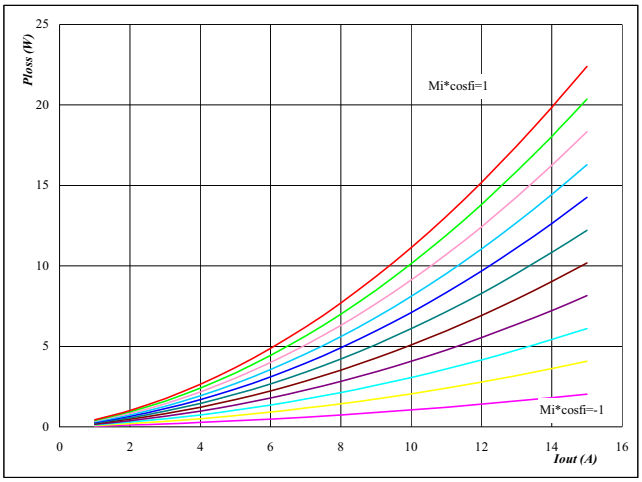
General conditions

3phase SPWM		
V_{GEon}	=	15 V
V_{GEoff}	=	-15 V
R_{gon}	=	32 Ω
R_{goff}	=	32 Ω

Figure 1 IGBT

Typical average static loss as a function of output current

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



At

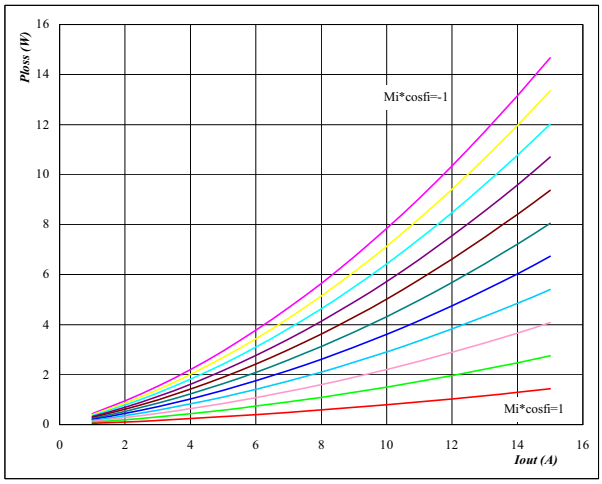
Tj=125°C

Mi*cosfi from -1 to 1 in steps of 0,2

Figure 2 FRED

Typical average static loss as a function of output current

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



At

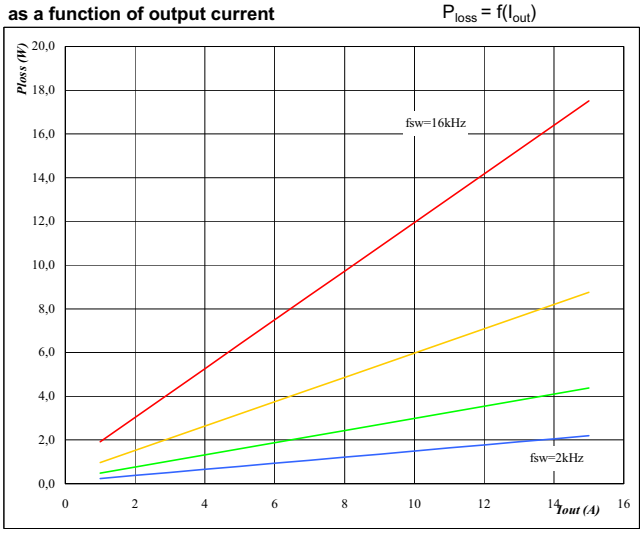
Tj=125°C

Mi*cosfi from -1 to 1 in steps of -0,2

Figure 3 IGBT

Typical average switching loss as a function of output current

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



At

T_j = 125 °C

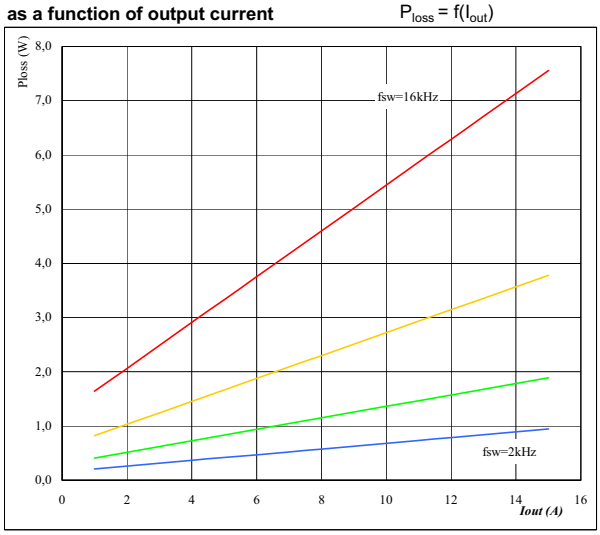
DC link = 600 V

fsw from 2 kHz to 16 kHz in 2 steps

Figure 4 FRED

Typical average switching loss as a function of output current

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



