Output inverter application

General conditions 3 phase SPWM, Vgeon= 15 V   Rgon= 16 Ω   Rgoff= 16 Ω
Vgeoff= -15 V

Figure 1. Typical avarage static loss
as a function of output current
IGBT   Ploss=f(Iout)

**Figure 2. Typical avarage static loss**
as a function of output current
FRED   Ploss=f(Iout)

Conditions: Tj=125°C
Modulation index * cosfi
parameter   Mi*cosfi from   -1,00 to   1,00
in   0,20 steps
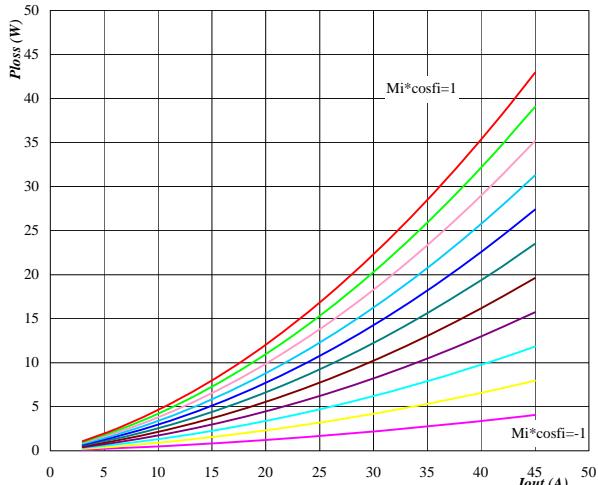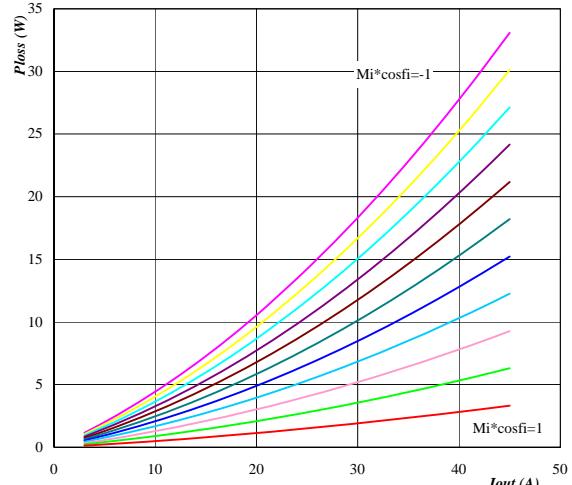
Conditions: Tj=125°C
Modulation index * cosfi
parameter   Mi*cosfi from -1,00 to   1,00
in   0,20 steps

Figure 3. Typical avarage switching loss
as a function of output current
IGBT   Ploss=f(Iout)

Figure 4. Typical avarage switching loss
as a function of output current
FRED   Ploss=f(Iout)
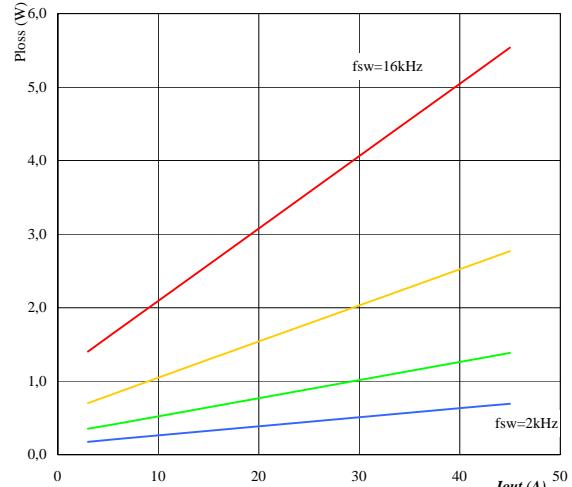
Conditions: Tj=125°C
DC link=   320 V
Switching freq.   fsw from   2 kHz to   16 kHz
parameter   in   * 2 steps

Conditions: Tj=125°C
DC link=   320 V
Switching freq.   fsw from   2 kHz to   16 kHz
parameter   in   * 2 steps

flow90PACK 1 600V/ 30A

Output inverter application

General conditions 3 phase SPWM, Vgeon= 15 V   Rgon= 16 Ω   Rgoff= 16 Ω
                                    Vgeoff= -15 V

