ $R_{goff} = 4 \text{ ohms}$

Figure 6. Typical available 50Hz output current as a function of switching frequency
Phase $I_{out} = f(f_{sw})$



Conditions:
 $T_j = 150 \text{ }^\circ\text{C}$
 $V_{out} = 230 \text{ VAC}$
 $\cos\phi_i = 1$
Heatsink temp. T_h from 60 °C to 100 °C
parameter in 5 °C steps

Figure 8. Typical available 50Hz output current as a function of switching frequency
Phase $I_{out} = f(f_{sw})$



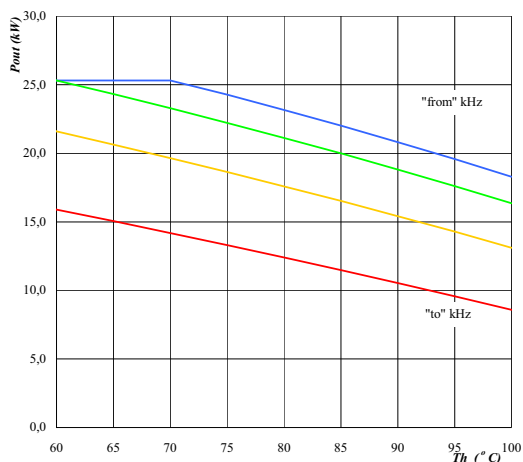
Conditions:
 $T_j = 150 \text{ }^\circ\text{C}$
DC link = 400 V
 $V_{outpk}/V_{in} \cdot \cos\phi_i = 0$
Heatsink temp. T_h from 60 °C to 100 °C
parameter in 5 °C steps

Output inverter application

General conditions: H bridge SPWM $V_{geon}= 15\text{ V}$
 $V_{geoff}= 0\text{ V}$

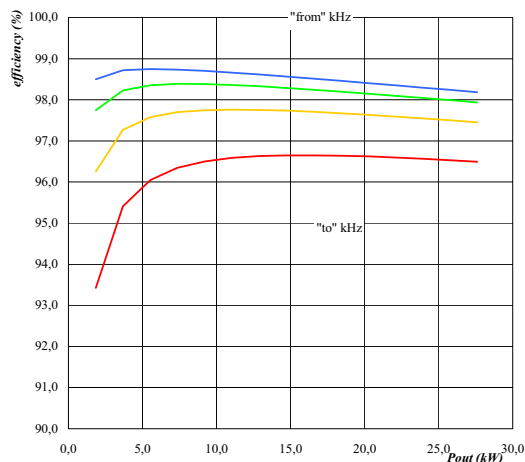
$R_{gon}= 4\text{ ohms}$ $R_{goff}= 4\text{ ohms}$

Figure 9. Typical available electric output power as a function of heatsink temperature
Inverter $P_{out}=f(T_h)$



Conditions: $T_j= 150\text{ °C}$
 $DC\text{ link}= 400\text{ V}$
 $V_{out}= 230\text{ VAC}$
 $\cos\phi= 1,00$
 Switching freq. f_{sw} from 4 kHz to 32 kHz
 parameter in * 2 steps

Figure 10. Typical efficiency as a function of output power
Inverter $\text{efficiency}=f(P_{out})$



Conditions: $T_j= 150\text{ °C}$
 $DC\text{ link}= 400\text{ V}$
 $V_{out}= 230\text{ VAC}$
 $\cos\phi= 1,00$
 Switching freq. f_{sw} from 4 kHz to 32 kHz
 parameter in * 2 steps

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