



SEMIPACK® 3

Thyristor / Diode Modules

SKKH 250

SKKT 250

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

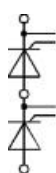
Typical Applications*

- 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 instructions

V_{RSM} V	V_{RRM}, V_{DRM} V	$I_{TRMS} = 420$ A (maximum value for continuous operation) $I_{TAV} = 250$ A (sin. 180; $T_c = 85$ °C)		
900	800	SKKT 250/08E	SKKH 250/08E	
1300	1200	SKKT 250/12E	SKKH 250/12E	
1700	1600	SKKT 250/16E	SKKH 250/16E	
1900	1800	SKKT 250/18E	SKKH 250/18E	

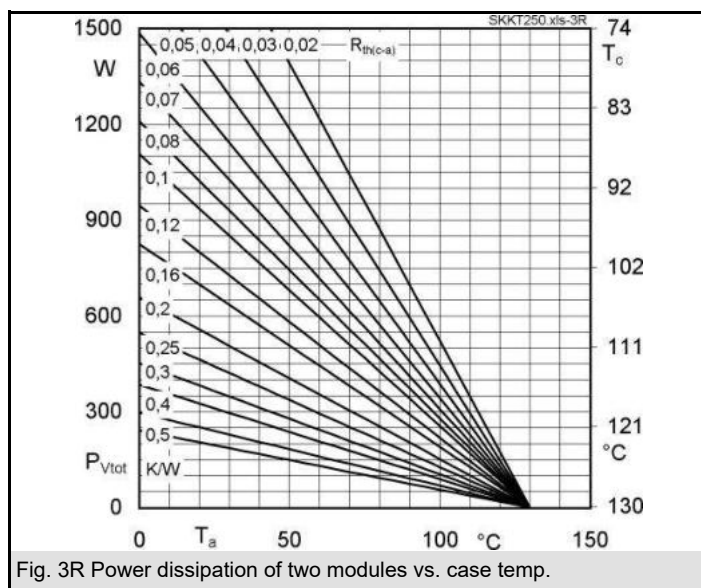
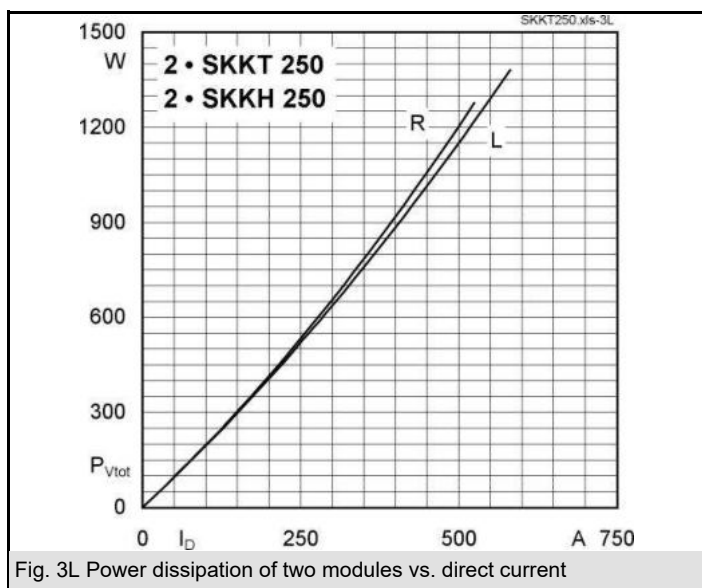
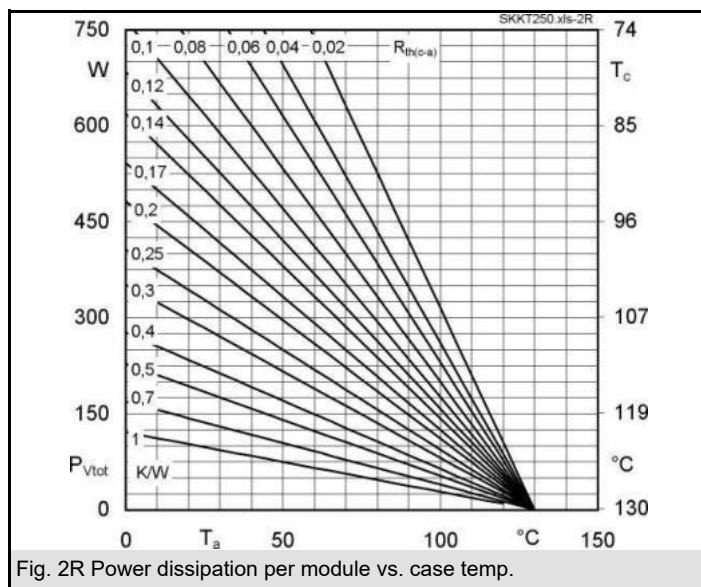
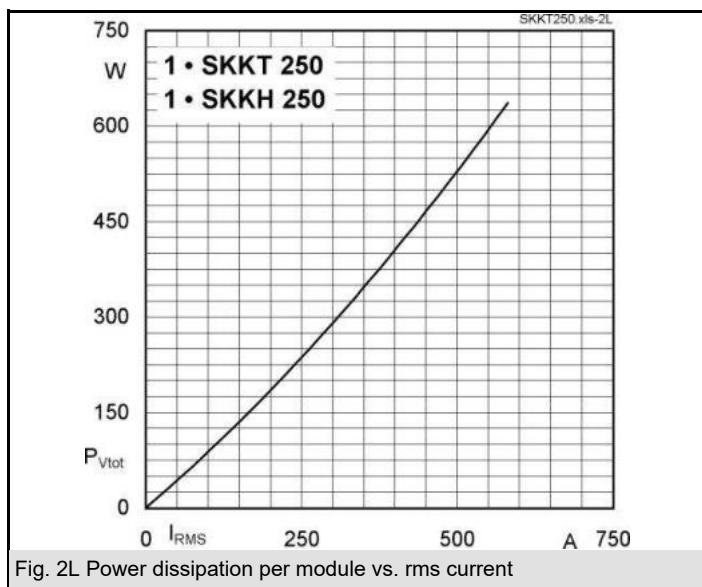
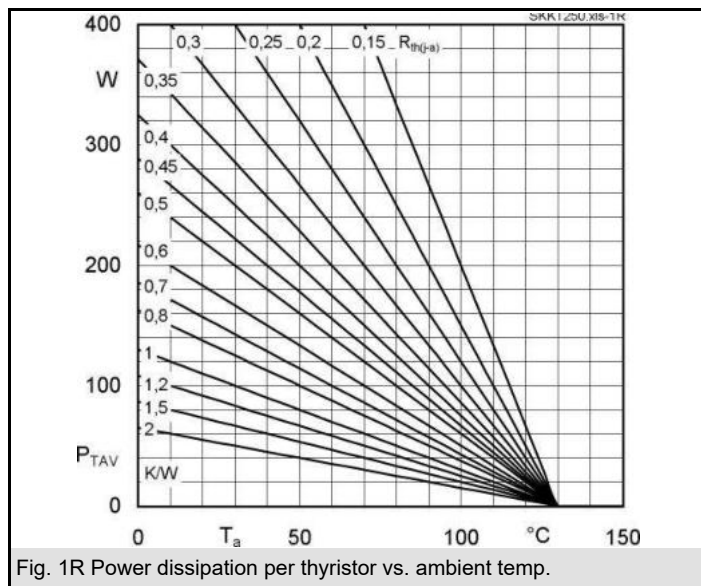
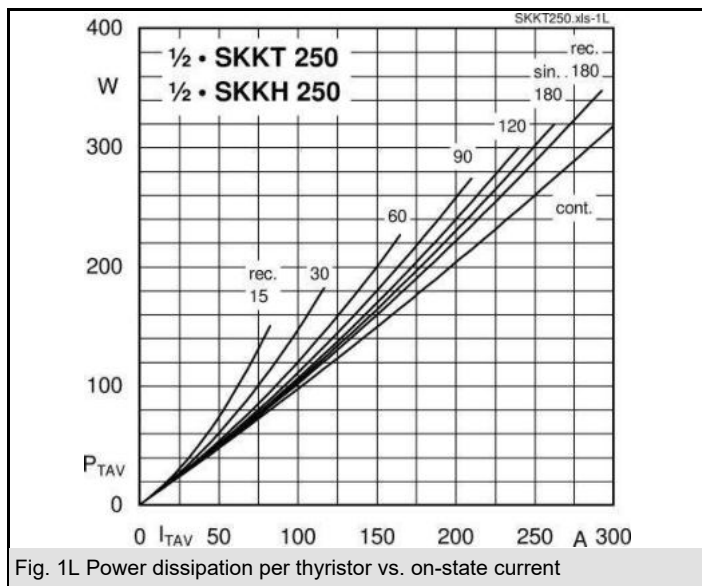
Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; $T_c = 85$ (100) °C;	250 (178)	A
I_D	P16/200F; $T_a = 35$ °C; B2/B6	450 / 585	A
I_{RMS}	P16/200F; $T_a = 35$ °C; W1 / W3	566 / 3 * 471	A
I_{TSM}	$T_{vj} = 25$ °C; 10 ms	9000	A
	$T_{vj} = 130$ °C; 10 ms	8000	A
i^2t	$T_{vj} = 25$ °C; 8,3 ... 10 ms	405000	A²s
