V23990-P768-A-PM
prel datasheet

flowPIM 2 3rd	Output Inverter Application	1200V/50A

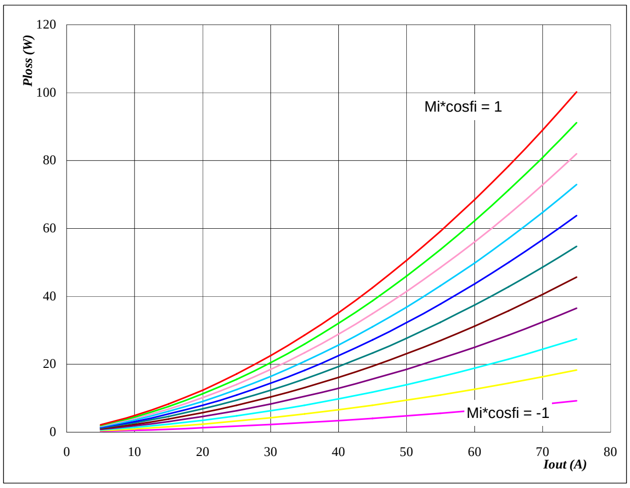
General conditions

3phase SPWM		
V_{GEon}	=	15 V
V_{GEoff}	=	-15 V
R_{gon}	=	8 Ω
R_{goff}	=	8 Ω

Figure 1 IGBT

Typical average static loss as a function of output current

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



At

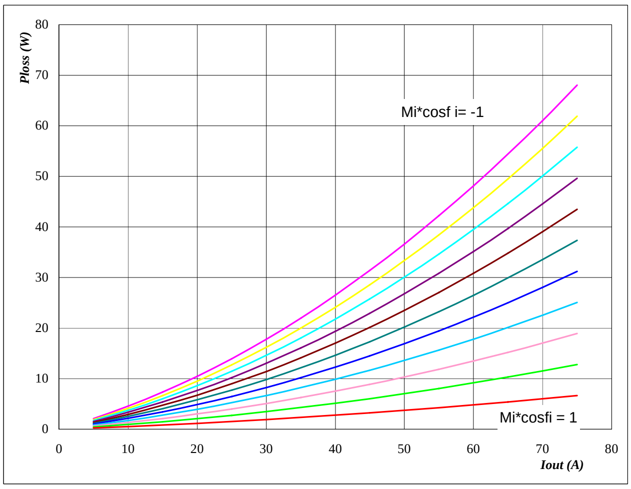
T_j = 150 °C

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

Figure 2 FRED

Typical average static loss as a function of output current

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



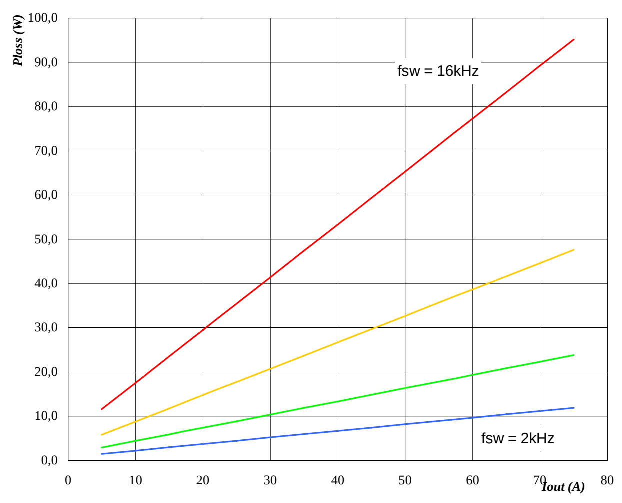
At

T_j = 150 °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

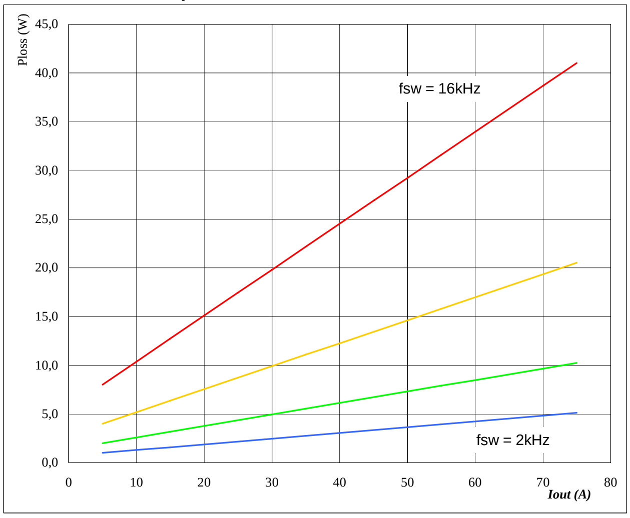
T_j = 150 °C

DC link = 600 V

fsw from 2 kHz to 16 kHz in steps of factor 2

Figure 4 FRED

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



At

T_j = 150 °C

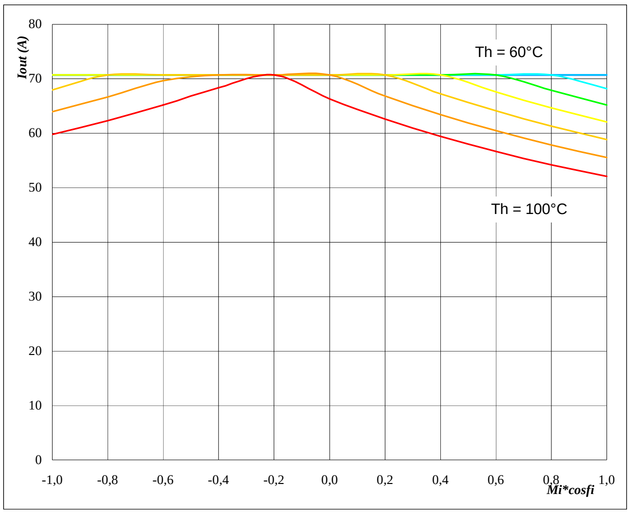
DC link = 600 V

fsw from 2 kHz to 16 kHz in steps of factor 2

Figure 5 Phase

Typical available 50Hz output current as a function Mi*cosfi

I_{out} = f(Mi*cosfi)



