

SKKT 280, SKKH 280



SEMIPACK® 3 new

Thyristor / Diode Modules

SKKH 280

SKKT 280

Features

- Heat transfer through aluminium nitride ceramic isolated metal baseplate
- Precious metal pressure contacts for high reliability
- Thyristor with amplifying gate
- UL recognized, file no. E 63 532

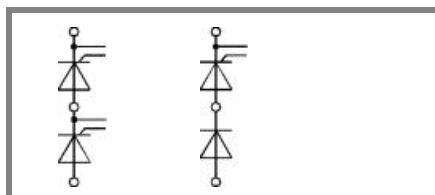
Typical Applications*

- DC motor control (e. g. for machine tools)
- AC motor starters
- Temperature control (e. g. for ovens, chemical processes)
- Professional light dimming (studios, theaters)

1) See the assembly instruction

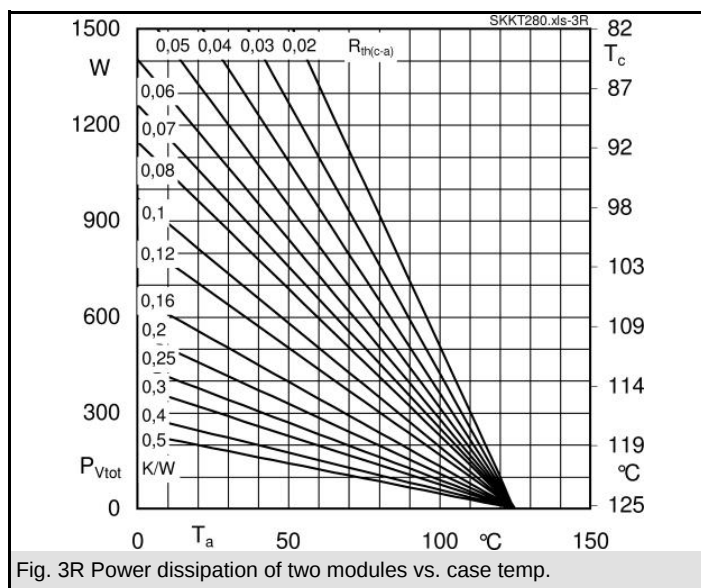
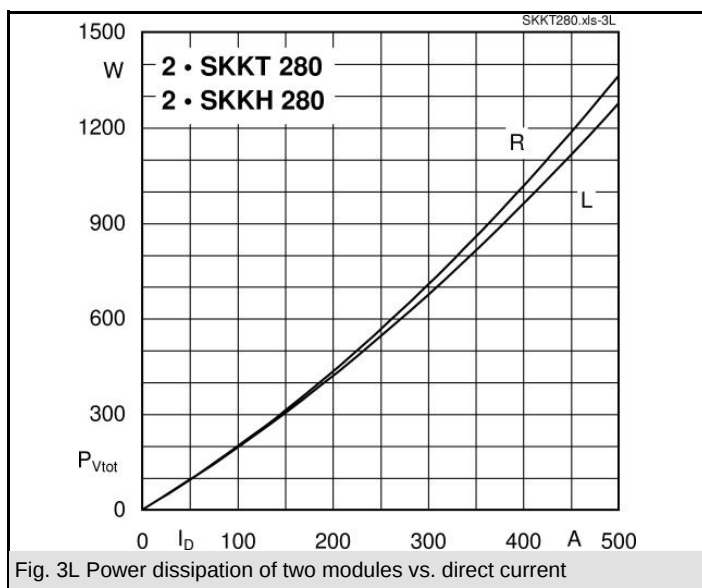
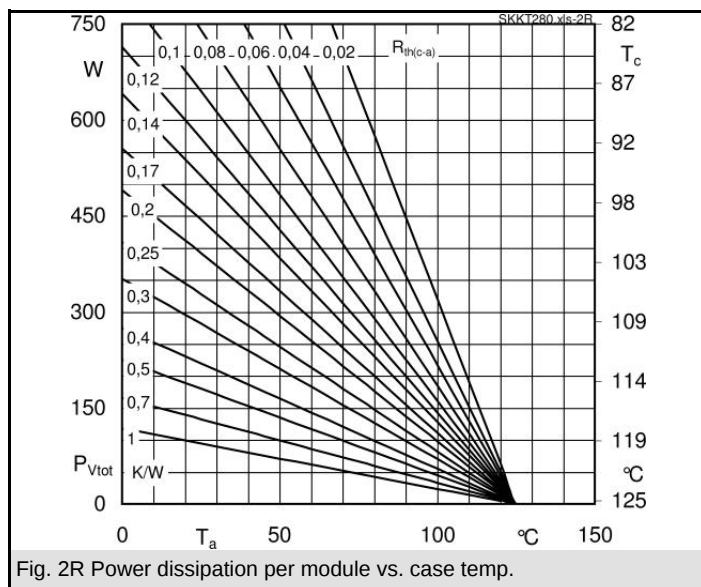
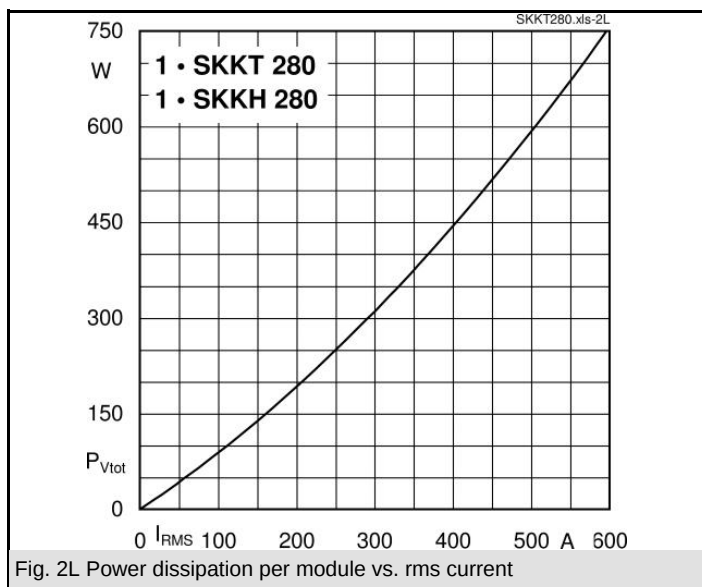
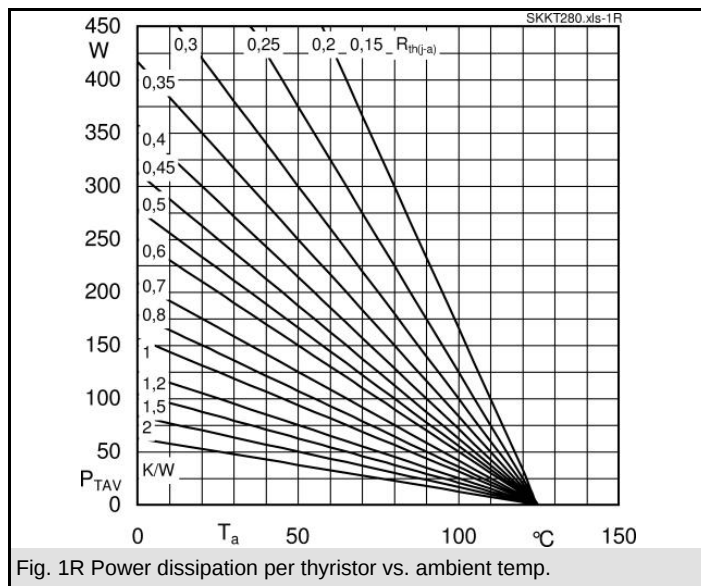
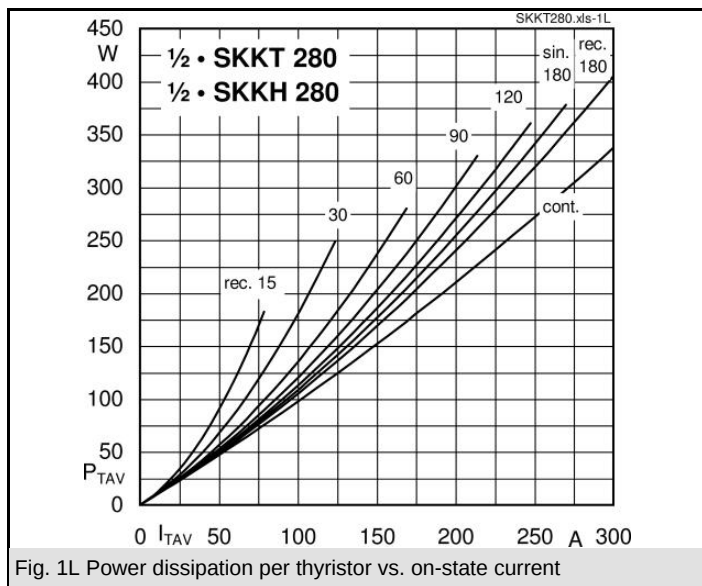
V_{RSM} V	V_{RRM}, V_{DRM} V	$I_{TRMS} = 440$ A (maximum value for continuous operation) $I_{TAV} = 280$ A (sin. 180; $T_c = 79$ °C)		
2100	2000	SKKT 280/20E H4	SKKH 280/20E H4	
2300	2200	SKKT 280/22E H4	SKKH 280/22E H4	