	$T_{vj} = 130$ °C; 8,3 ... 10 ms	320000	A²s
V_T	$T_{vj} = 25$ °C; $I_T = 750$ A	max. 1,4	V
$V_{T(TO)}$	$T_{vj} = 130$ °C	max. 0,925	V
r_T	$T_{vj} = 130$ °C	max. 0,45	mΩ
I_{DD}, I_{RD}	$T_{vj} = 130$ °C; $V_{RD} = V_{RRM}$; $V_{DD} = V_{DRM}$	max. 85	mA
t_{gd}	$T_{vj} = 25$ °C; $I_G = 1$ A; $di_G/dt = 1$ A/μs	1	μs
t_{gr}	$V_D = 0,67 * V_{DRM}$	2	μs
$(di/dt)_{cr}$	$T_{vj} = 130$ °C	max. 250	A/μs
$(dv/dt)_{cr}$	$T_{vj} = 130$ °C	max. 1000	V/μs
t_q	$T_{vj} = 130$ °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}	$T_{vj} = 130$ °C; d.c.	max. 0,25	V
I_{GD}	$T_{vj} = 130$ °C; d.c.	max. 10	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,14 / 0,07	K/W
$R_{th(f-c)}$	sin. 180; per thyristor / per module	0,15 / 0,075	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,165 / 0,083	K/W
$R_{th(c-s)}$	per thyristor / per module	0,04 / 0,02	K/W
T_{vj}		- 40 ... + 130	°C
T_{stg}		- 40 ... + 130	°C
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 / 3000	V~
M_s	to heatsink	5 ± 15 % ¹⁾	Nm
M_t	to terminals	9 ± 15 %	Nm
a		5 * 9,81	m/s²
m	approx.	600	g
Case	SKKT SKKH	A 73b A 76b	



