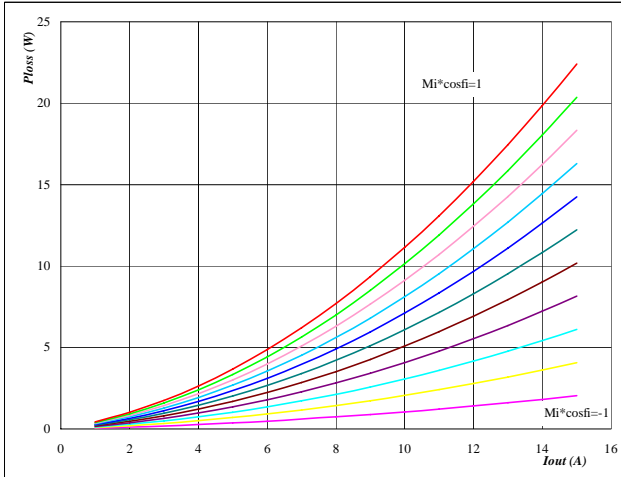


**General conditions**
**3phase SPWM**

$V_{GEon}$	=	15 V
$V_{GEoff}$	=	-15 V
$R_{gon}$	=	32 $\Omega$
$R_{goff}$	=	32 $\Omega$

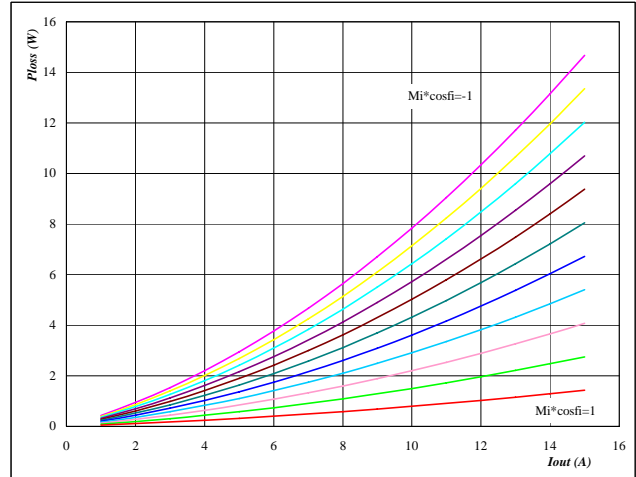
**Figure 1**
**IGBT**
**Typical average static loss as a function of output current**

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


**At**
 $T_j = 125^\circ\text{C}$ 
 $M_i \cdot \cos\phi_i$  from -1 to 1 in steps of 0,2

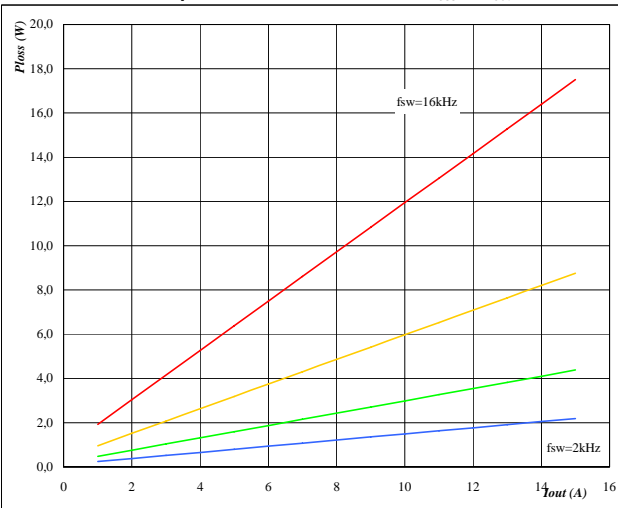
**Figure 2**
**FRED**
**Typical average static loss as a function of output current**

