SKKT 500, SKKH 500

SEMIPACK® 5

Thyristor / Diode Modules

SKKT 500

SKKH 500

Features

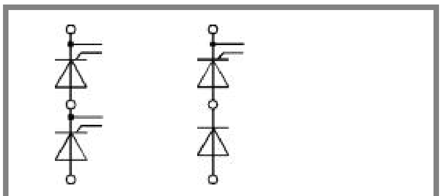
- Heat transfer through aluminium nitride ceramic isolated metal baseplate
- Precious metal pressure contacts for high reliability
- UL recognized, file no. E 63 532

Typical Applications

- AC motor softstarters
- Input converters for AC inverter drives
- DC motor control (e. g. for michine tools)
- Temperature control (e. g. for ovens, chemical processes)
- Professional light dimming (studios, theaters)

1) See the assembly instructions

2) The screws must be lubricated



SKKT SKKH

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 920 A (maximum value for continuous operation) I_{TAV} = 500 A (sin. 180; T_c = 89 °C)	
900	800	SKKT 500/08E	SKKH 500/08E
1300	1200	SKKT 500/12E	SKKH 500/12E
1500	1400	SKKT 500/14E	SKKH 500/14E
1700	1600	SKKT 500/16E	SKKH 500/16E
1900	1800	SKKT 500/18E	SKKH 500/18E

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 85 (100) °C	540 (390)	A
I_D	P16/200F; T_a = 35 °C; B2 / B6	665 / 845	A
I_{RMS}	P16/300F; T_a = 35 °C; W1 / W3	850 / 3 * 670	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	17000	A
	T_{vj} = 130 °C; 10 ms	15000	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	1445000	A²s
	T_{vj} = 130 °C; 8,3 ... 10 ms	1125000	A²s
V_T	T_{vj} = 25 °C; I_T = 1700 A	max. 1,5	V
$V_{T(TO)}$	T_{vj} = 130 °C	max. 0,925	V
r_T	T_{vj} = 130 °C	max. 0,27	mΩ
I_{DD}; I_{RD}	T_{vj} = 130 °C; V_{RD} = V_{RRM}; V_{DD} = V_{DRM}	max. 100	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. 200	A/µs
$(dv/dt)_{cr}$	T_{vj} = 130 °C	max. 1000	V/µs
t_q	T_{vj} = 130 °C	100 ... 200	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	0,062 / 0,031	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,065 / 0,032	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,07 / 0,035	K/W
$R_{th(c-s)}$	per thyristor / per module	0,02 / 0,01	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	12 ± 15 %[2]	Nm
a		5 * 9,81	m/s²
m	approx.	1420	g
Case	SKKT	A 60 a	
	SKKH	A 66 a	

