SKKT 15, SKKH 15

SEMIPACK® 0

Thyristor / Diode Modules

SKKT 15

SKKH 15

Features

- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- UL recognized, file no. E 63 532

Typical Applications

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

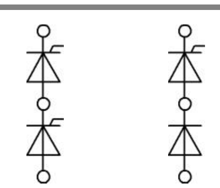
1) Using tin plated connectors with flexible leads of 6 mm² for the main terminals

2) Flexible leads of 6 mm² soldered to the main terminals

3) See the assembly instructions

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 24[1)] A; 30[2)] A (maximum value for continuous operation) I_{TAV} = 15[1)] A (sin. 180; T_c = 75 °C)		
500	400	SKKT 15/04E	SKKH 15/04E	
700	600	SKKT 15/06E	SKKH 15/06E	
900	800	SKKT 15/08E	SKKH 15/08E	
1300	1200	SKKT 15/12E	SKKH 15/12E	
1500	1400	SKKT 15/14E	SKKH 15/14E	
1700	1600	SKKT 15/16E	SKKH 15/16E	

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 85 (100) °C	13,5 (9,5)	A
I_D	P13A/100; T_a = 45 °C; B2 / B6	14 / 17	A
I_{RMS}	P13A/100; T_a = 45 °C; W1 / W3	21 / 3 x 12	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	320	A
	T_{vj} = 125 °C; 10 ms	280	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	510	A²s
	T_{vj} = 125 °C; 8,3 ... 10 ms	390	A²s
V_T	T_{vj} = 25 °C; I_T = 75 A	max. 2,45	V
$V_{T(TO)}$	T_{vj} = 125 °C	1,1	V
r_T	T_{vj} = 125 °C	20	mΩ
I_{DD}; I_{RD}	T_{vj} = 125 °C; V_{RD} = V_{RRM}; V_{DD} = V_{DRM}	max. 8	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}	1	µs
$(di/dt)_{cr}$	T_{vj} = 125 °C	max. 100	A/µs
$(dv/dt)_{cr}$	T_{vj} = 125 °C	max. 1000	V/µs
t_q	T_{vj} = 125 °C	80	µs
I_H	T_{vj} = 25 °C; typ. / max.	80 / 150	mA
I_L	T_{vj} = 25 °C; R_G = 33 Ω; typ. / max.	150 / 300	mA
V_{GT}	T_{vj} = 25 °C; d.c.	min. 3	V
I_{GT}	T_{vj} = 25 °C; d.c.	min. 100	mA
V_{GD}	T_{vj} = 125 °C; d.c.	max. 0,25	V
I_{GD}	T_{vj} = 125 °C; d.c.	max. 5	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	1,6 / 0,8	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	1,7 / 0,9	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	1,8 / 0,9	K/W
$R_{th(c-s)}$	per thyristor / module	0,2 / 0,1	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.	3600 / 3000	V~
M_s	to heatsink	1,5 ± 15 %[3)]	Nm
a		5 * 9,81	m/s²
m	approx.	50	g
Case	SKKT	A 1	
	SKKH	A 2	



