

# SKKT 122, SKKH 122



**SEMIPACK<sup>®</sup> 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

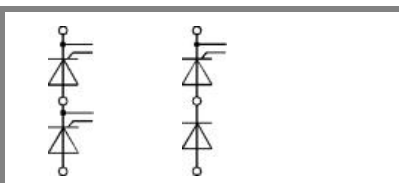
### Typical Applications\*

- 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	$I_{TRMS} = 195$ A (maximum value for continuous operation) $I_{TAV} = 122$ A (sin. 180; $T_c = 88$ °C)	
900	800	SKKT 122/08E	SKKH 122/08E
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) °C;	129 (92)	A
$I_D$	P3/180; $T_a = 45$ °C; B2 / B6 P3/180F; $T_a = 35$ °C; B2 / B6	82 / 105 170 / 200	A
$I_{RMS}$	P3/180F; $T_a = 35$ °C; W1 / W3	235 / 3 * 160	A
$I_{TSM}$	$T_{vj} = 25$ °C; 10 ms $T_{vj} = 125$ °C; 10 ms	3600 3200	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms $T_{vj} = 125$ °C; 8,3 ... 10 ms	64800 51200	A <sup>2</sup> s
$V_T$	$T_{vj} = 25$ °C; $I_T = 360$ A	max. 1,55	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	max. 0,85	V
$r_T$	$T_{vj} = 125$ °C	max. 2	mΩ
$I_{DD}, I_{RD}$	$T_{vj} = 125$ °C; $V_{RD} = V_{RRM}, V_{DD} = V_{DRM}$	max. 40	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
$(di/dt)_{cr}$	$T_{vj} = 125$ °C	max. 200	A/μs
$(dv/dt)_{cr}$	$T_{vj} = 125$ °C	max. 1000	V/μs
$t_q$	$T_{vj} = 125$ °C	120	μs
$I_H$	$T_{vj} = 25$ °C; typ. / max.	100 / 300	mA
$I_L$	$T_{vj} = 25$ °C; $R_G = 33$ Ω; typ. / max.	200 / 500	mA
$V_{GT}$	$T_{vj} = 25$ °C; d.c.	min. 2	V
$I_{GT}$	$T_{vj} = 25$ °C; d.c.	min. 150	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	0,2 / 0,1	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,21 / 0,105	K/W
$R_{th(j-c)}$	rec.120; per thyristor / per module	0,22 / 0,11	K/W
$R_{th(c-s)}$	per thyristor / per module	0,13 / 0,065	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	5 ± 15 % <sup>1)</sup>	Nm
$M_t$	to terminal	5 ± 15 %	Nm
$a$		5 * 9,81	m/s <sup>2</sup>
$m$	approx.	165	g
Case	SKKT	A 21	
	SKKH	A 22	