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; $T_c = 79$ (85) °C;	280 (252)	A
I_{TSM}	$T_{vj} = 25$ °C; 10 ms $T_{vj} = 125$ °C; 10 ms	8500 7500	A A
i^2t	$T_{vj} = 25$ °C; 8,3 ... 10 ms $T_{vj} = 125$ °C; 8,3 ... 10 ms	361000 281000	A²s A²s
V_T	$T_{vj} = 25$ °C; $I_T = 750$ A	max. 1,55	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	max. 0,9	V
r_T	$T_{vj} = 125$ °C	max. 0,75	mΩ
I_{DD}, I_{RD}	$T_{vj} = 125$ °C; $V_{RD} = V_{RRM}; V_{DD} = V_{DRM}$	max. 90	mA
t_{gd}	$T_{vj} = 25$ °C; $I_G = 1$ A; $di_G/dt = 1$ A/μs	1	μs
t_{gr}	$V_D = 0,67 \cdot V_{DRM}$	2	μs
$(di/dt)_{cr}$	$T_{vj} = 125$ °C	max. 250	A/μs
$(dv/dt)_{cr}$	$T_{vj} = 125$ °C	max. 1000	V/μs
t_q	$T_{vj} = 125$ °C	50 ... 150	μs
I_H	$T_{vj} = 25$ °C; typ. / max.	150 / 500	mA
I_L	$T_{vj} = 25$ °C; $R_G = 33$ Ω; typ. / max.	300 / 2000	mA
V_{GT}	$T_{vj} = 25$ °C; d.c.	min. 3	V
I_{GT}	$T_{vj} = 25$ °C; d.c.	min. 200	mA
V_{GD}	$T_{vj} = 125$ °C; d.c.	max. 0,25	V
I_{GD}	$T_{vj} = 125$ °C; d.c.	max. 10	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,11 / 0,055	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,116 / 0,058	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,13 / 0,065	K/W
$R_{th(c-s)}$	per thyristor / per module	0,04 / 0,02	K/W
T_{vj}		- 40 ... + 125	°C
T_{stg}		- 40 ... + 125	°C
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	4800 / 4000	V~
M_s	to heatsink	9 ± 15 % ¹⁾	Nm
M_t	to terminal	9 ± 15 %	Nm
a		$5 \cdot 9,81$	m/s²
m	approx.	600	g
Case	SKKT SKKH	A 73b A 76b	



SKKT

SKKH



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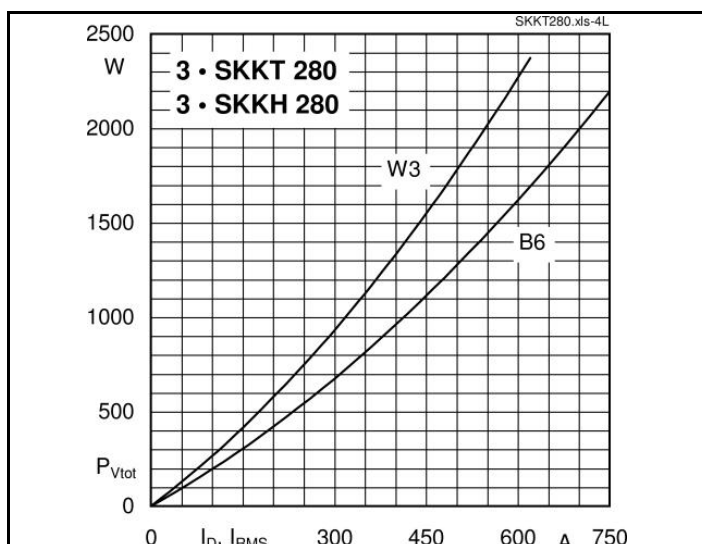