Figure 5.   Typical available 50Hz output current as a function of Mi*cosfi

Phase   Iout=f(Mi*cosfi)
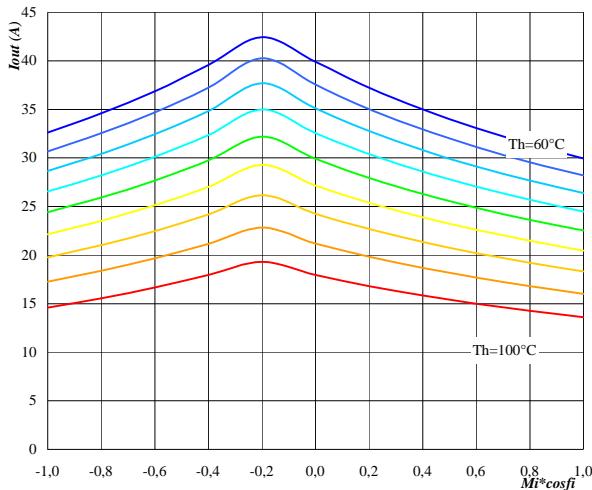
Conditions: Tj=125°C
                     DC link=   320 V
                     fsw=   16 kHz
Heatsink temp.   Th from   60 °C to   100 °C
parameter   in   5 °C   steps

Figure 6.   Typical available 50Hz output current as a function of switching frequency

Phase   Iout=f(fsw)
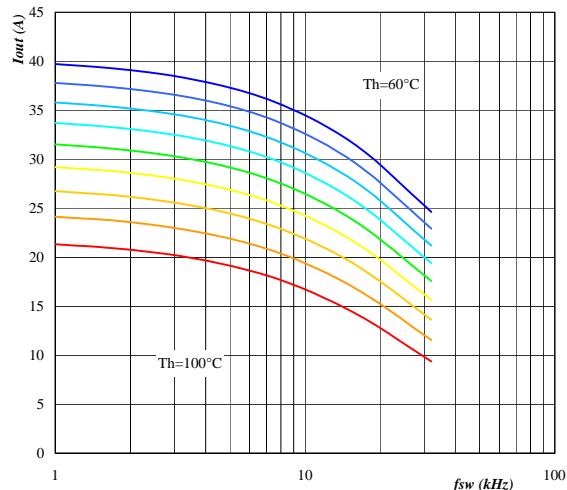
Conditions: Tj=125°C
                     DC link=   320 V
                     Mi*cosfi=   0,8
Heatsink temp.   Th from   60 °C to   100 °C
parameter   in   5 °C   steps

Figure 7.   Typical available 50Hz output current as a function of Mi*cosfi and fsw

Phase   Iout=f(fsw,Mi*cosfi)

Conditions: Tj=125°C
                     DC link=   320 V
                     Th=   80 °C

Figure 8.   Typical available 0Hz output current as a function of switching frequency

Phase   Ioutpeak=f(fsw)
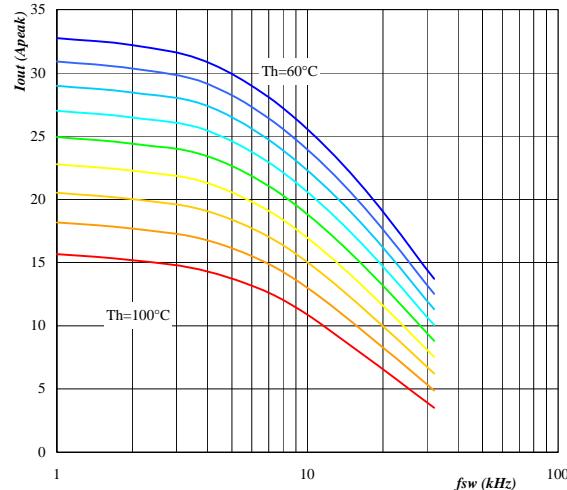
Conditions: Tj=125°C
                     DC link=   320 V
Heatsink temp.   Th from   60 °C to   100 °C
parameter   in   5 °C   steps

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Output inverter application

General conditions 3 phase SPWM, Vgeon= 15 V   Rgon= 16 Ω   Rgoff= 16 Ω
     Vgeoff= -15 V

Figure 9. **Typical available electric peak output power as a function of heatsink temperature**