At

T_j = 150 °C

DC link = 600 V

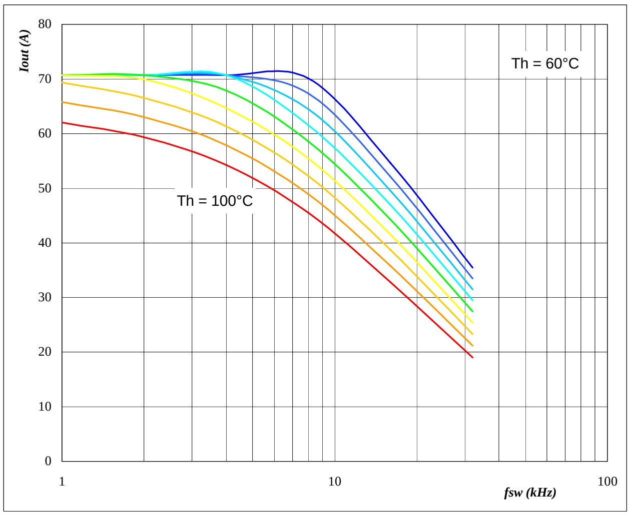
fsw = 4 kHz

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 = 150 °C

DC link = 600 V

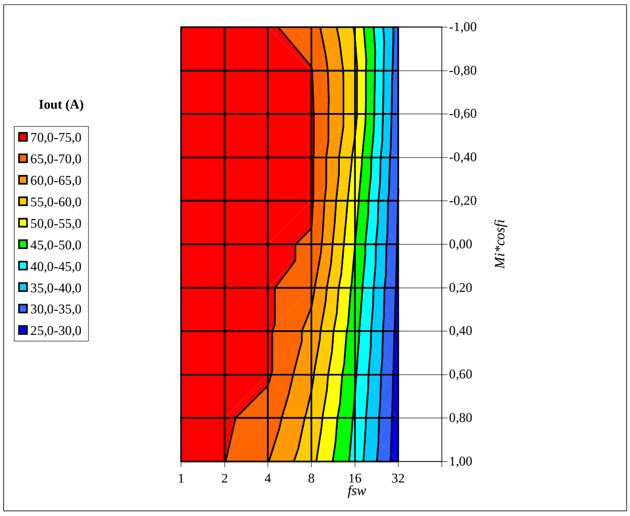
Mi*cosfi = 0,8

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 = 150 °C

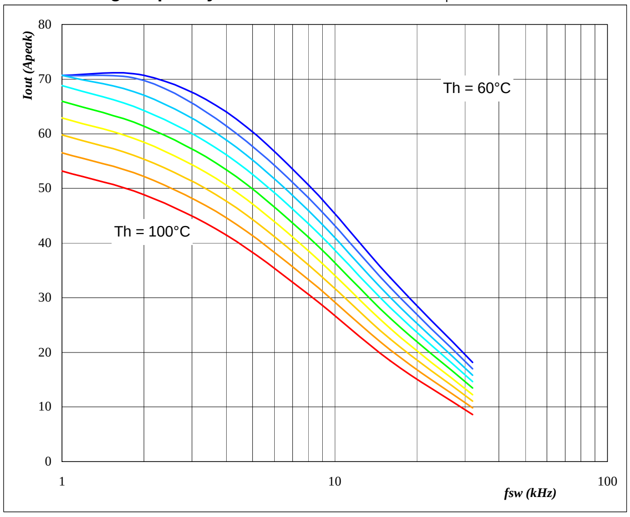
DC link = 600 V

T_h = 80 °C

Figure 8 Phase

Typical available 0Hz output current as a function of switching frequency

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



At

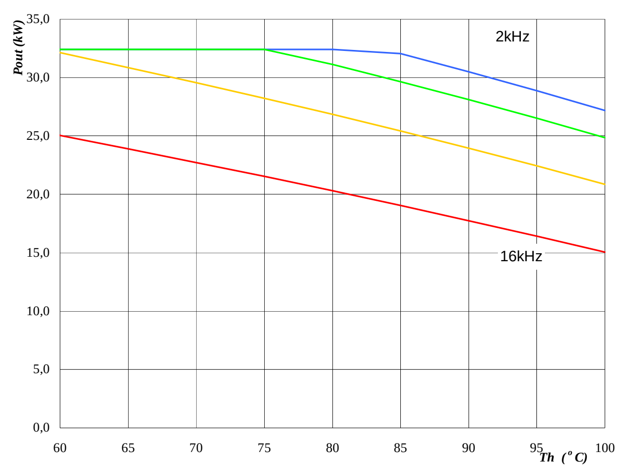
T_j = 150 °C

DC link = 600 V

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

Figure 9 Inverter

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