**SKKT**

**SKKH**

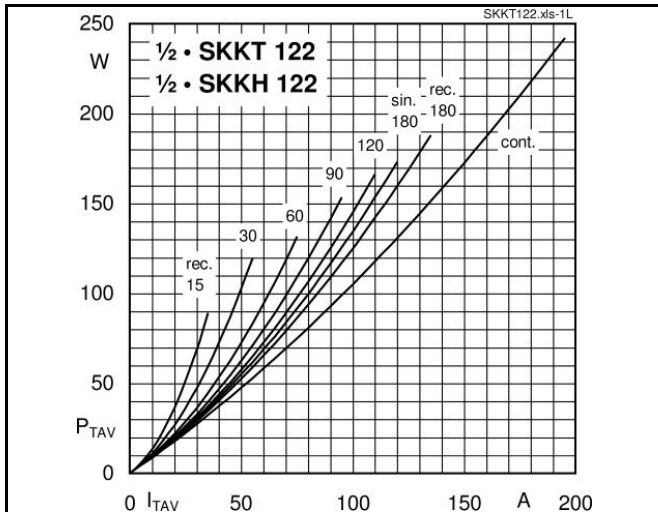


Fig. 1L Power dissipation per thyristor vs. on-state current

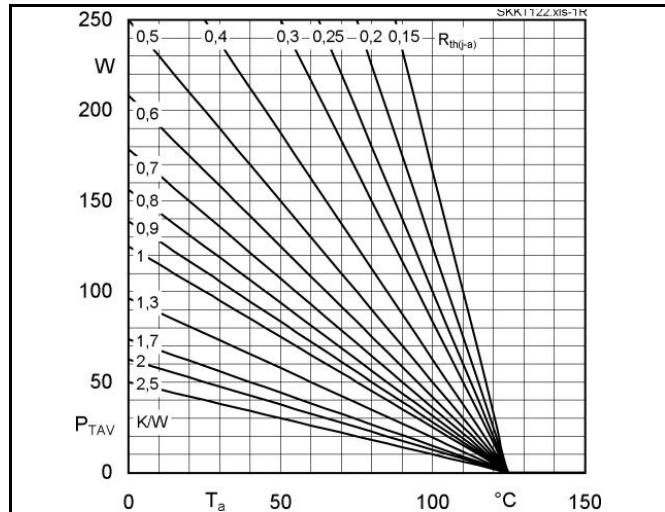


Fig. 1R Power dissipation per thyristor vs. ambient temp.

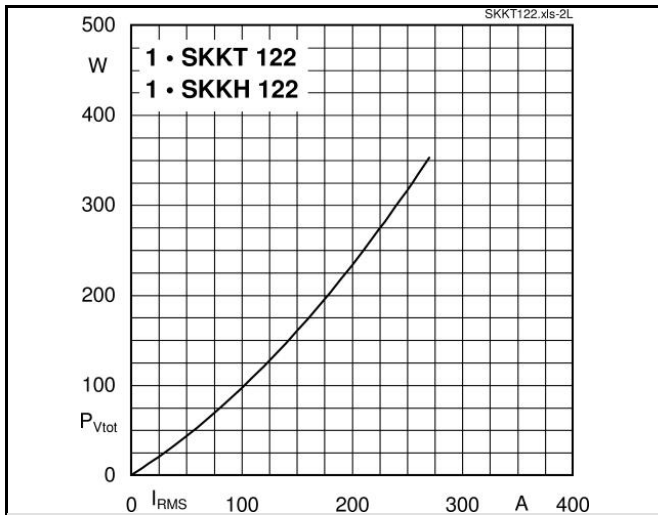


Fig. 2L Power dissipation per module vs. rms current

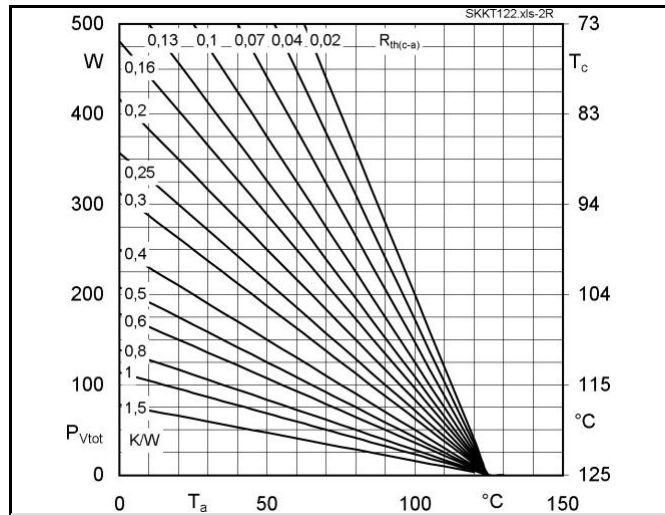


Fig. 2R Power dissipation per module vs. case temp.