SKKT



SKKH



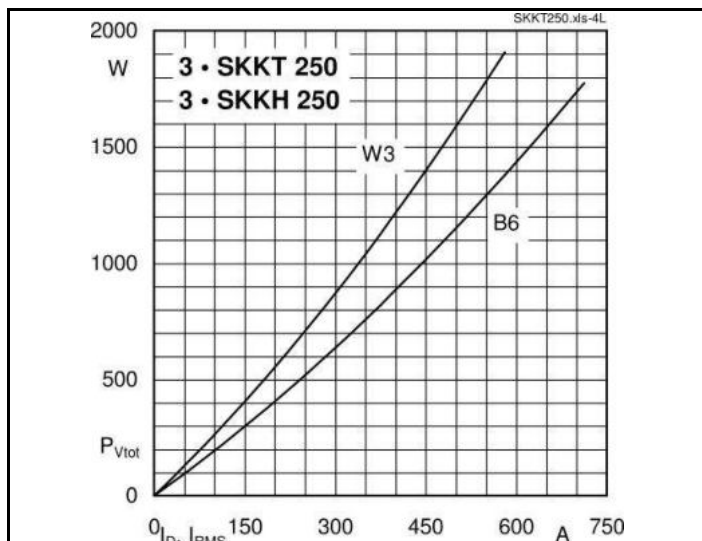


Fig. 4L Power dissipation of three modules vs. direct and rms current

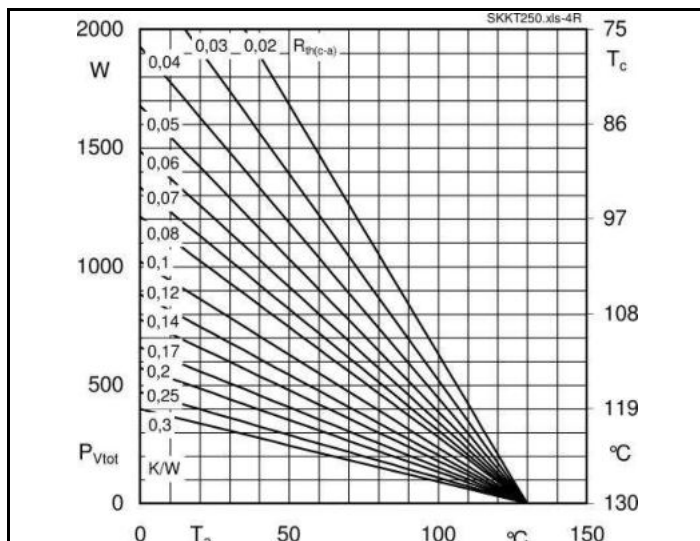


Fig. 4R Power dissipation of three modules vs. case temp.