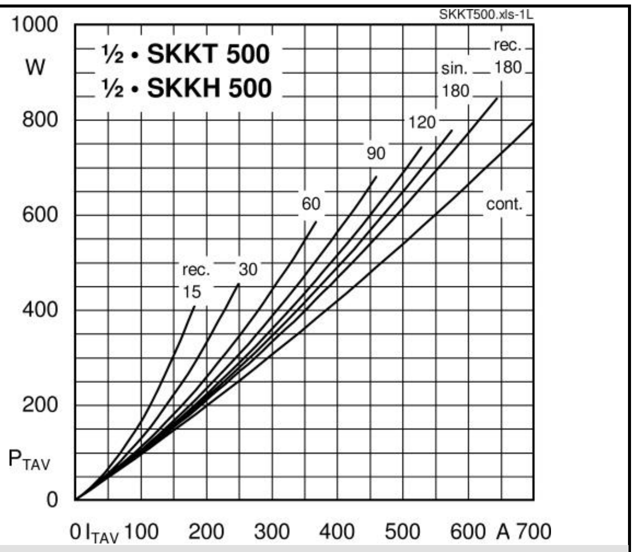


Fig. 1L Power dissipation per thyristor vs. on-state current

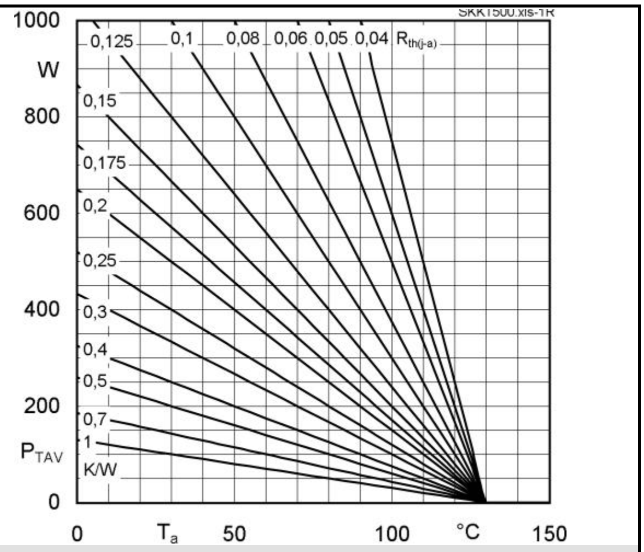


Fig. 1R Power dissipation per thyristor vs. ambient temp.

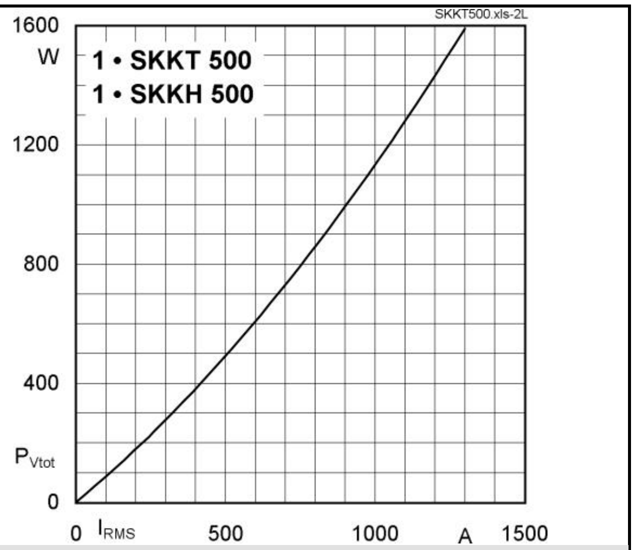


Fig. 2L Power dissipation per module vs. rms current

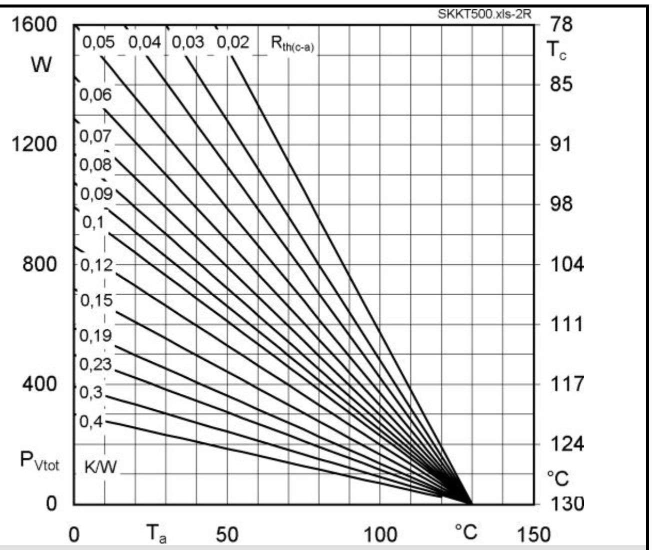


Fig. 2R Power dissipation per module vs. case temp.