Inverter   Pout=f(Th)
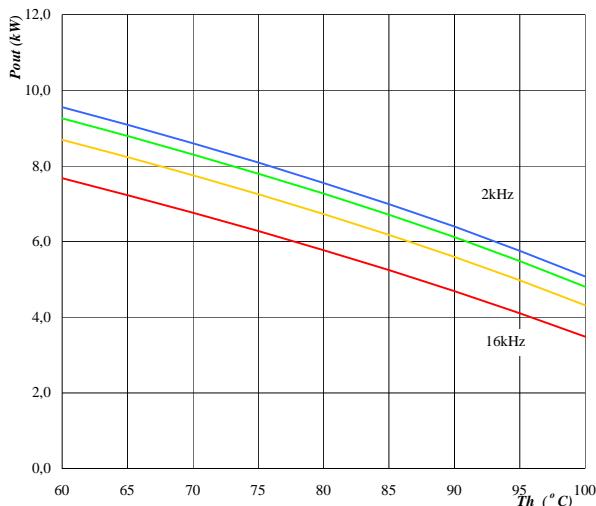
Figure 10. **Typical efficiency as a function of output power**
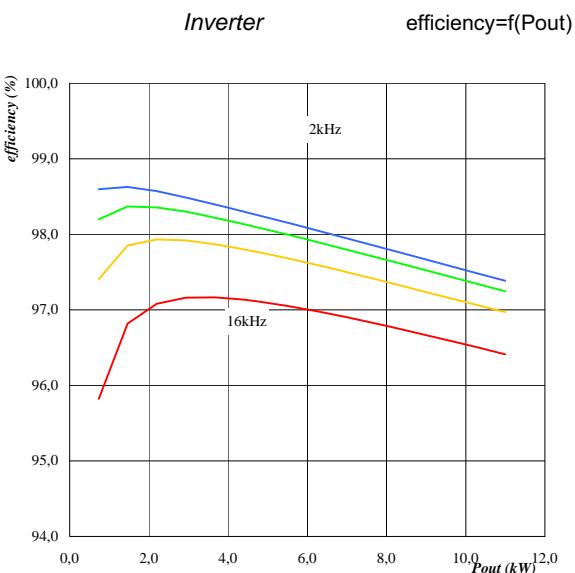
Inverter   efficiency=f(Pout)

Conditions: Tj=125°C
     DC link= 320 V
     Modulation index Mi= 1
     cosfi= 0,80
Switching freq.   fsw from   2 kHz to   16 kHz
     parameter   in   * 2 steps

Conditions: Tj=125°C
     DC link= 320 V
     Modulation index Mi= 1
     cosfi= 0,80
Switching freq.   fsw from   2 kHz to   16 kHz
     parameter   in   * 2 steps

Figure 11. **Typical available overload factor as a function of motor power and switching frequency**

Inverter   Ppeak/Pnom=f(Pnom,fsw)
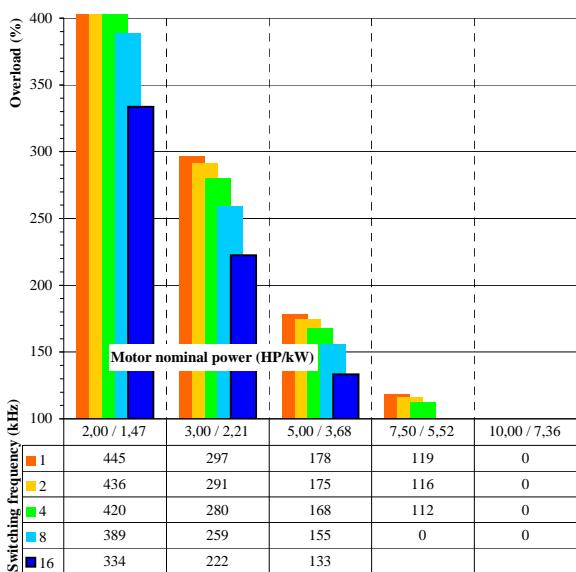
Conditions: Tj=125°C
     DC link= 320 V
     Modulation index Mi= 1
     cosfi= 0,8
Switching freq.   fsw from   1 kHz to   16 kHz
     parameter   in   * 2 steps
     Heatsink temperature= 80 °C
     Motor efficiency= 0,85

Switching frequency (kHz)	2,00 / 1,47	3,00 / 2,21	5,00 / 3,68	7,50 / 5,52	10,00 / 7,36
1	445	297	178	119	0
2	436	291	175	116	0
4	420	280	168	112	0
8	389	259	155	0	0
16	334	222	133		