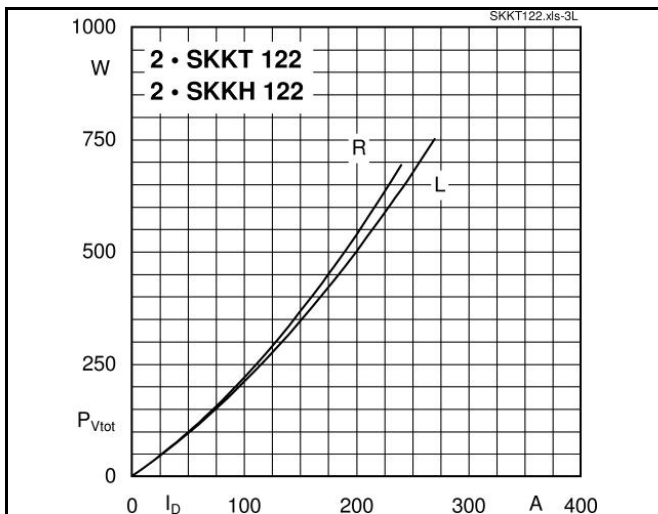


Fig. 3L Power dissipation of two modules vs. direct current

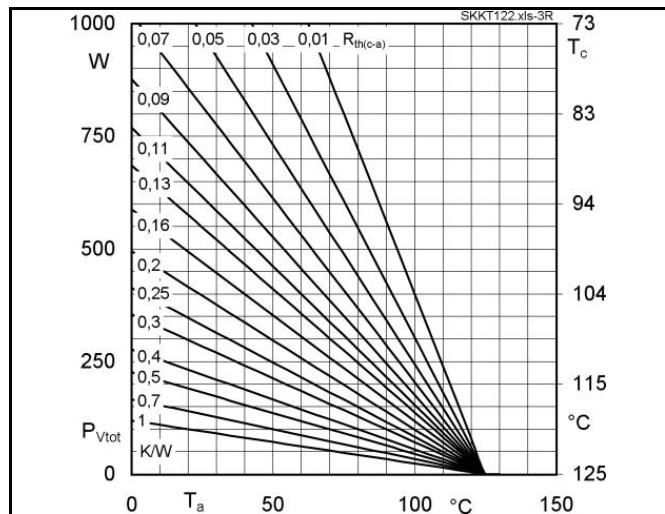
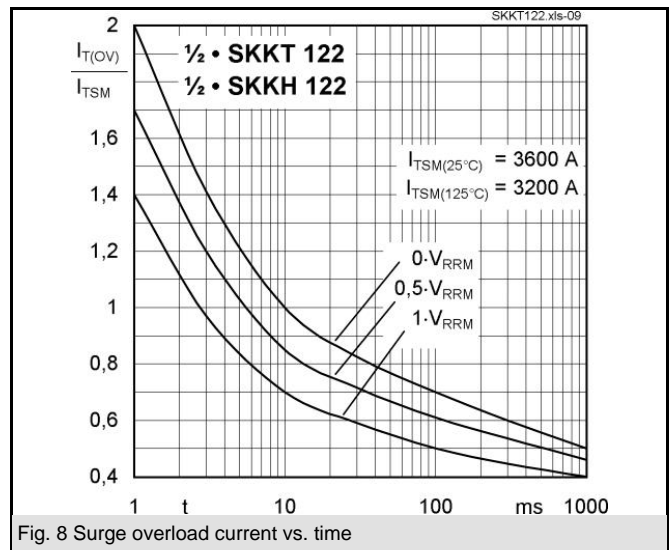
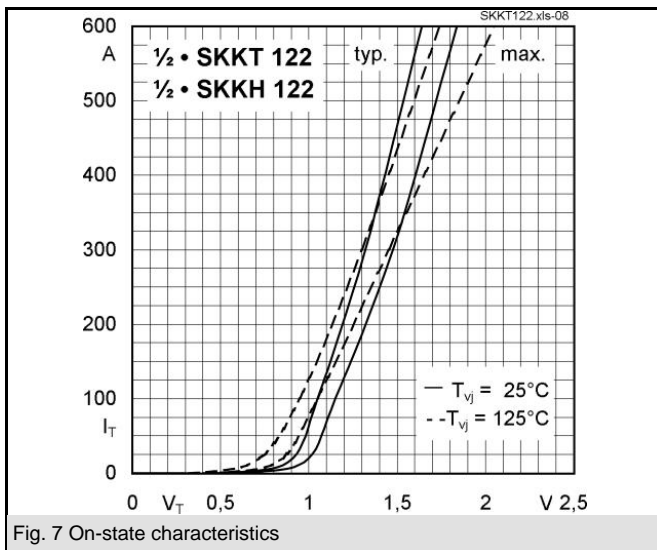