SKKT SKKH

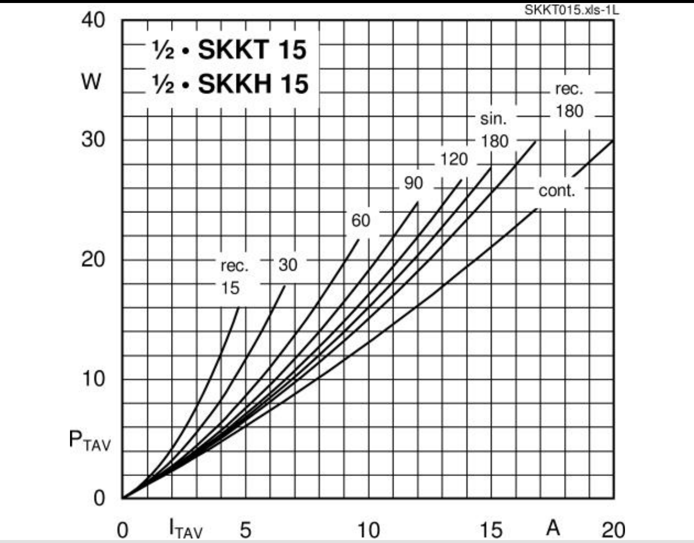


Fig. 1L Power dissipation per thyristor vs. on-state current

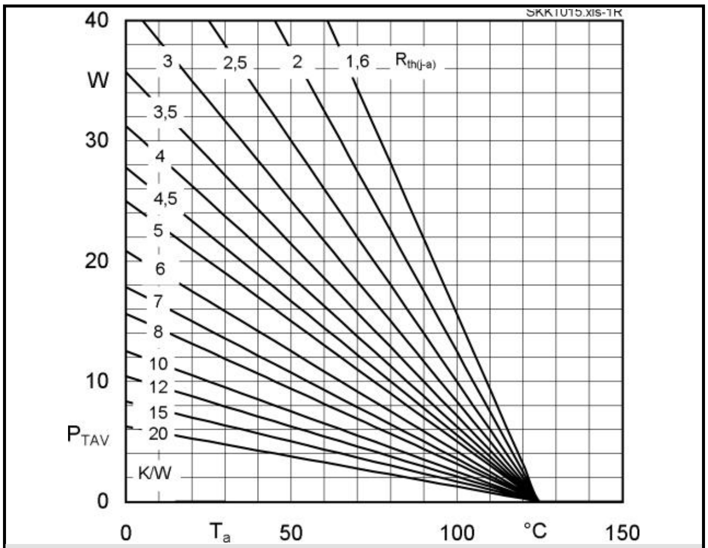


Fig. 1R Power dissipation per thyristor vs. ambient temp.

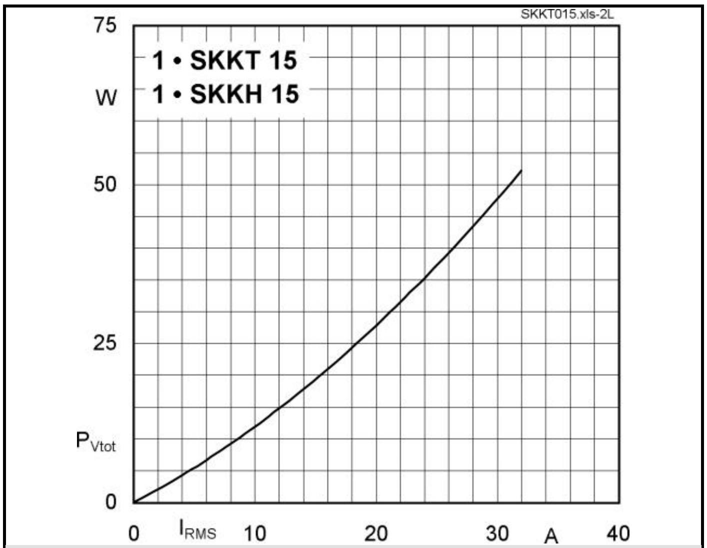


Fig. 2L Power dissipation per module vs. rms current

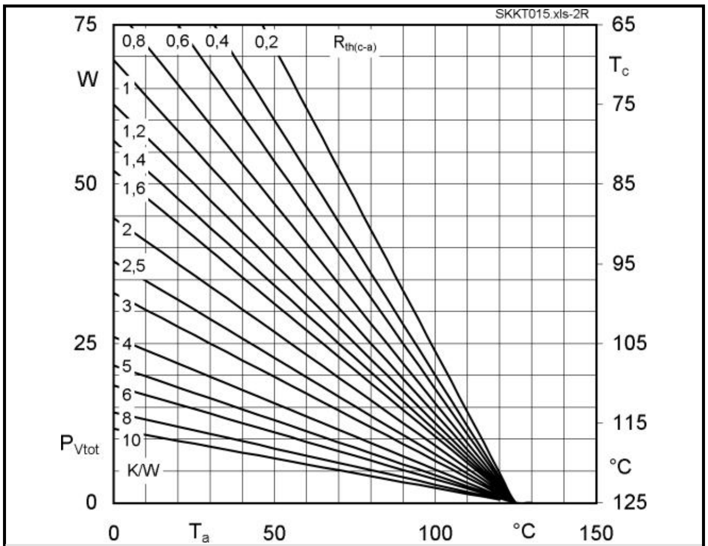


Fig. 2R Power dissipation per module vs. case temp.

