

SKKT 122, SKKH 122



SEMIPACK[®] 2

Thyristor / Diode Modules

SKKT 122

SKKH 122

Features

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

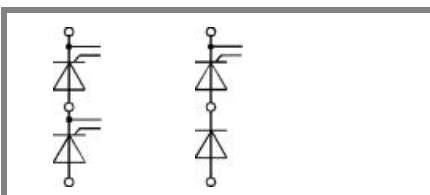
Typical Applications

- DC motor control (e. g. for machine tools)
- Softstarter
- 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	$I_{TRMS} = 195 \text{ A}$ (maximum value for continuous operation) $I_{TAV} = 122 \text{ A}$ (sin. 180; $T_c = 88 \text{ }^\circ\text{C}$)	
900	800	SKKT 122/08D	SKKH 122/08D
1300	1200	SKKT 122/12E	SKKH 122/12E
1500	1400	SKKT 122/14E	SKKH 122/14E
1700	1600	SKKT 122/16E	SKKH 122/16E
1900	1800	SKKT 122/18E	SKKH 122/18E

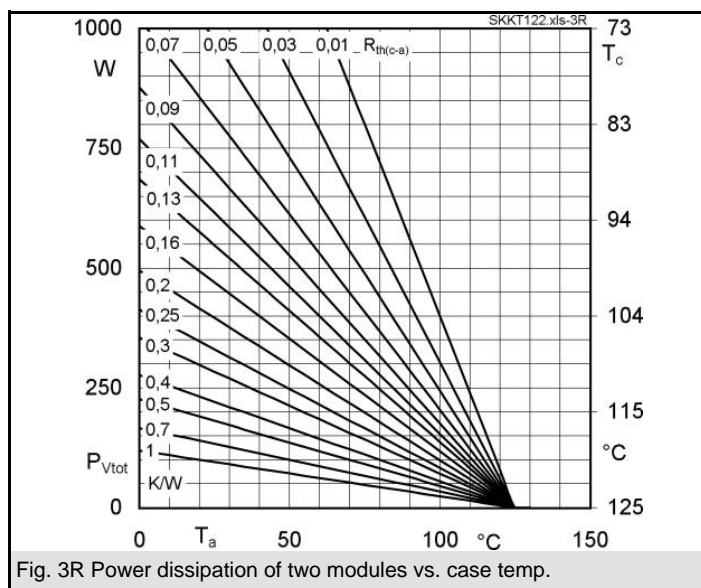
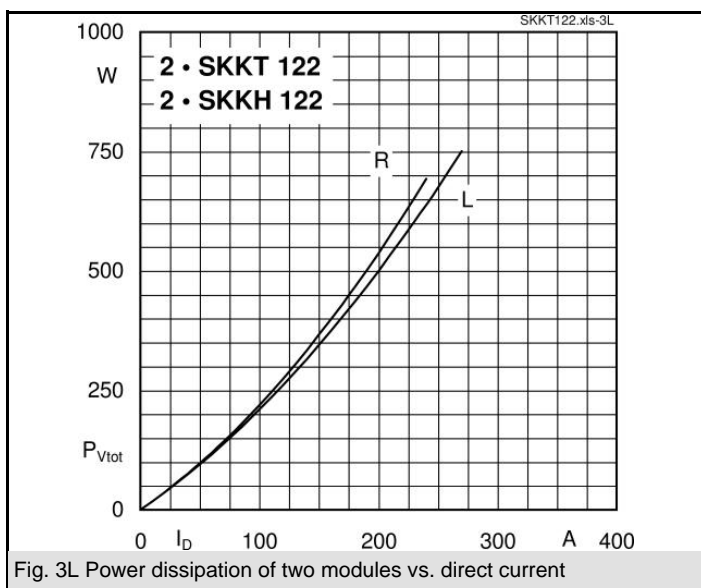
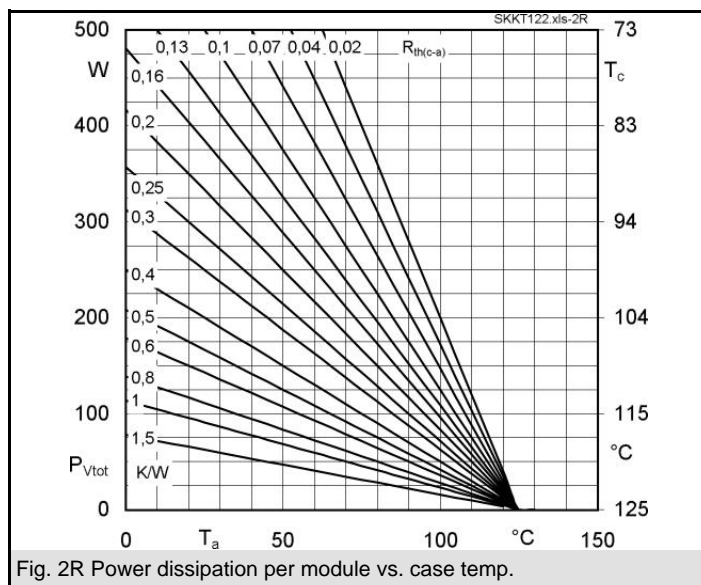
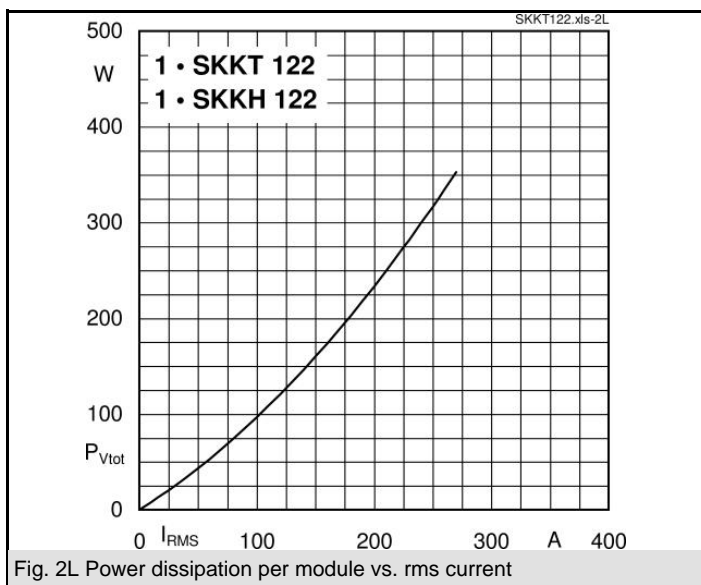
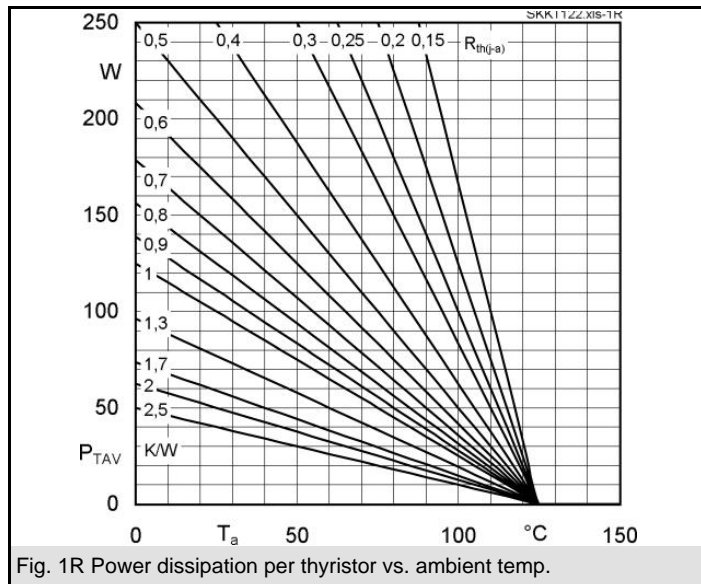
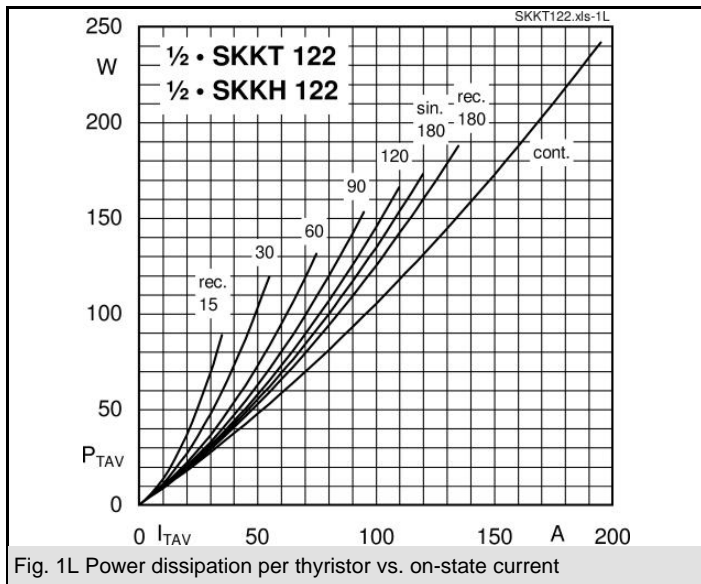
Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; $T_c = 85 (100) \text{ }^\circ\text{C}$	129 (92)	A