Fig. 4L Power dissipation of three modules vs. direct and rms current

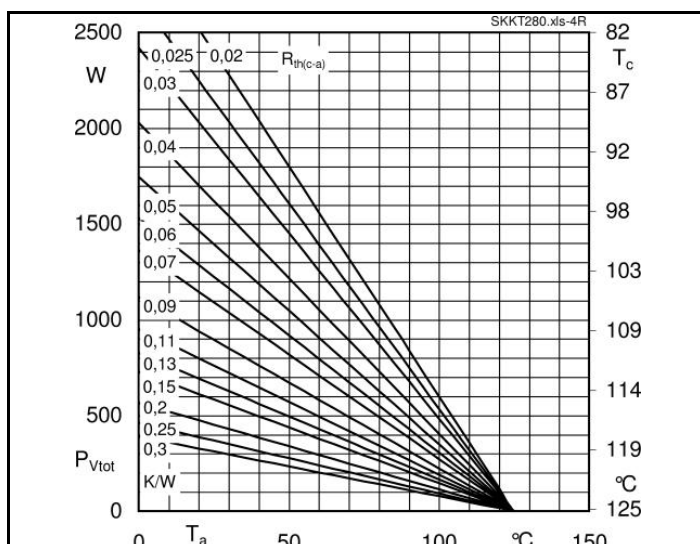


Fig. 4R Power dissipation of three modules vs. case temp.