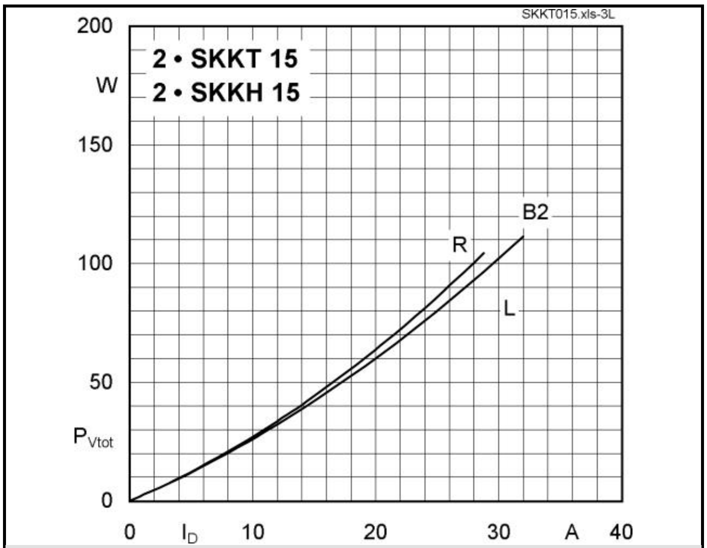


Fig. 3L Power dissipation of two modules vs. direct current

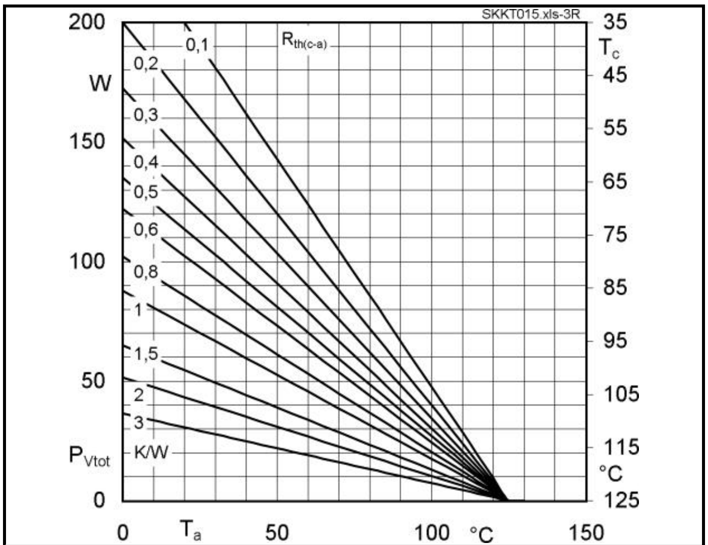


Fig. 3R Power dissipation of two modules vs. case temp.

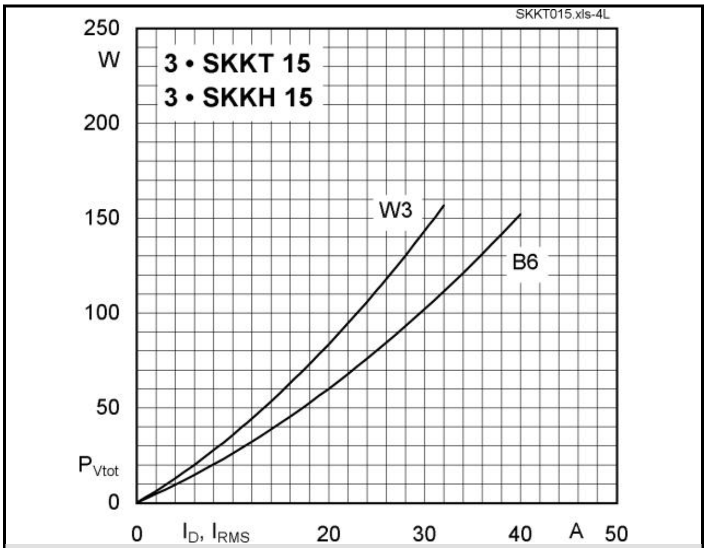


Fig. 4L Power dissipation of three modules vs. direct and rms current

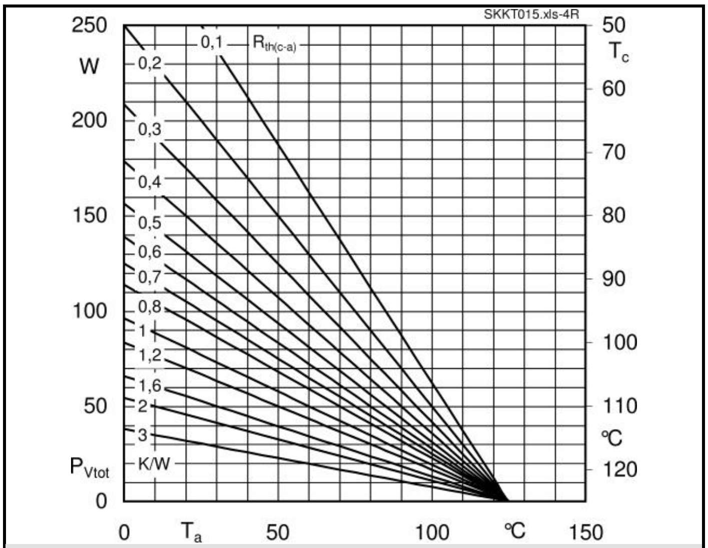


Fig. 4R Power dissipation of three modules vs. case temp.