I_D	P3/180; $T_a = 45 \text{ }^\circ\text{C}$; B2 / B6	82 / 105	A
	P3/180F; $T_a = 35 \text{ }^\circ\text{C}$; B2 / B6	170 / 200	A
I_{RMS}	P3/180F; $T_a = 35 \text{ }^\circ\text{C}$; W1 / W3	235 / 3 * 160	A
I_{TSM}	$T_{vj} = 25 \text{ }^\circ\text{C}$; 10 ms	3600	A
	$T_{vj} = 125 \text{ }^\circ\text{C}$; 10 ms	3200	A
i^2t	$T_{vj} = 25 \text{ }^\circ\text{C}$; 8,3 ... 10 ms	64800	A ² s
	$T_{vj} = 125 \text{ }^\circ\text{C}$; 8,3 ... 10 ms	51200	A ² s
V_T	$T_{vj} = 25 \text{ }^\circ\text{C}$; $I_T = 360 \text{ A}$	max. 1,55	V
$V_{T(TO)}$	$T_{vj} = 125 \text{ }^\circ\text{C}$	0,85	V
r_T	$T_{vj} = 125 \text{ }^\circ\text{C}$	2	m Ω
$I_{DD}; I_{RD}$	$T_{vj} = 125 \text{ }^\circ\text{C}$; $V_{RD} = V_{RRM}$; $V_{DD} = V_{DRM}$	max. 40	mA
t_{gd}	$T_{vj} = 25 \text{ }^\circ\text{C}$; $I_G = 1 \text{ A}$; $di_G/dt = 1 \text{ A}/\mu\text{s}$	1	μs
t_{gr}	$V_D = 0,67 * V_{DRM}$	2	μs
$(di/dt)_{cr}$	$T_{vj} = 125 \text{ }^\circ\text{C}$	max. 200	A/ μs
$(dv/dt)_{cr}$	$T_{vj} = 125 \text{ }^\circ\text{C}$; SKK ...D / SKK ...E	max. 500 / 1000	V/ μs