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


**At**
 $T_j = 125^\circ\text{C}$ 
 $M_i \cdot \cos\phi_i$  from -1 to 1 in steps of -0,2

**Figure 3**
**IGBT**
**Typical average switching loss as a function of output current**

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

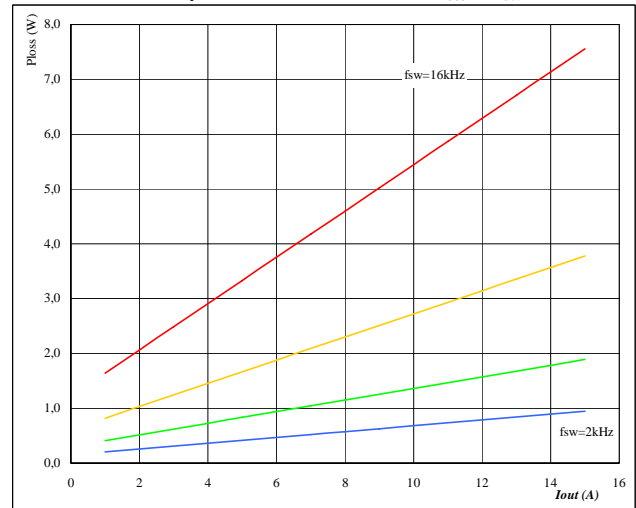

**At**
 $T_j = 125^\circ\text{C}$ 

DC link = 600 V

 $f_{sw}$  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**
 $T_j = 125^\circ\text{C}$ 

DC link = 600 V

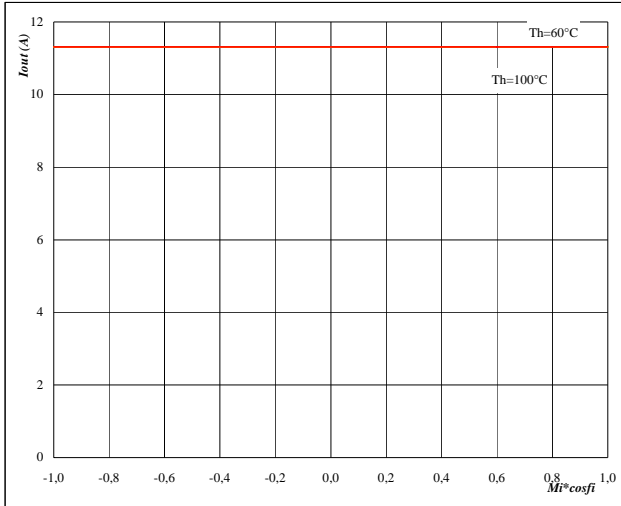
 $f_{sw}$  from 2 kHz to 16 kHz in 2 steps

## Output Inverter Application

**Figure 5** Phase

**Typical available 50Hz output current as a function  $M_i \cdot \cos\phi_i$** 

$$I_{out} = f(M_i \cdot \cos\phi_i)$$

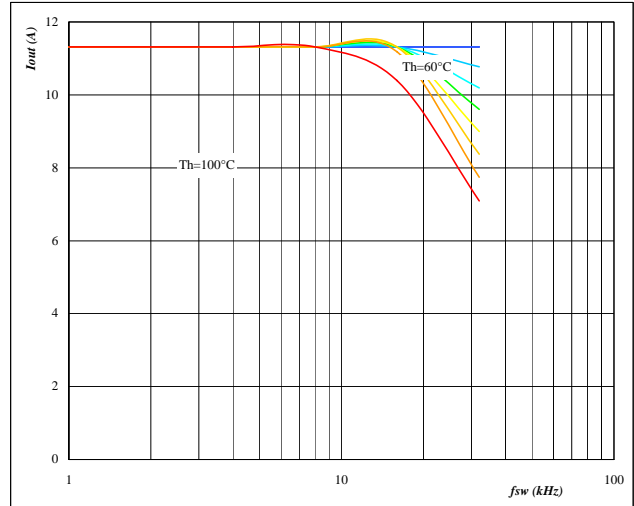


**At**  
 $T_j = 125 \text{ } ^\circ\text{C}$   
 DC link = 600 V  
 $f_{sw} = 8 \text{ kHz}$   
 Th from 60 °C to 100 °C in steps of 5 °C