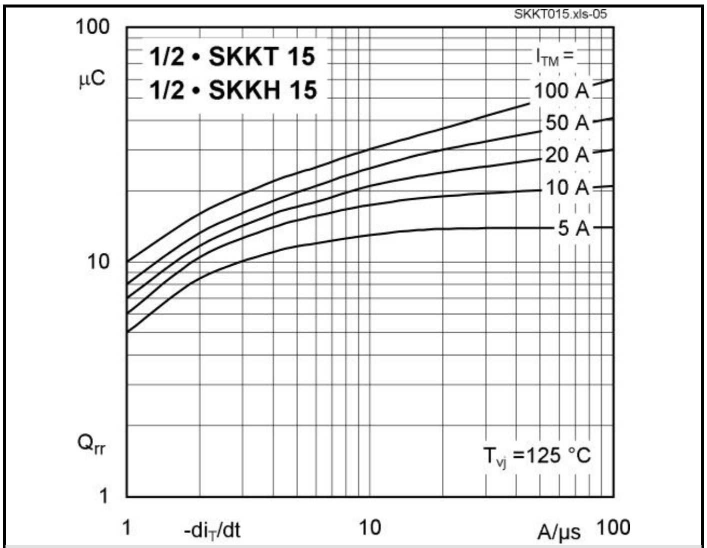


Fig. 5 Recovered charge vs. current decrease

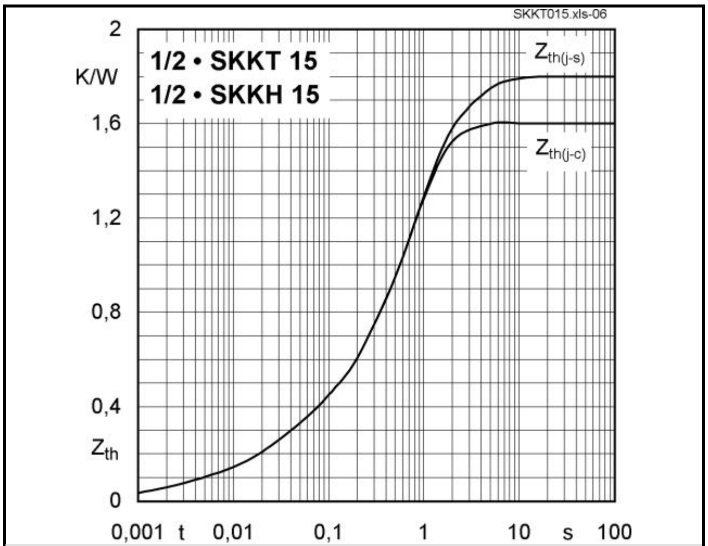


Fig. 6 Transient thermal impedance vs. time

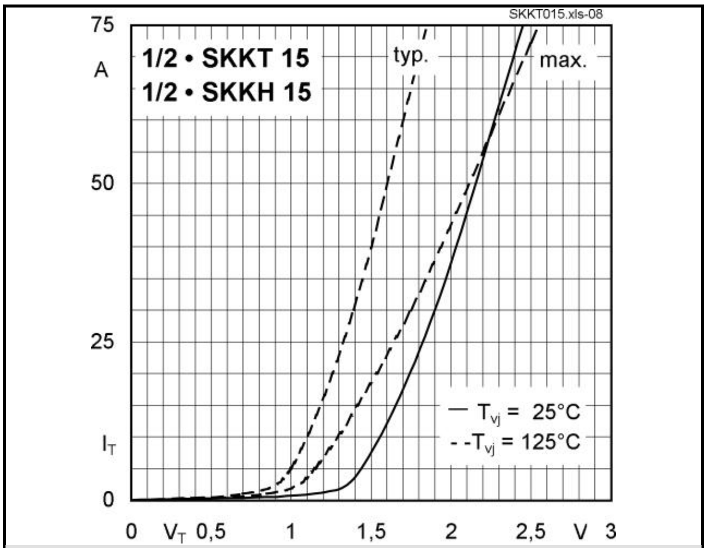


Fig. 7 On-state characteristics

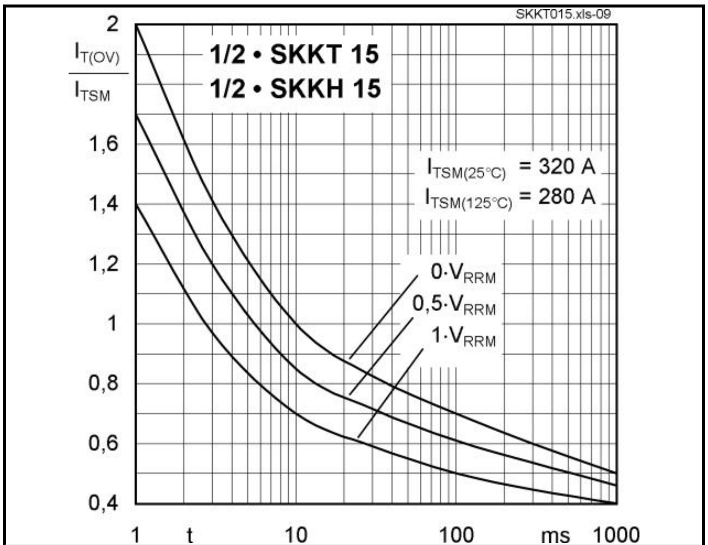