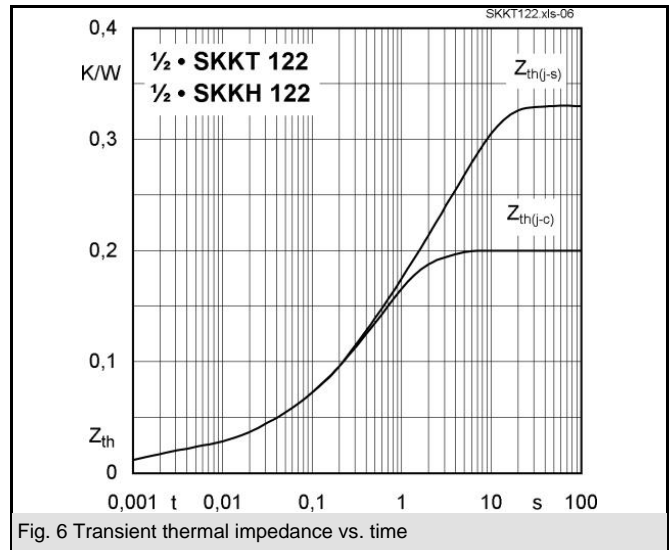
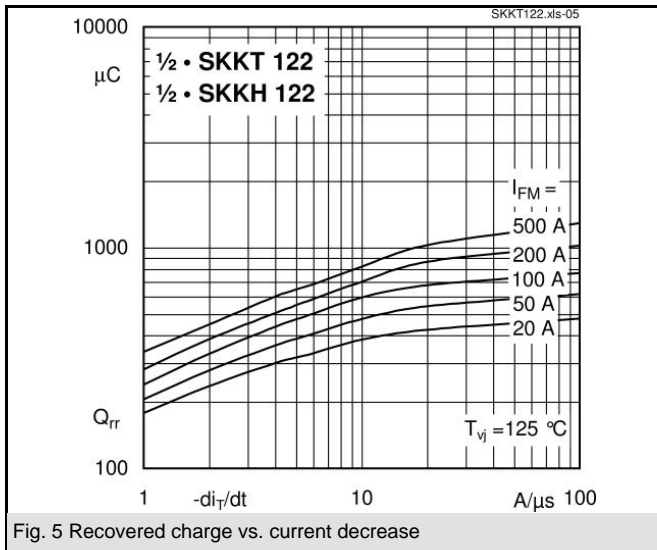
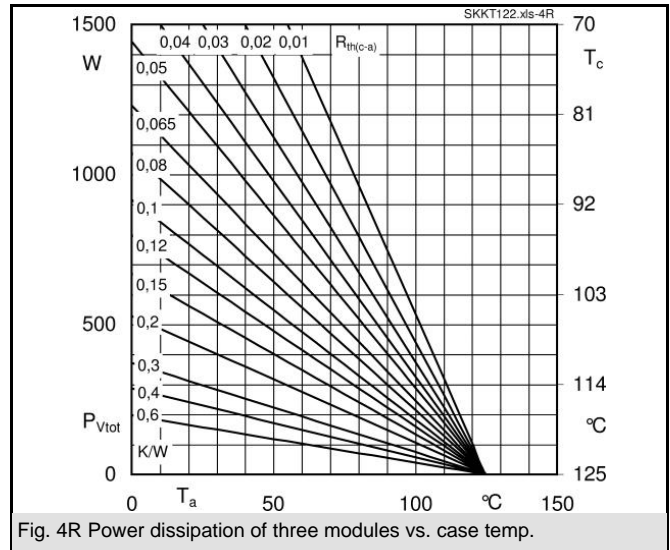
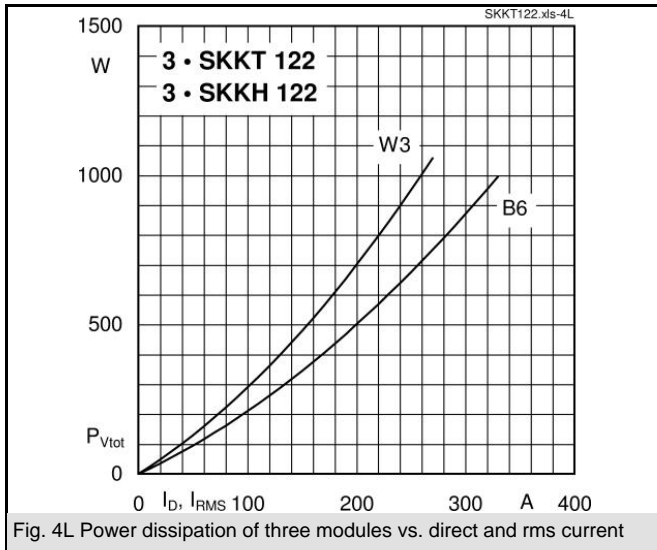
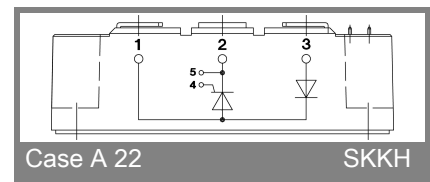
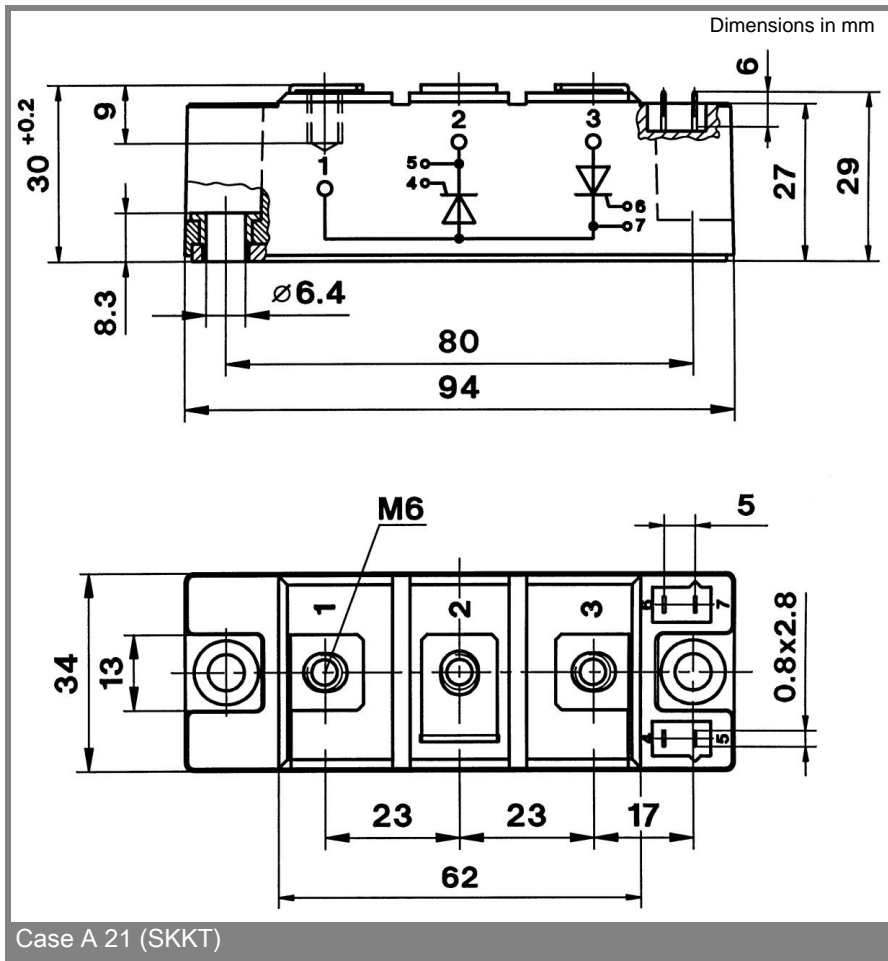