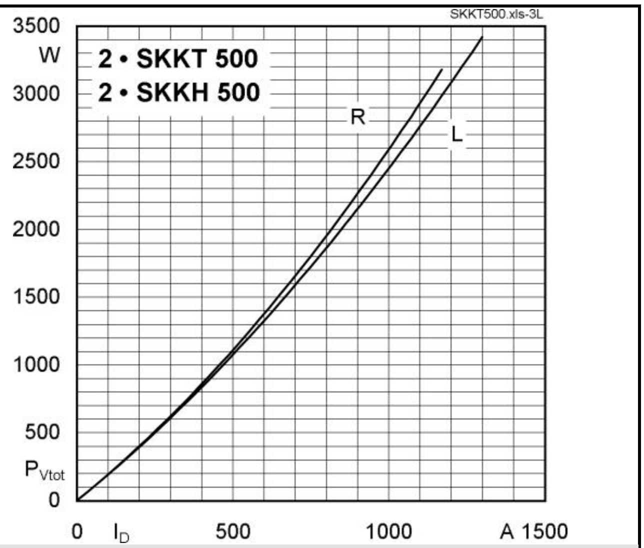


Fig. 3L Power dissipation of two modules vs. direct current

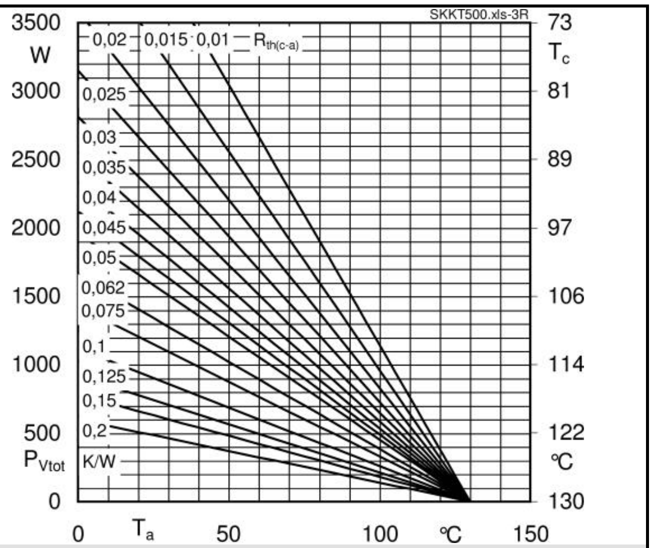


Fig. 3R Power dissipation of two modules vs. case temp.

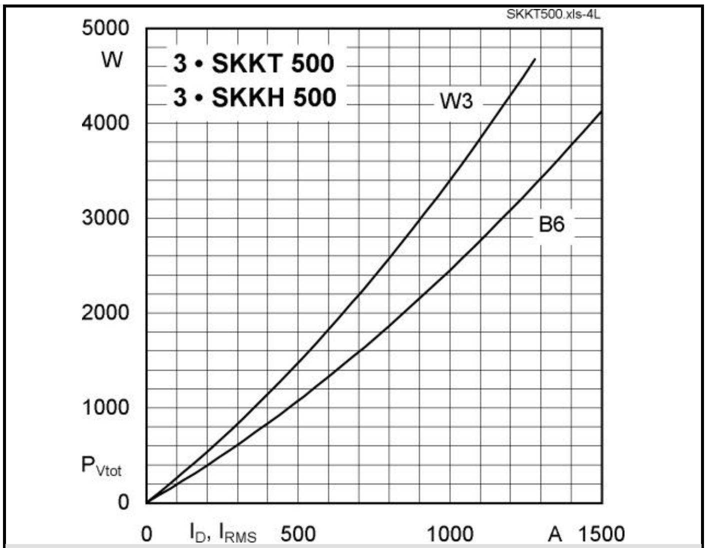


Fig. 4L Power dissipation of three modules vs. direct and rms current

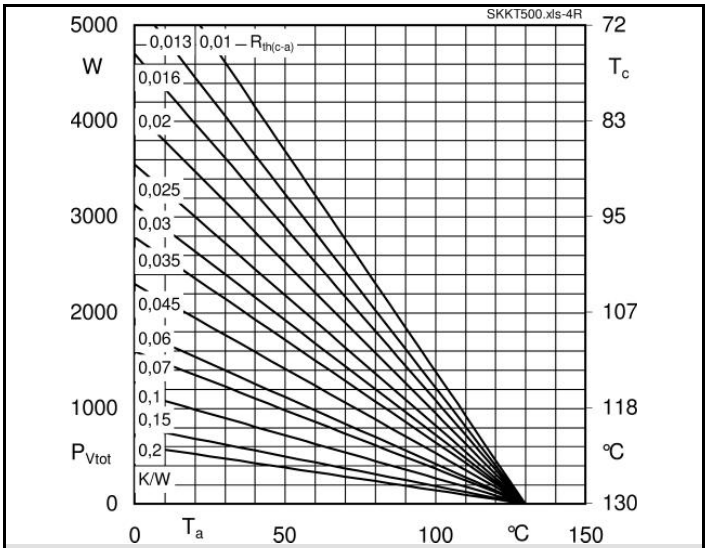


Fig. 4R Power dissipation of three modules vs. case temp.