Fig. 8 Surge overload current vs. time

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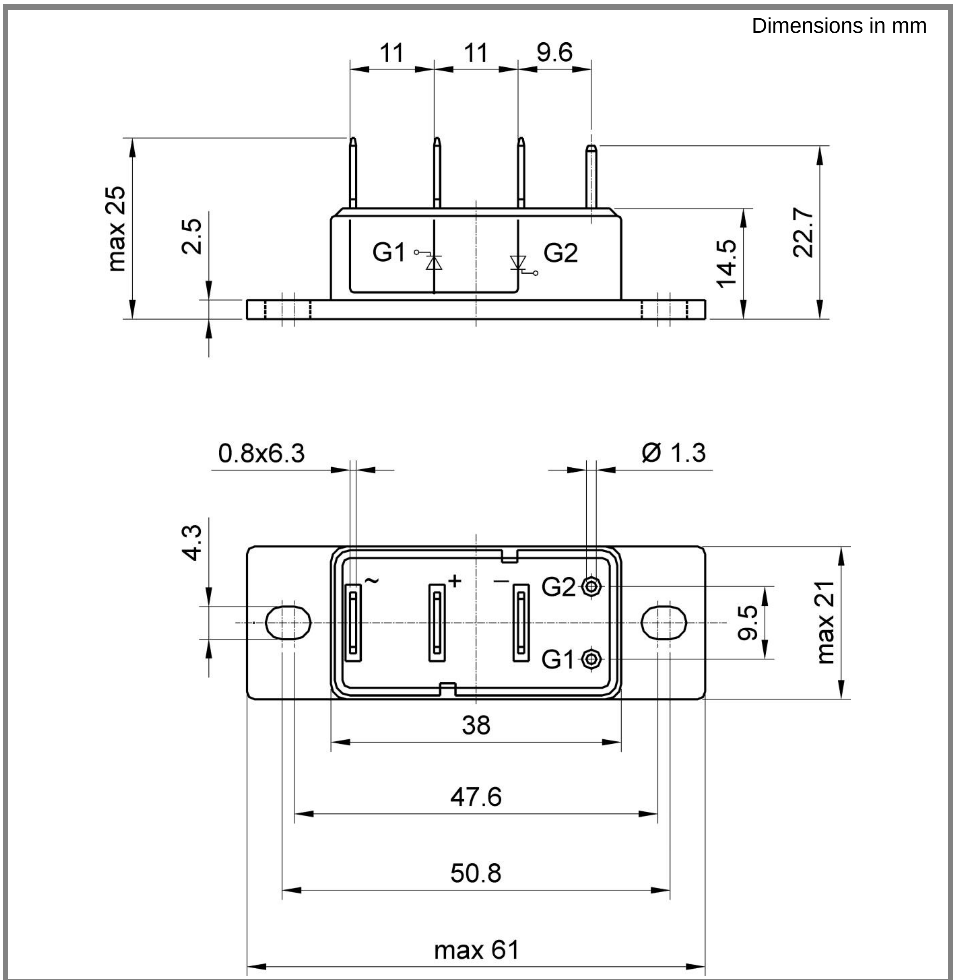
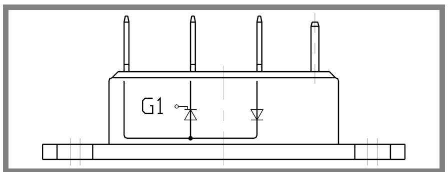


Case A 1 (SKKT)



Case A 2 SKKH

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