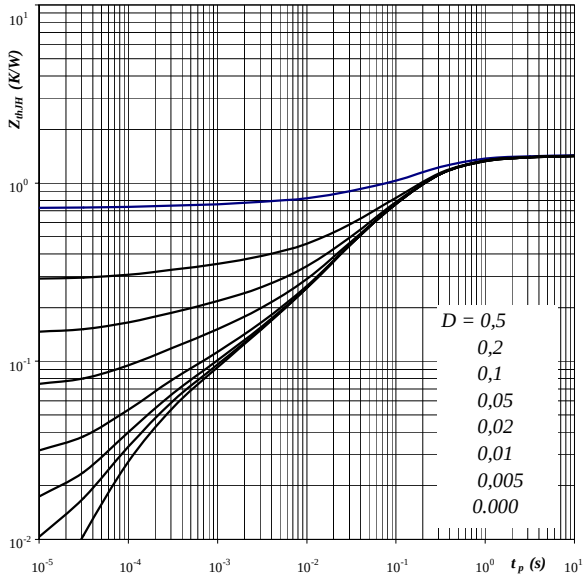
Output inverter

Figure 13. IGBT transient thermal impedance as a function of pulse width

$Z_{thJH} = f(tp)$



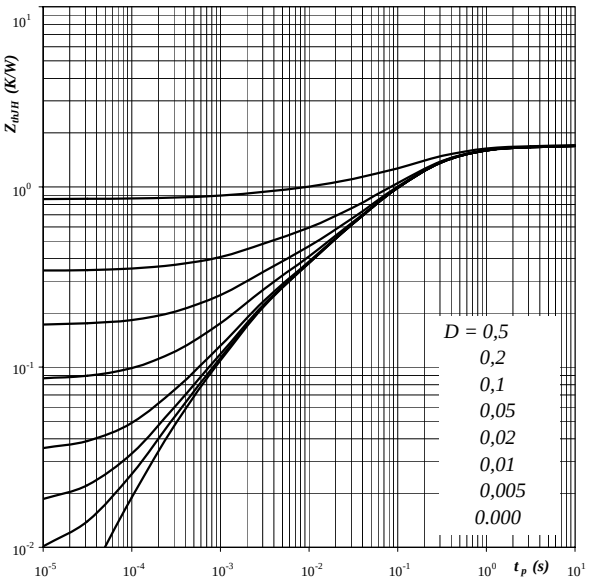
Parameter: D = tp / T RthJH 1,43 K/W

IGBT thermal model values

R (C/W)	Tau (s)
0,03	6,1E+01
0,10	2,2E+00
0,48	3,3E-01
0,56	9,8E-02
0,18	1,3E-02

Figure 14. FRED transient thermal impedance as a function of pulse width

$Z_{thJH} = f(tp)$



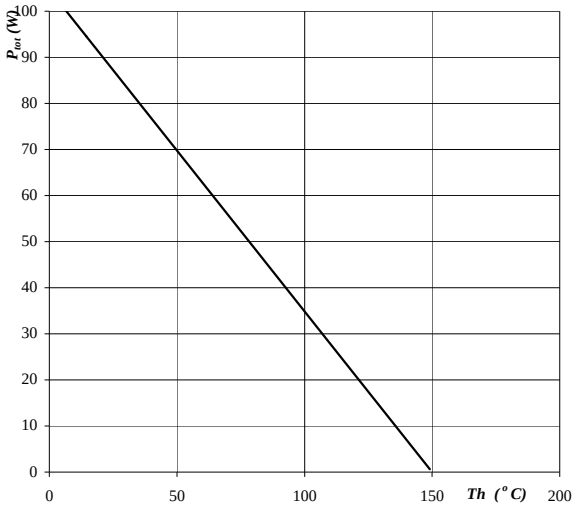
Parameter: D = tp / T RthJH 1,70 K/W

FRED thermal model values

R (C/W)	Tau (s)
0,03	3,5E+01
0,12	1,9E+00
0,57	3,0E-01
0,60	8,1E-02
0,23	1,3E-02

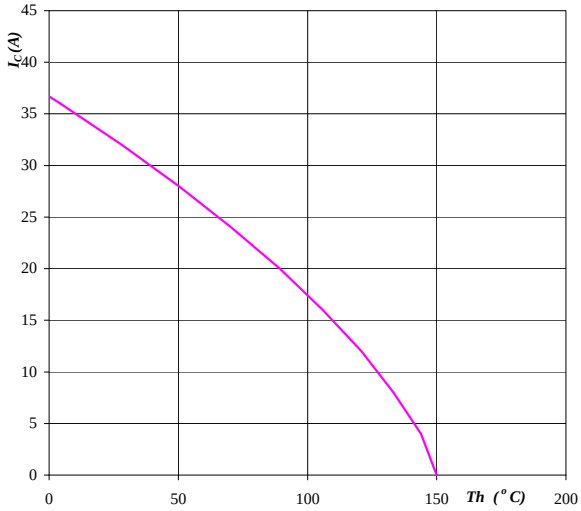
Output inverter