At

T_j = 150 °C

DC link = 600 V

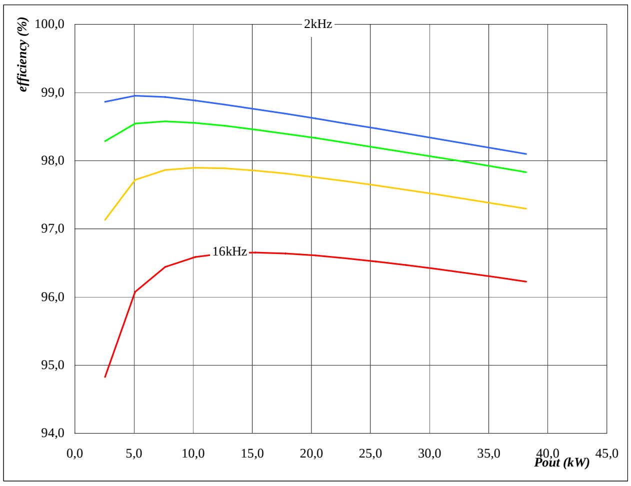
Mi = 1

cosfi = 0,80

fsw from 2 kHz to 16 kHz in steps of factor 2

Figure 10 Inverter

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



At

T_j = 150 °C

DC link = 600 V

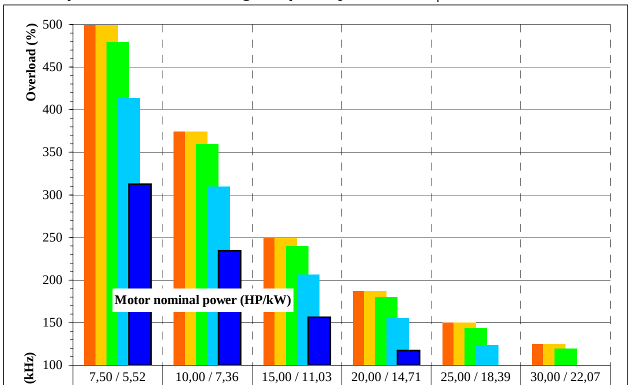
Mi = 1

cosfi = 0,80

fsw from 2 kHz to 16 kHz in steps of factor 2

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)	7,50 / 5,52	10,00 / 7,36	15,00 / 11,03	20,00 / 14,71	25,00 / 18,39	30,00 / 22,07
1	499	374	250	187	150	125
2	499	374	250	187	150	125
4	480	360	240	180	144	120
8	414	310	207	155	124	0
16	313	235	156	117	0	0

At

T_j = 150 °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