t_q	$T_{vj} = 125 \text{ }^\circ\text{C}$	120	μs
I_H	$T_{vj} = 25 \text{ }^\circ\text{C}$; typ. / max.	100 / 300	mA
I_L	$T_{vj} = 25 \text{ }^\circ\text{C}$; $R_G = 33 \text{ } \Omega$; typ. / max.	200 / 500	mA
V_{GT}	$T_{vj} = 25 \text{ }^\circ\text{C}$; d.c.	min. 2	V
I_{GT}	$T_{vj} = 25 \text{ }^\circ\text{C}$; d.c.	min. 150	mA
V_{GD}	$T_{vj} = 125 \text{ }^\circ\text{C}$; d.c.	max. 0,25	V
I_{GD}	$T_{vj} = 125 \text{ }^\circ\text{C}$; d.c.	max. 10	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,2 / 0,1	K/W
	sin. 180; per thyristor / per module	0,21 / 0,105	K/W
	rec.120; per thyristor / per module	0,22 / 0,11	K/W
	per thyristor / per module	0,13 / 0,065	K/W
T_{vj}		- 40 ... + 125	$^\circ\text{C}$
T_{stg}		- 40 ... + 125	$^\circ\text{C}$
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 / 3000	V~
M_s	to heatsink	$5 \pm 15 \text{ } \%^{1)}$	Nm
M_t	to terminal	$5 \pm 15 \text{ } \%$	Nm
a		$5 * 9,81$	m/s ²
m	approx.	165	g
Case	SKKT	A 21	
	SKKH	A 22	