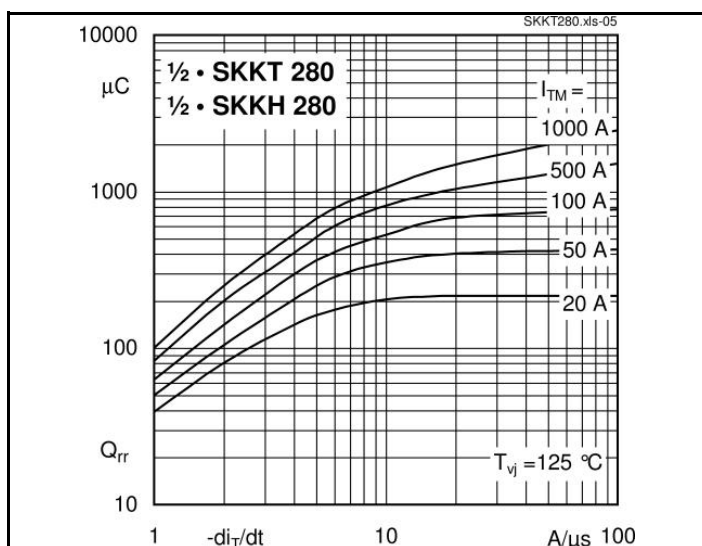


Fig. 5 Recovered charge vs. current decrease

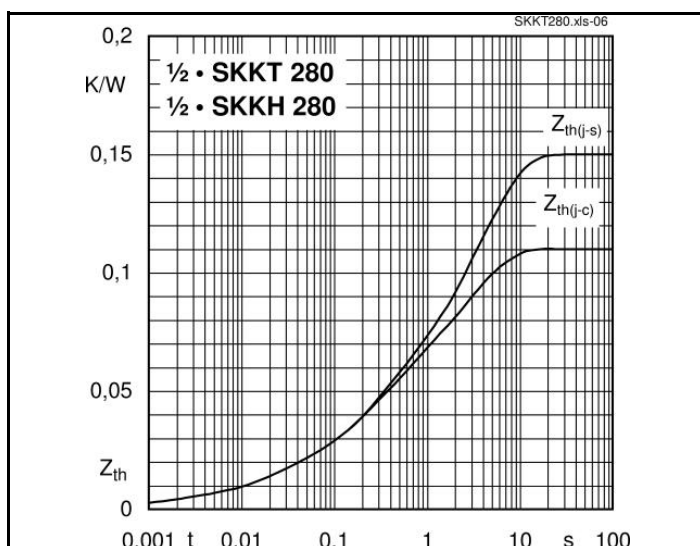


Fig. 6 Transient thermal impedance vs. time

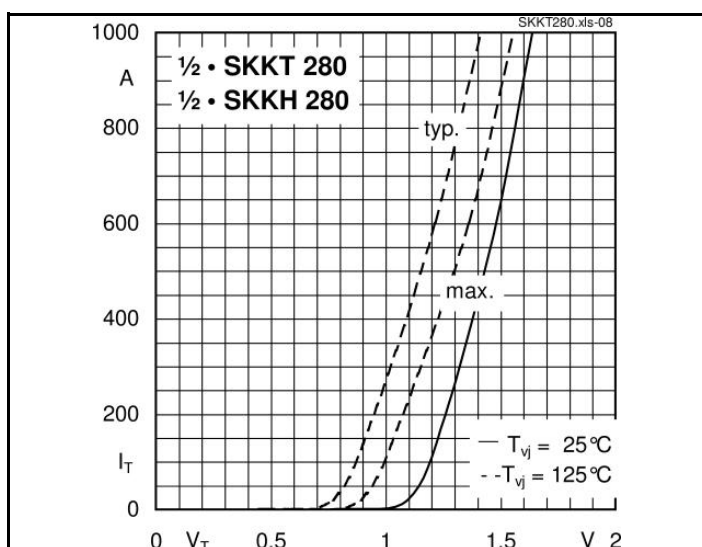


Fig. 7 On-state characteristics

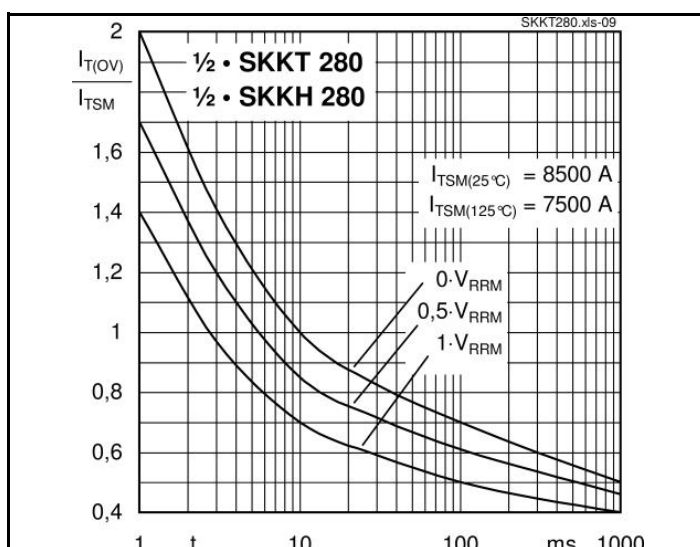