**Figure 6** Phase

**Typical available 50Hz output current as a function of switching frequency**

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

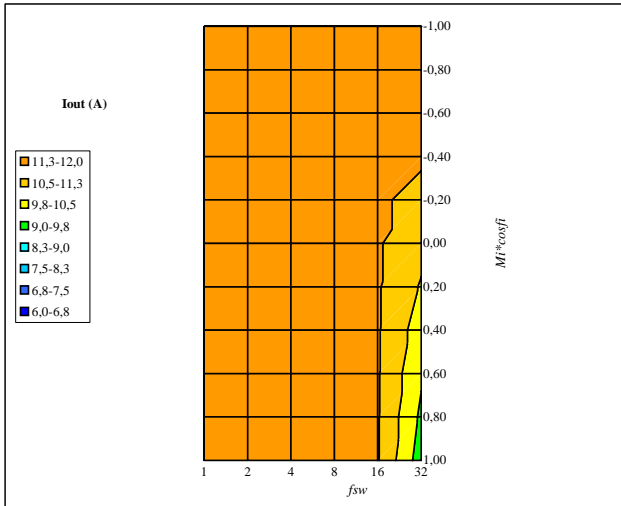


**At**  
 $T_j = 125 \text{ } ^\circ\text{C}$   
 DC link = 600 V  
 $M_i \cdot \cos\phi_i = 0,8$   
 Th from 60 °C to 100 °C in steps of 5 °C