SKKT

SKKH

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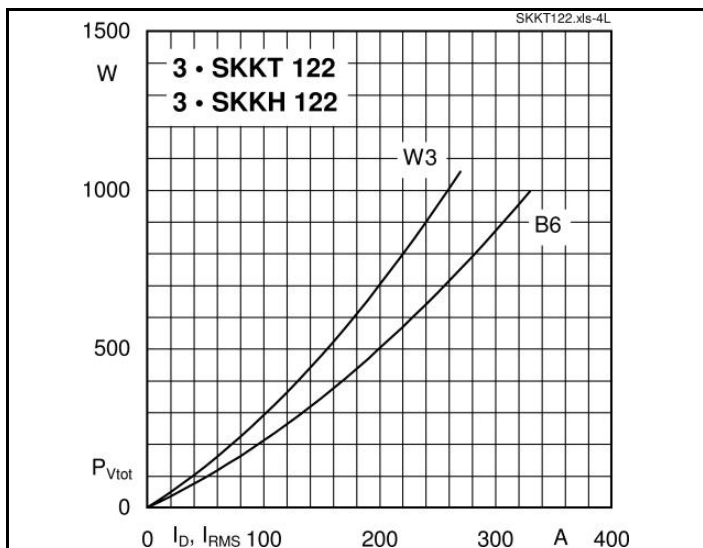


Fig. 4L Power dissipation of three modules vs. direct and rms current

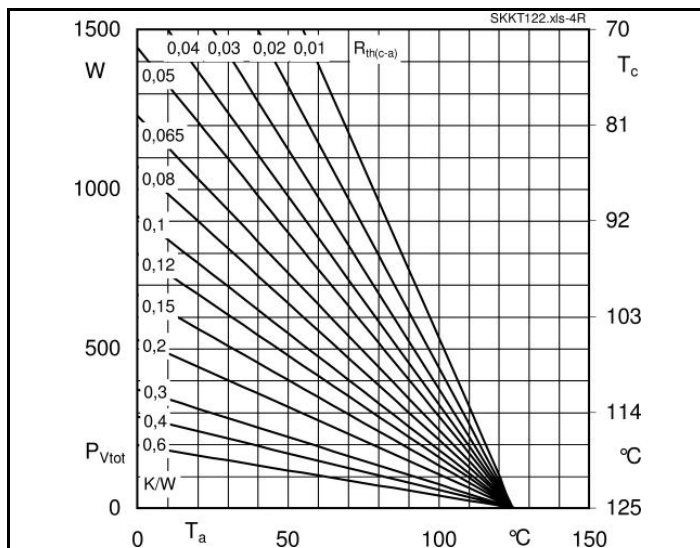


Fig. 4R Power dissipation of three modules vs. case temp.