At

T_j = 125 °C

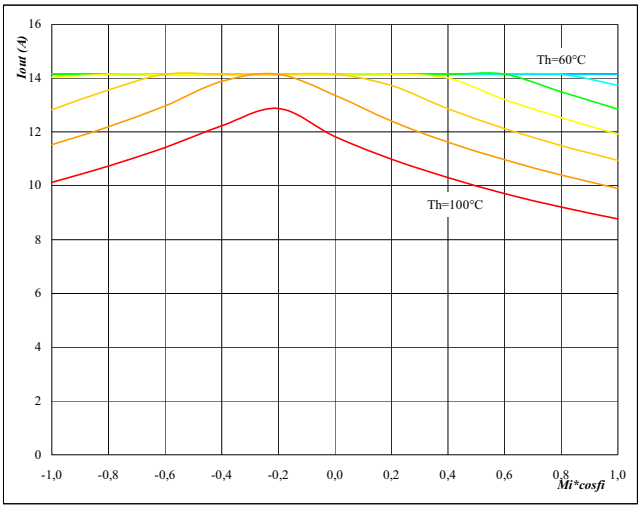
DC link = 600 V

fsw from 2 kHz to 16 kHz in 2 steps

Output Inverter Application

Figure 5 Phase

Typical available 50Hz output current as a function Mi*cosfi $I_{out} = f(Mi*cosfi)$



At

T_j = 125 °C

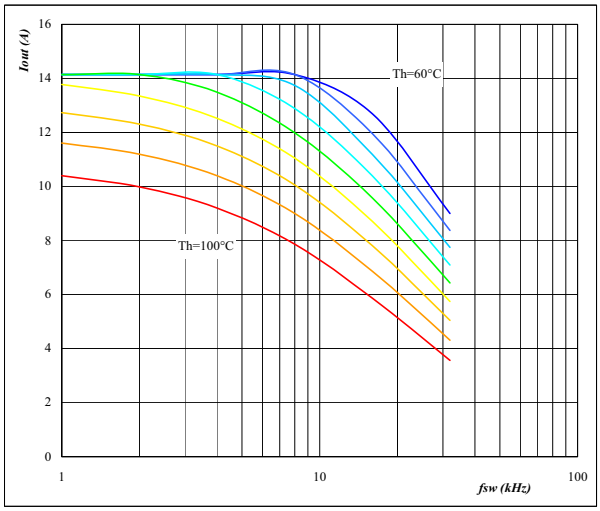
DC link = 600 V

fsw = 4 kHz

Th from 60 °C to 100 °C in steps of 5 °C

Figure 6 Phase

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



At

T_j = 125 °C

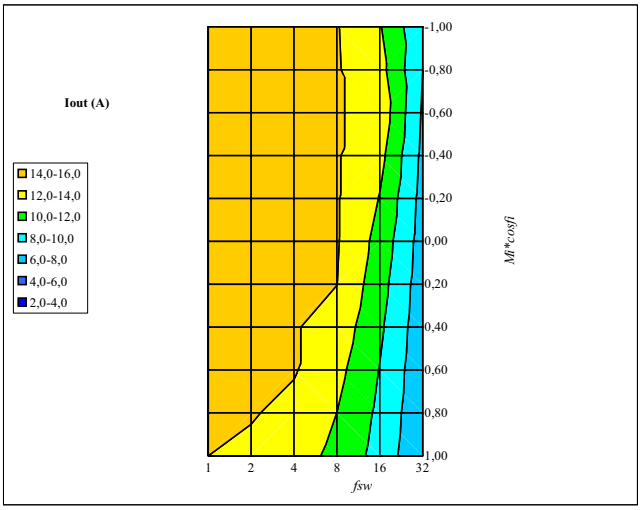
DC link = 600 V

Mi*cosfi = 0,8

Th from 60 °C to 100 °C in steps of 5 °C

Figure 7 Phase

Typical available 50Hz output current as a function of Mi*cosfi and switching frequency $I_{out} = f(f_{sw}, Mi*cosfi)$



At

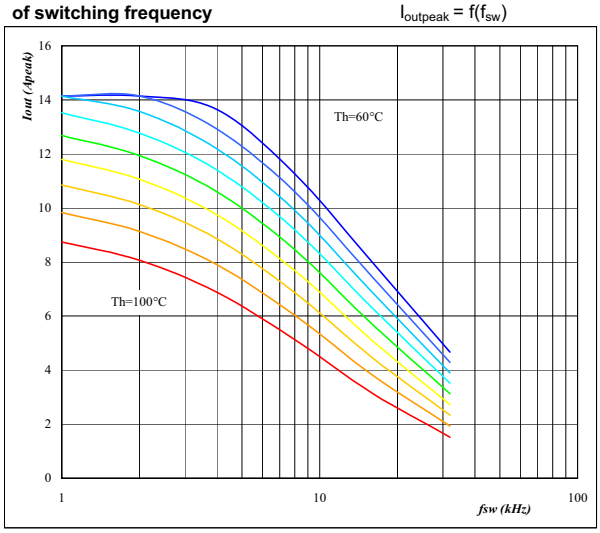
T_j = 125 °C

DC link = 600,00 V

T_h = 80 °C

Figure 8 Phase

Typical available 0Hz output current as a function of switching frequency $I_{outpeak} = f(f_{sw})$