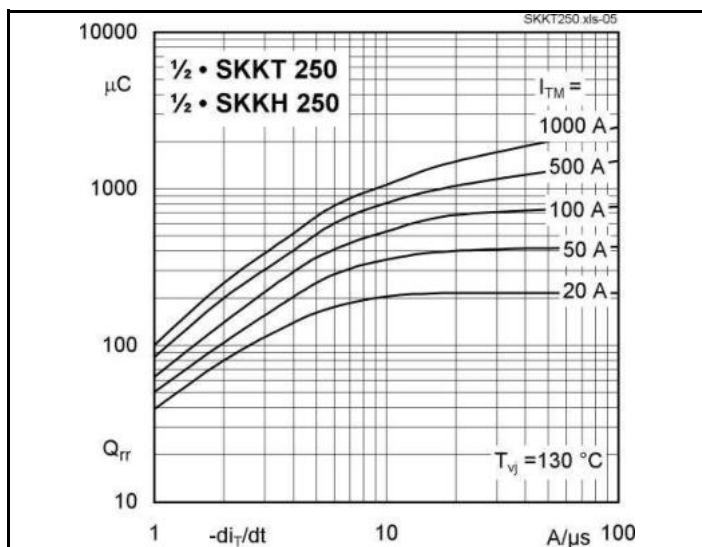


Fig. 5 Recovered charge vs. current decrease

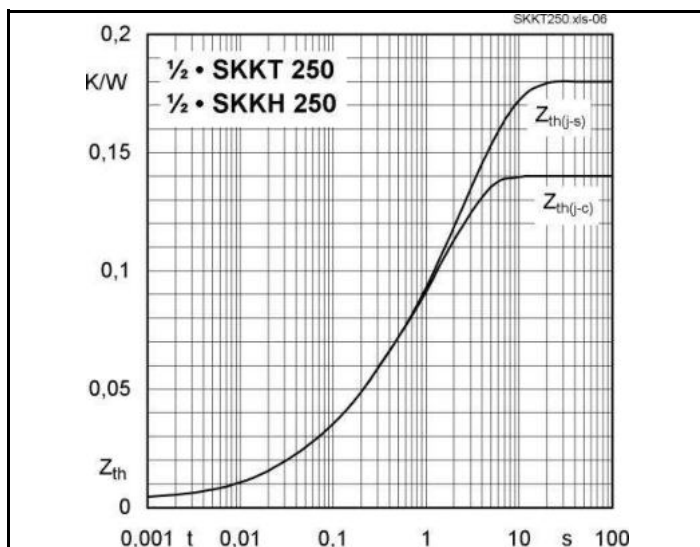


Fig. 6 Transient thermal impedance vs. time

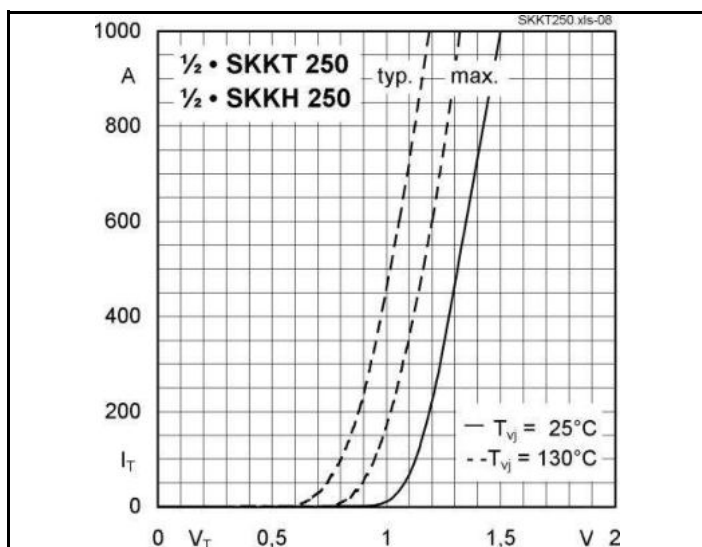