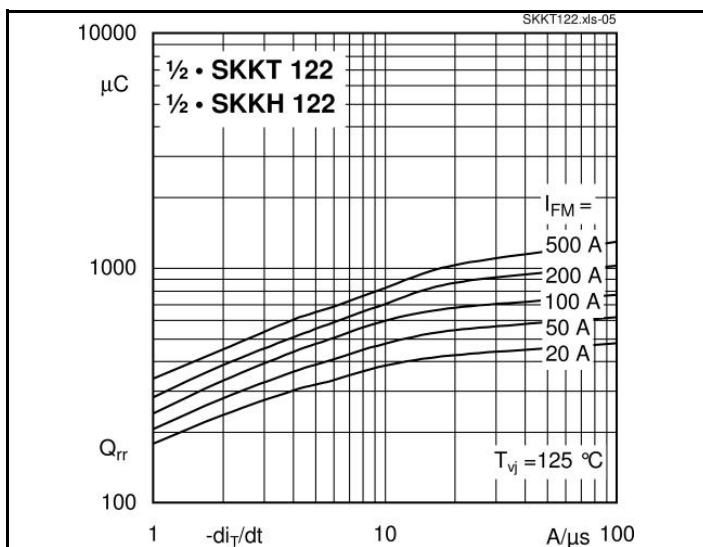


Fig. 5 Recovered charge vs. current decrease

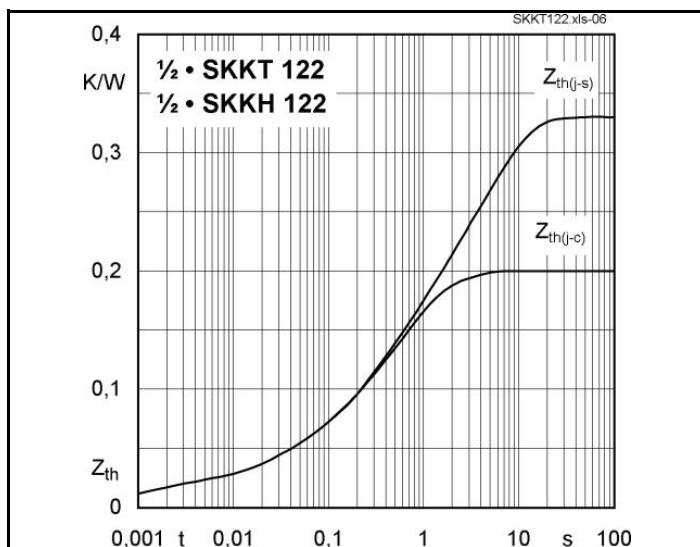


Fig. 6 Transient thermal impedance vs. time

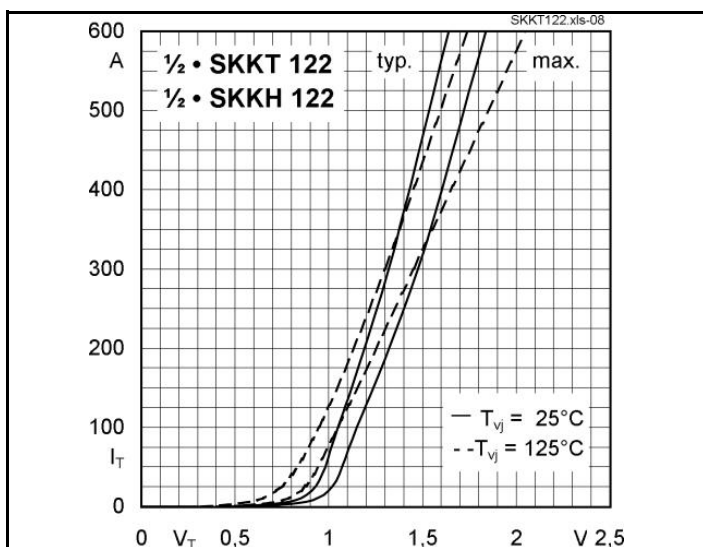