**Figure 7** Phase

**Typical available 50Hz output current as a function of  $M_i \cdot \cos\phi_i$  and switching frequency**

$$I_{out} = f(f_{sw}, M_i \cdot \cos\phi_i)$$

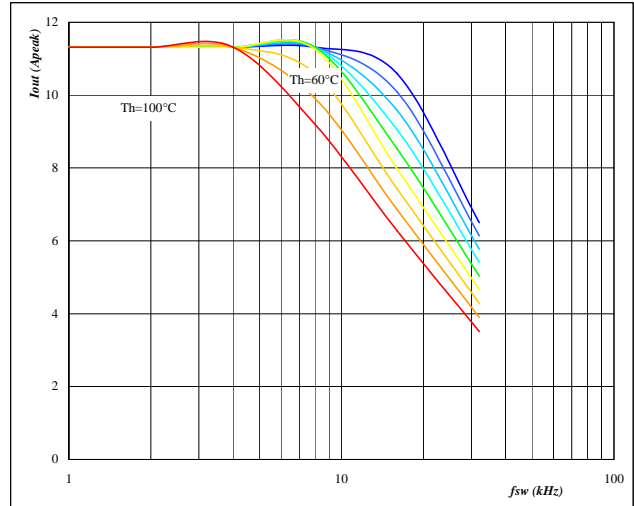


**At**  
 $T_j = 125 \text{ } ^\circ\text{C}$   
 DC link = 600 V  
 $T_h = 80 \text{ } ^\circ\text{C}$

**Figure 8** Phase

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

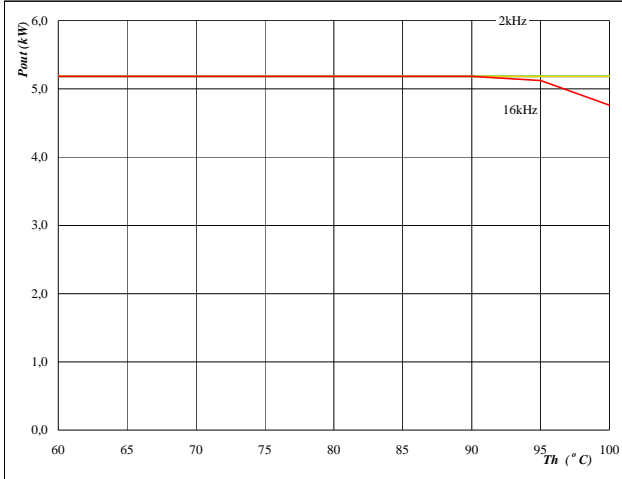
$$I_{outpeak} = f(f_{sw})$$



**At**  
 $T_j = 125 \text{ } ^\circ\text{C}$   
 DC link = 600,00 V  
 Th from 60 °C to 100 °C in steps of 5 °C

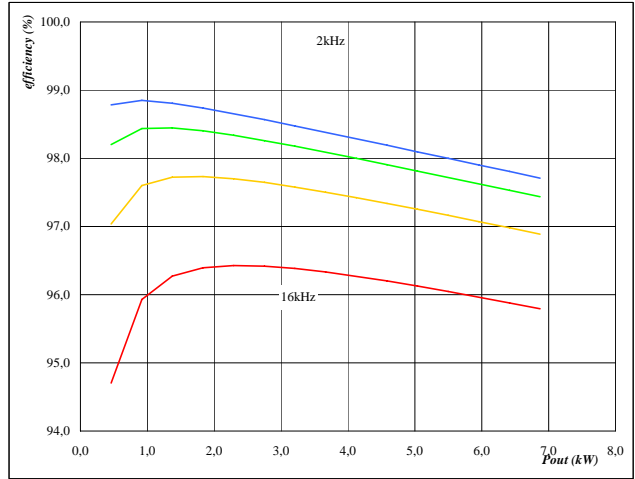
## Output Inverter Application

**Figure 9** Inverter

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


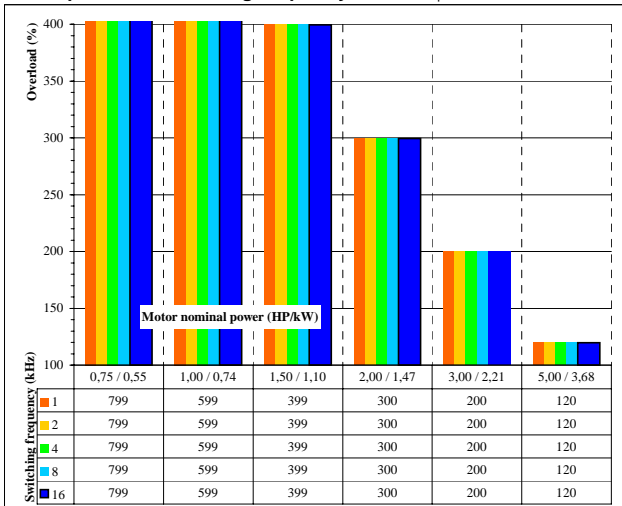
**At**  
 $T_j = 125 \text{ } ^\circ\text{C}$   
 DC link = 600 V  
 $M_i = 1$   
 $\cos\phi_i = 0,80$   
 fsw from 2 kHz to 16 kHz in 2 steps

**Figure 10** Inverter

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


**At**  
 $T_j = 125 \text{ } ^\circ\text{C}$   
 DC link = 600 V  
 $M_i = 1$   
 $\cos\phi_i = 0,80$   
 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**  
 $P_{peak} / P_{nom}=f(P_{nom}, f_{sw})$ 


**At**  
 $T_j = 125 \text{ } ^\circ\text{C}$   
 DC link = 600 V  
 $M_i = 1$   
 $\cos\phi_i = 0,8$   
 fsw from 1 kHz to 16 kHz in 2 steps  
 $T_h = 90 \text{ } ^\circ\text{C}$   
 Motor eff = 0,85

**PRODUCT STATUS DEFINITIONS**

<b>Datasheet Status</b>	<b>Product Status</b>	<b>Definition</b>
Target	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice. The data contained is exclusively intended for technically trained staff.
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