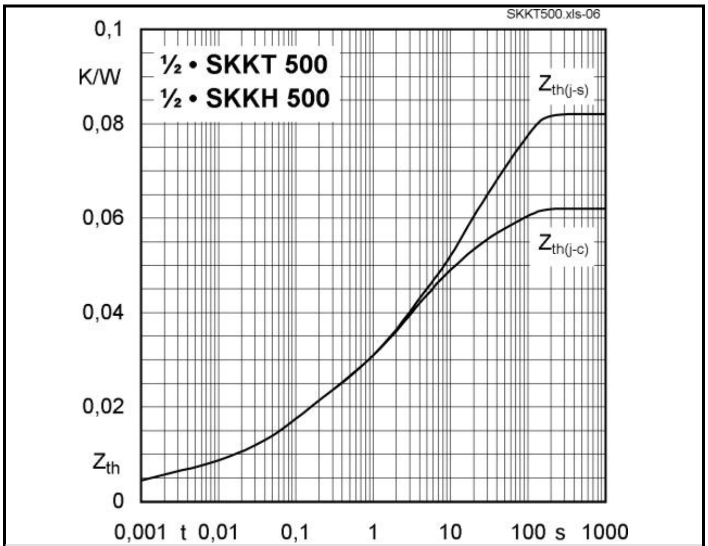


Fig. 6 Transient thermal impedance vs. time

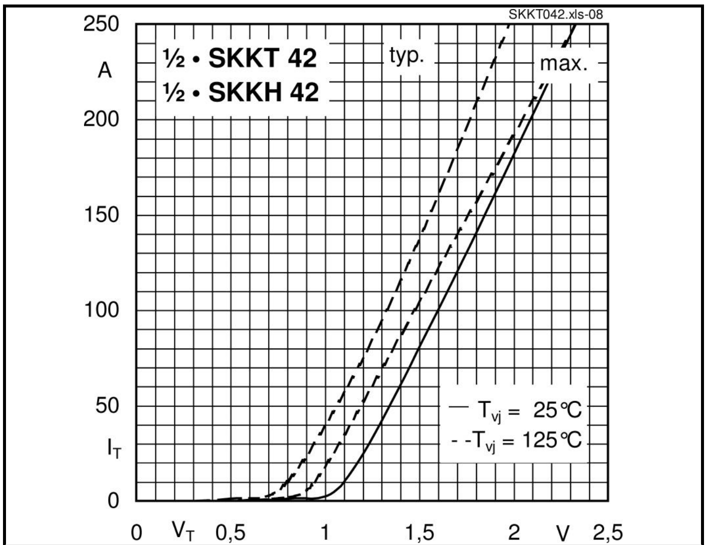


Fig. 7 On-state-characteristics

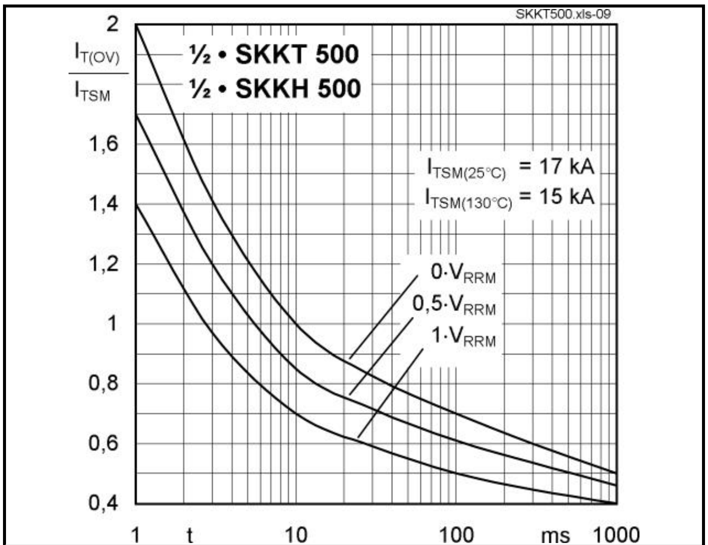


Fig. 8 Surge overload current vs. time