Fig. 7 On-state characteristics

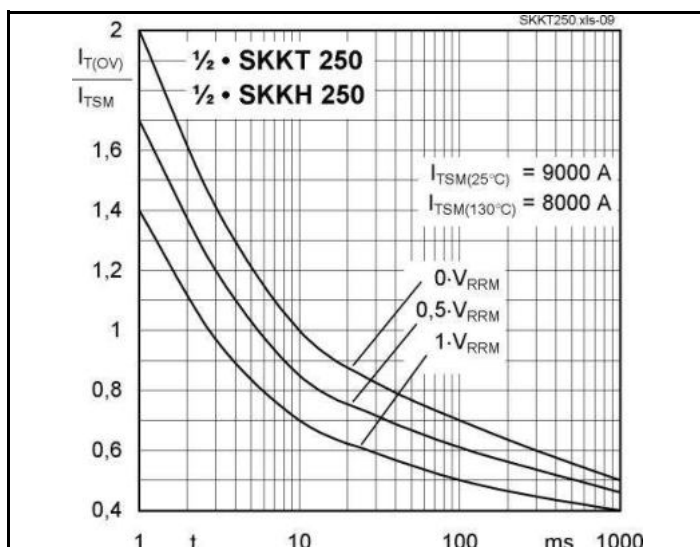
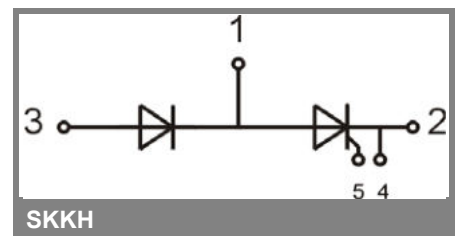
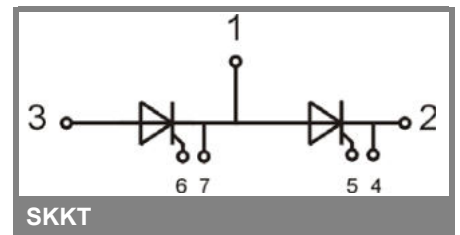
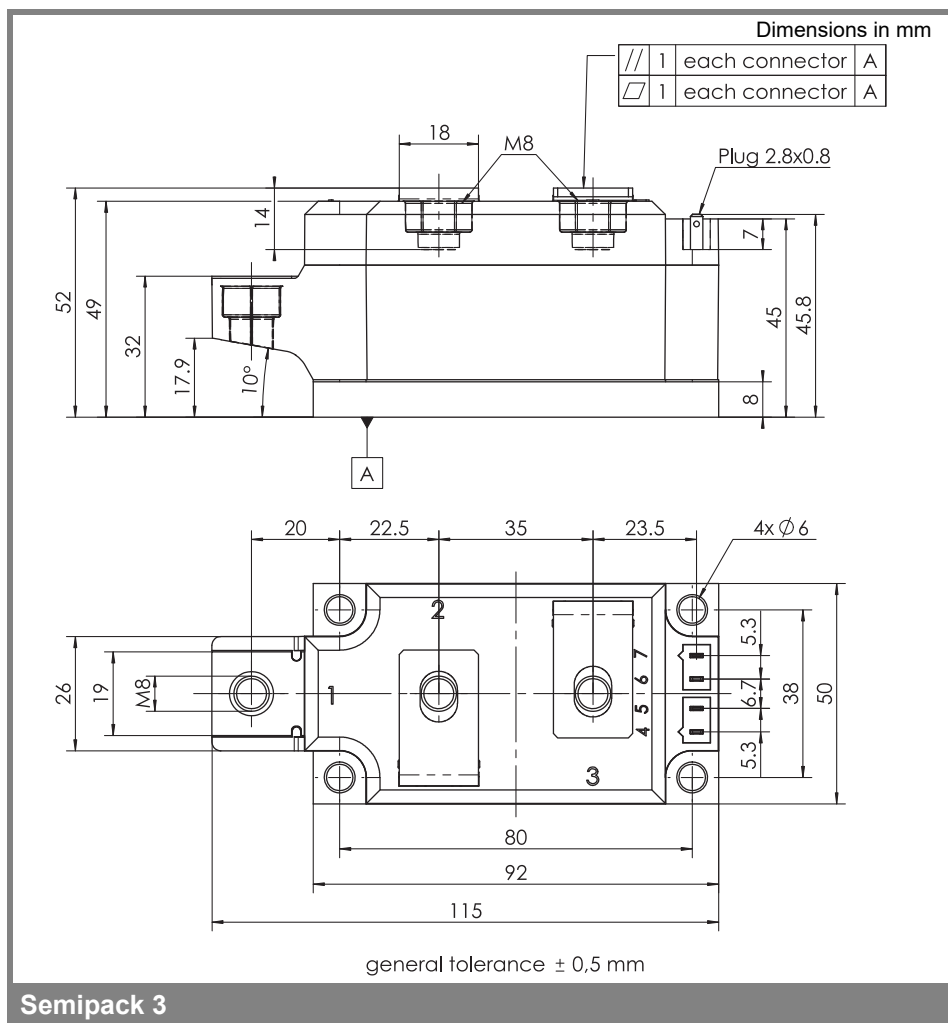
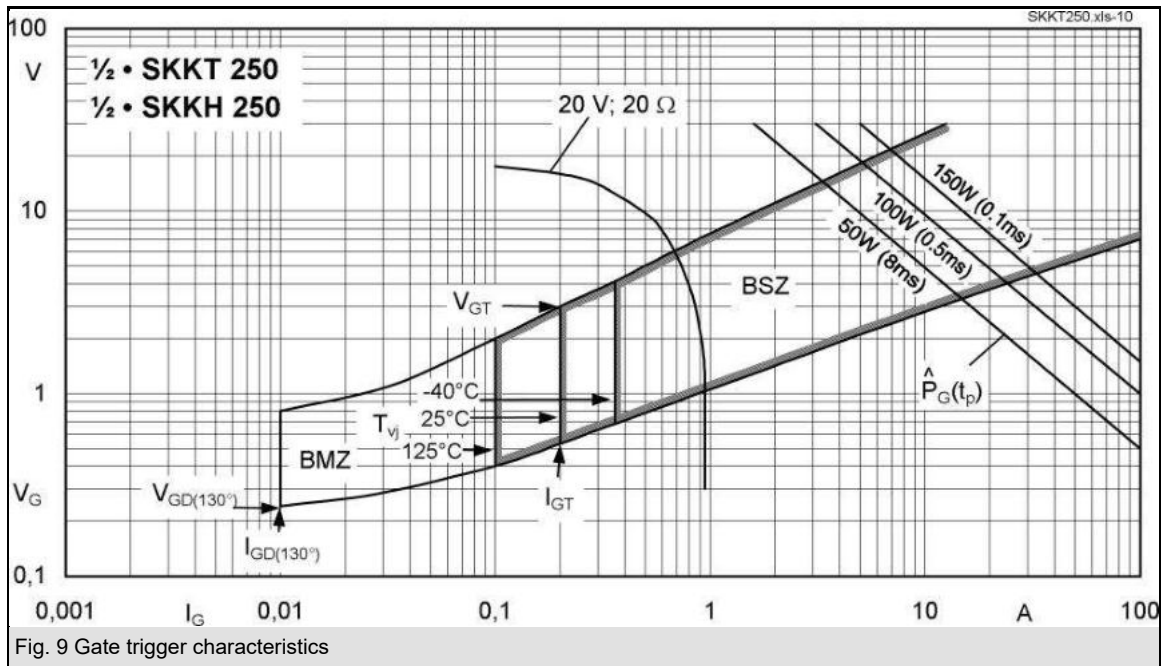


Fig. 8 Surge overload current vs. time



This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, chapter IX.

***IMPORTANT INFORMATION AND WARNINGS**

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