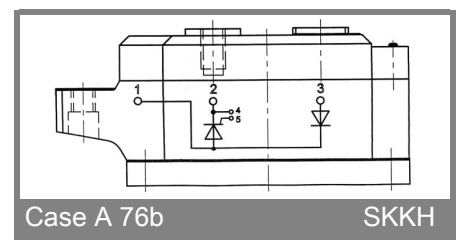
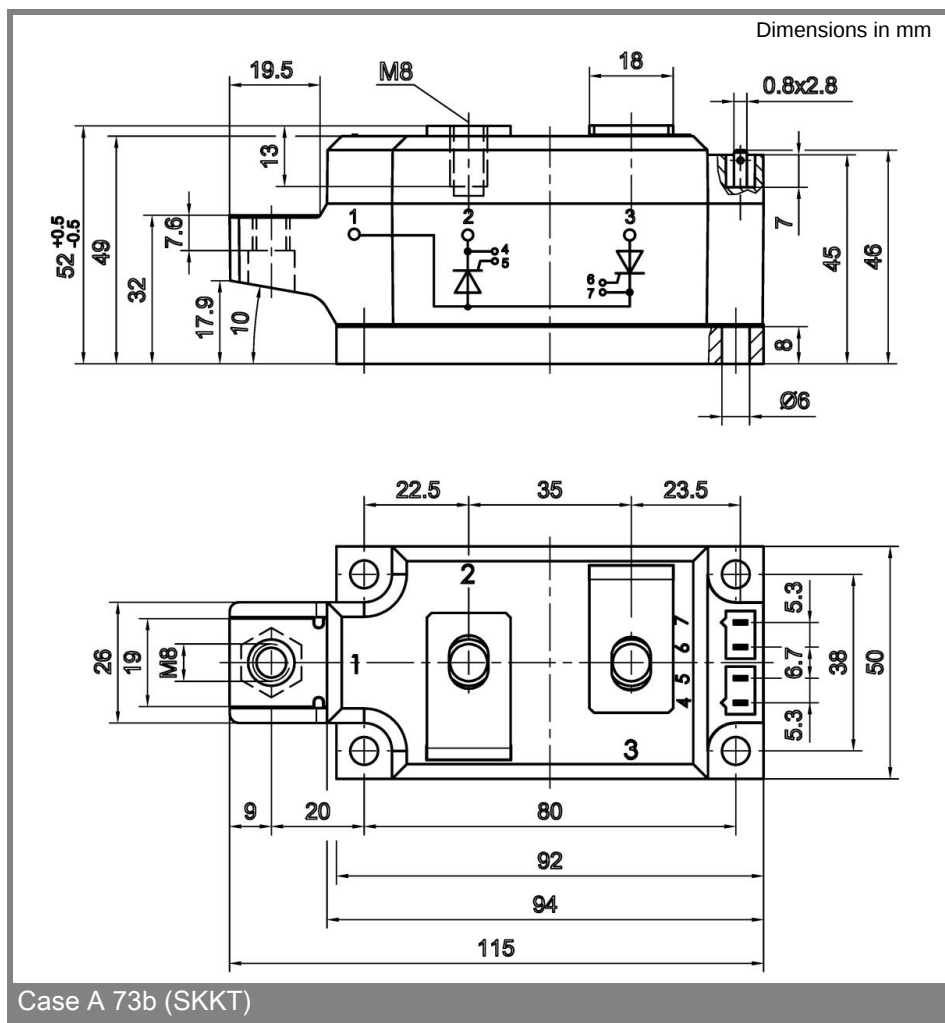
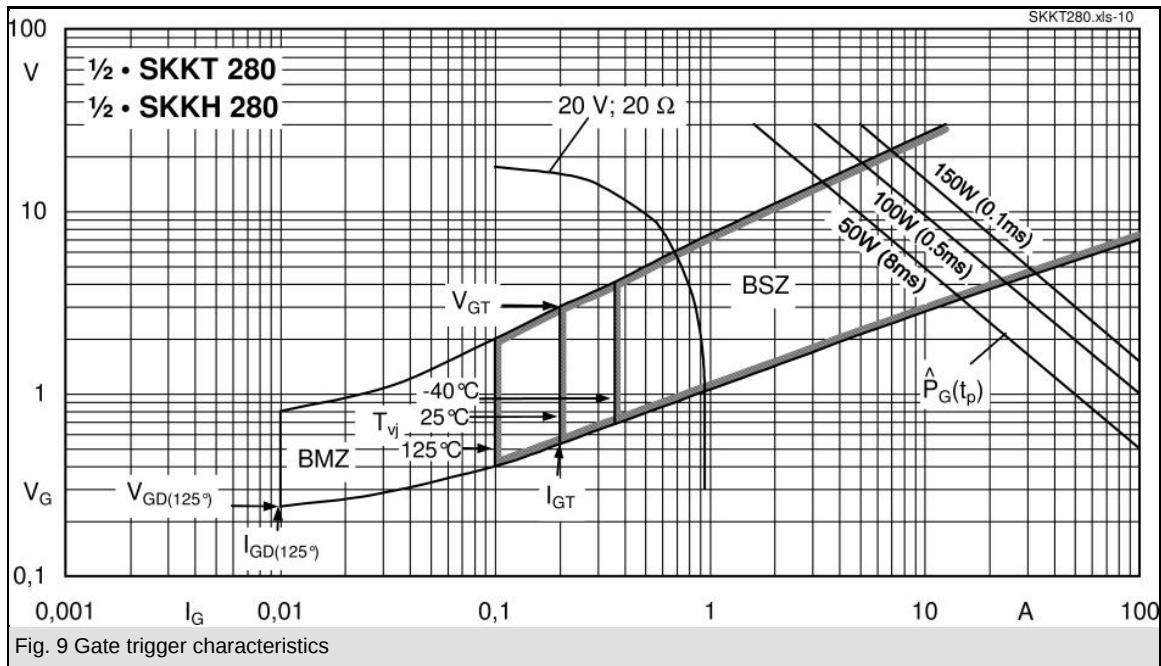


Fig. 8 Surge overload current vs. time



* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON

products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our staff.