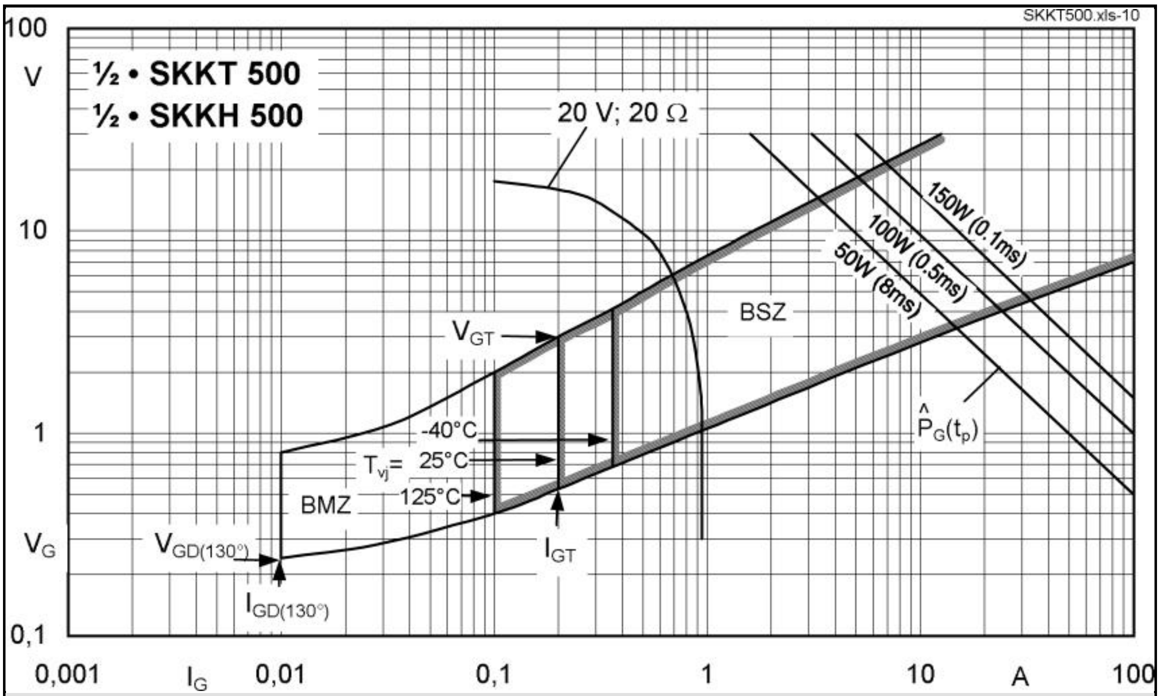
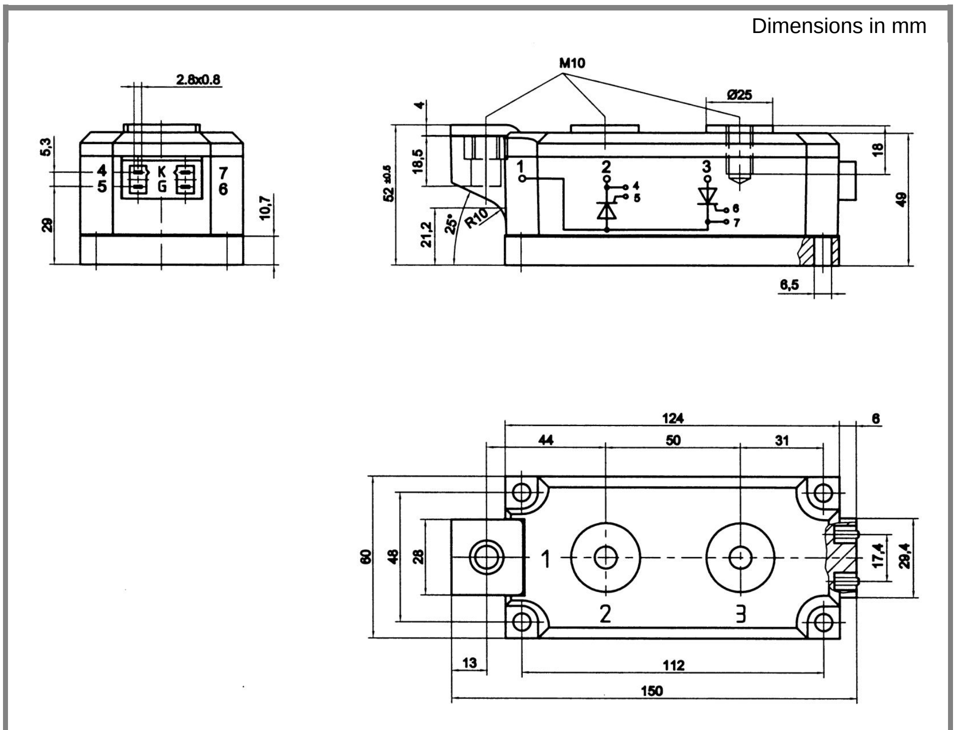
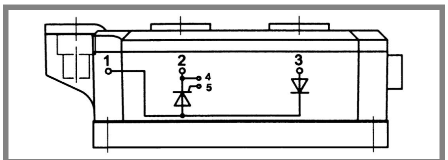


Fig. 9 Gate trigger characteristics



Case A 60a (SKKT)


Case A 66a SKKH

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