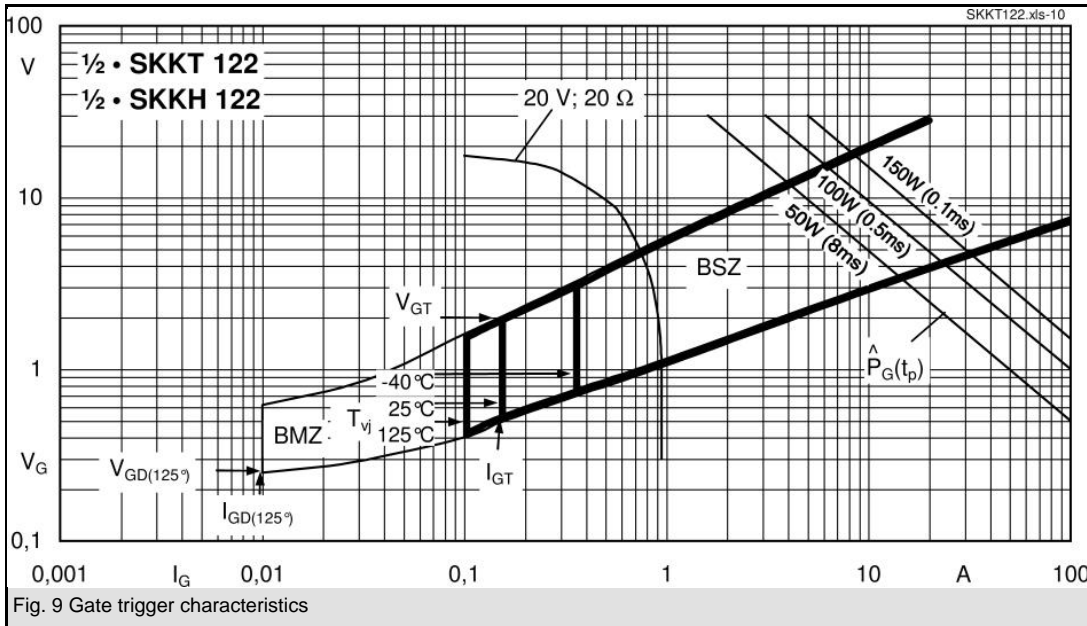


Fig. 3R Power dissipation of two modules vs. case temp.

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\* 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 personal.