Figure 15. Power dissipation as a function of heatsink temperature
Output inverter IGBT
P_{tot} = f (Th)



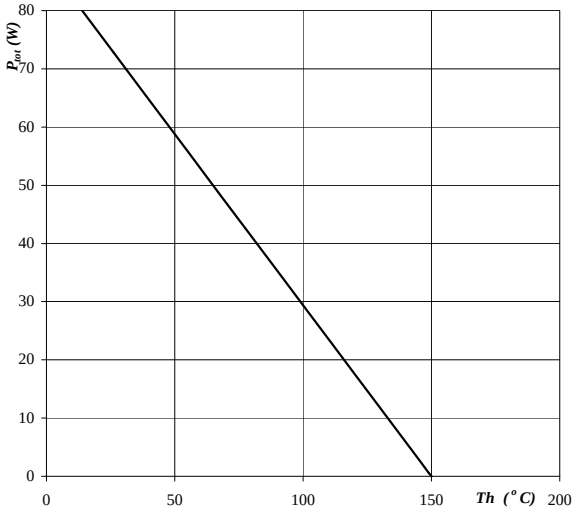
parameter: Tj = 150°C

Figure 16. Collector current as a function of heatsink temperature
Output inverter IGBT
I_C = f (Th)



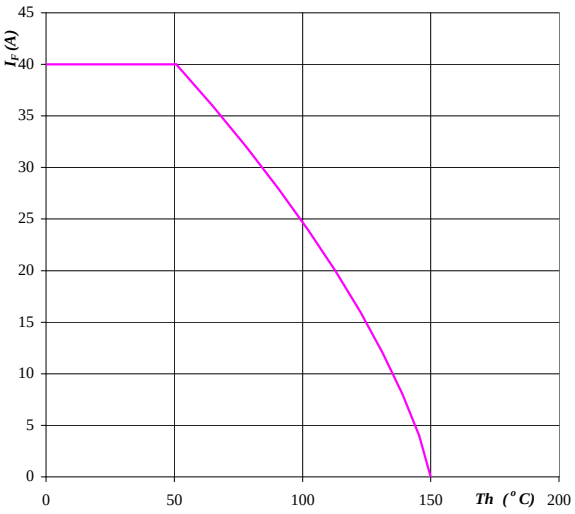
parameter: Tj = 150°C
V_{GE}= 15 V

Figure 17. Power dissipation as a function of heatsink temperature
Output inverter FRED
P_{tot} = f (Th)



parameter: Tj = 150°C

Figure 18. Forward current as a function of heatsink temperature
Output inverter FRED
I_F = f (Th)



parameter: Tj = 150°C

Thermistor

Figure 23. Typical NTC characteristic as a function of temperature

NTC

$R_T = f(T)$