Fig. 7 On-state characteristics

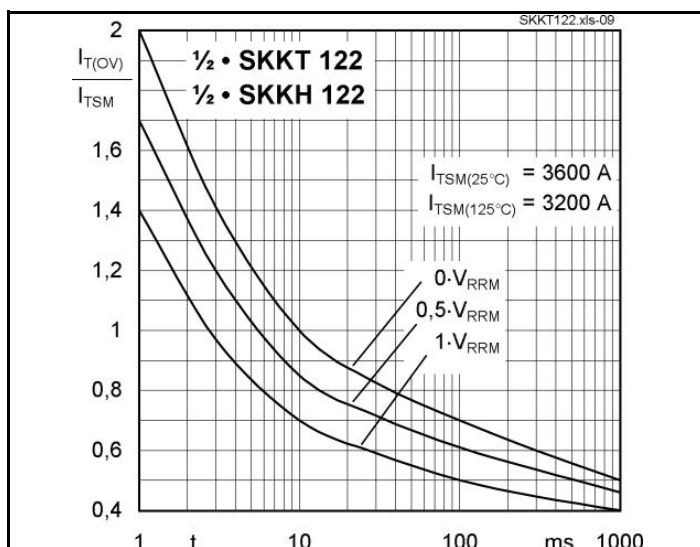
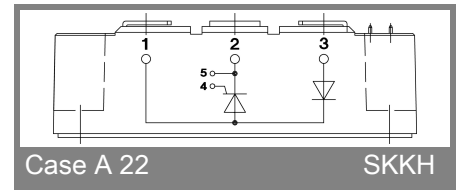
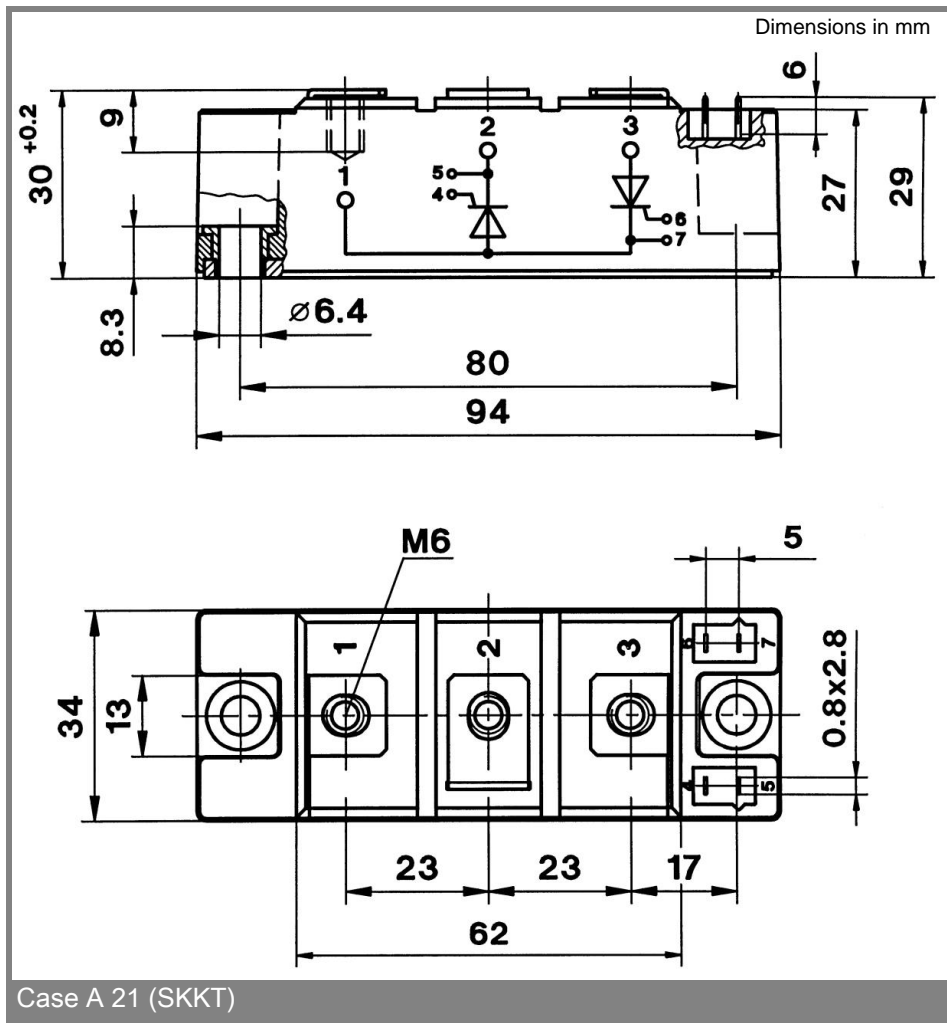


Fig. 8 Surge overload current vs. time

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