At

T_j = 125 °C

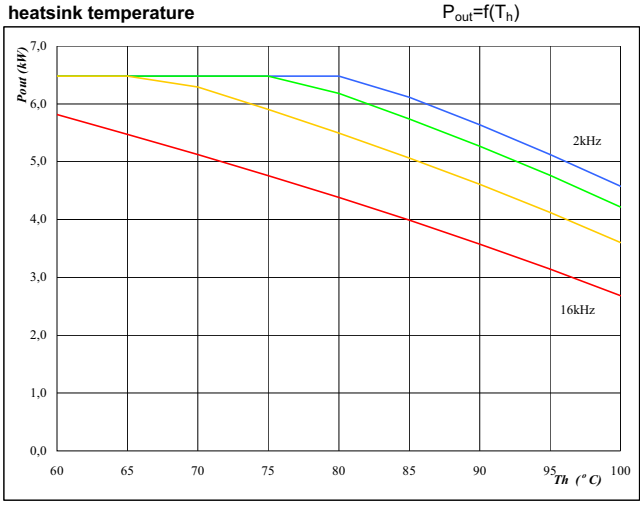
DC link = 600,00 V

Th from 60 °C to 100 °C in steps of 5 °C

Output Inverter Application

Figure 9 Inverter

Typical available peak output power as a function of heatsink temperature $P_{out}=f(T_h)$



At

T_j = 125 °C

DC link = 600 V

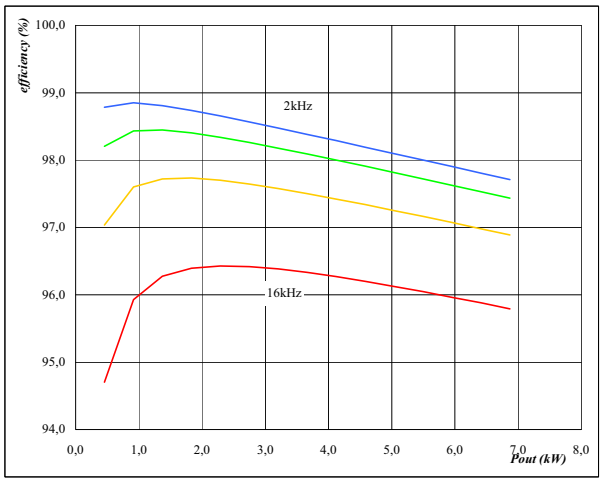
Mi = 1

cosfi = 0,80

fsw from 2 kHz to 16 kHz in 2 steps

Figure 10 Inverter

Typical efficiency as a function of output power efficiency=f(P_{out})



At

T_j = 125 °C

DC link = 600 V

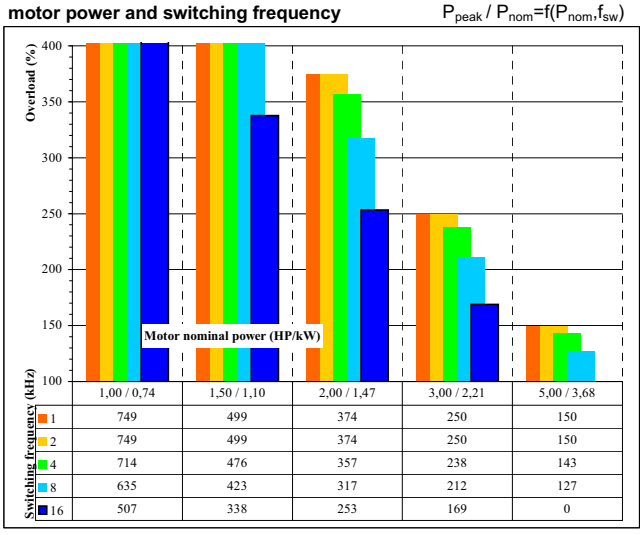
Mi = 1

cosfi = 0,80

fsw from 2 kHz to 16 kHz in 2 steps

Figure 11 Inverter

Typical available overload factor as a function of motor power and switching frequency $P_{peak} / P_{nom}=f(P_{nom},f_{sw})$



Switching frequency (kHz)	1,00 / 0,74	1,50 / 1,10	2,00 / 1,47	3,00 / 2,21	5,00 / 3,68
1	749	499	374	250	150
2	749	499	374	250	150
4	714	476	357	238	143
8	635	423	317	212	127
16	507	338	253	169	0

At

T_j = 125 °C

DC link = 600 V

Mi = 1

cosfi = 0,8

fsw from 1 kHz to 16 kHz in 2 steps

Th = 80 °C

Motor eff = 0,85