

SKKT 132, SKKH 132, SKNH 132



SEMIPACK[®] 2

Thyristor / Diode Modules

SKKT 132

SKKH 132

SKNH 132

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

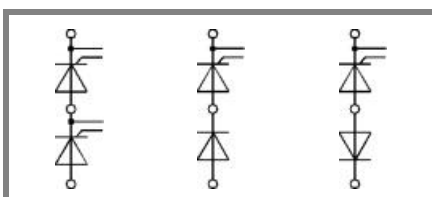
- DC motor control (e. g. for machine tools)
- Temperature control (e. g. for ovens, chemical processes)
- Professional light dimming (studios, theaters)
- DC braking of AC motors (SKNH)

1) SKNH 132 available on request

2) See the assembly instructions

V_{RSM} V	V_{RRM}, V_{DRM} V	$I_{TRMS} = 220$ A (maximum value for continuous operation) $I_{TAV} = 130$ A (sin. 180; $T_c = 87$ °C)		
900	800	SKKT 132/08D	SKKH 132/08D	SKNH 132/12E ¹⁾
1300	1200	SKKT 132/12E	SKKH 132/12E	
1500	1400	SKKT 132/14E	SKKH 132/14E	
1700	1600	SKKT 132/16E	SKKH 132/16E	
1900	1800	SKKT 132/18E	SKKH 132/18E	SKNH 132/18E H4 ¹⁾

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; $T_c = 85$ (100) °C	137 (96)	A
I_D	P3/180; $T_a = 45$ °C; B2 / B6	77 / 100	A
	P3/180F; $T_a = 35$ °C; B2 / B6	170 / 200	A
I_{RMS}	P3/180F; $T_a = 35$ °C; W1 / W3	240 / 3 * 163	A
I_{TSM}	$T_{vj} = 25$ °C; 10 ms	4700	A
	$T_{vj} = 125$ °C; 10 ms	4000	A
i^2t	$T_{vj} = 25$ °C; 8,3 ... 10 ms	110000	A ² s
	$T_{vj} = 125$ °C; 8,3 ... 10 ms	80000	A ² s
V_T	$T_{vj} = 25$ °C; $I_T = 500$ A	max. 1,8	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	1	V
r_T	$T_{vj} = 125$ °C	1,6	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; SKK ...D / SKK ...E	max. 500 / 1000	V/μs
t_q	$T_{vj} = 125$ °C	50 ... 150	μs
I_H	$T_{vj} = 25$ °C; typ. / max.	150 / 400	mA
I_L	$T_{vj} = 25$ °C; $R_G = 33$ Ω; typ. / max.	300 / 1000	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	0,18 / 0,09	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,19 / 0,095	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,21 / 0,105	K/W
$R_{th(c-s)}$	per thyristor / per module	0,1 / 0,05	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	a. c. 50 Hz; r.m.s.; 1 s / 1 min. for SKK ...H4	4800 / 4000	V~
M_s	to heatsink	5 ± 15 % ²⁾	Nm
M_t	to terminal	5 ± 15 %	Nm
a		5 * 9,81	m/s ²
m	approx.	165	g
Case	SKKT	A 21	
	SKKH	A 22	
	SKNH	A 61	

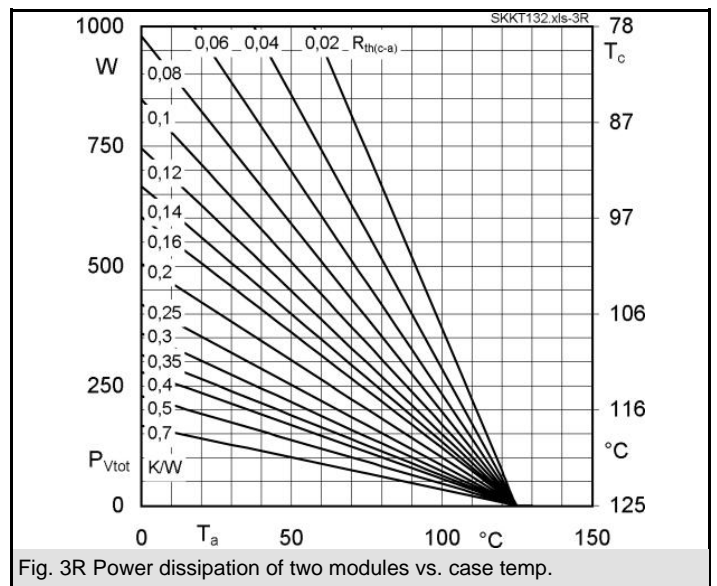
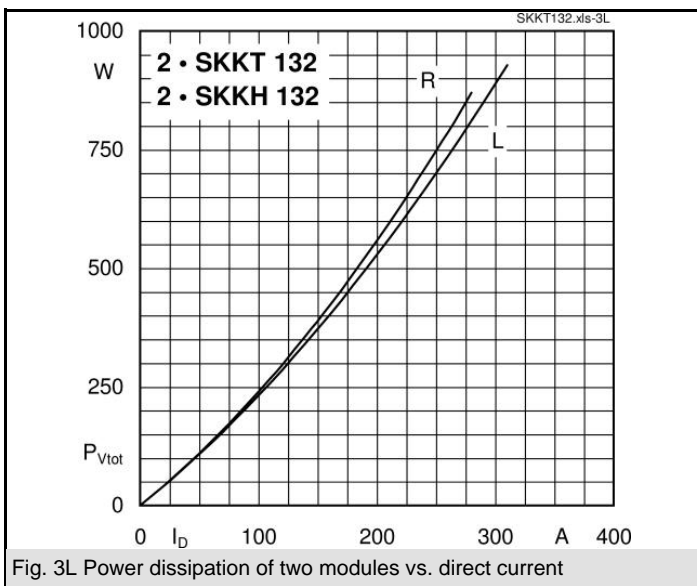
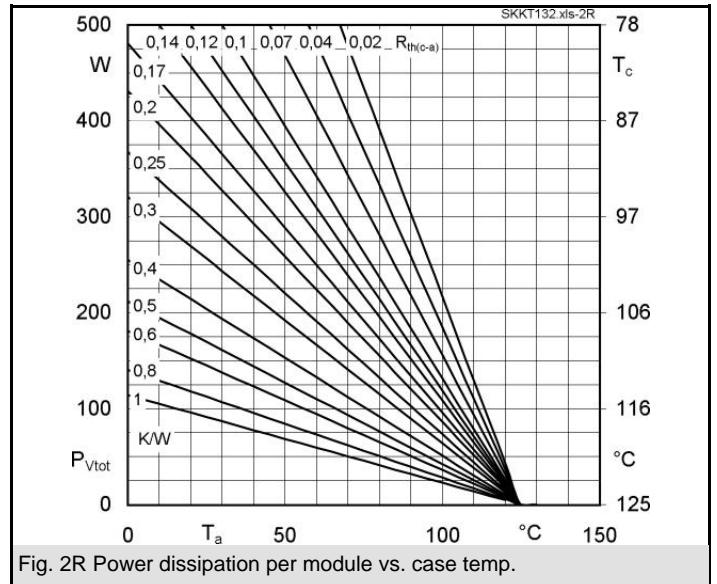
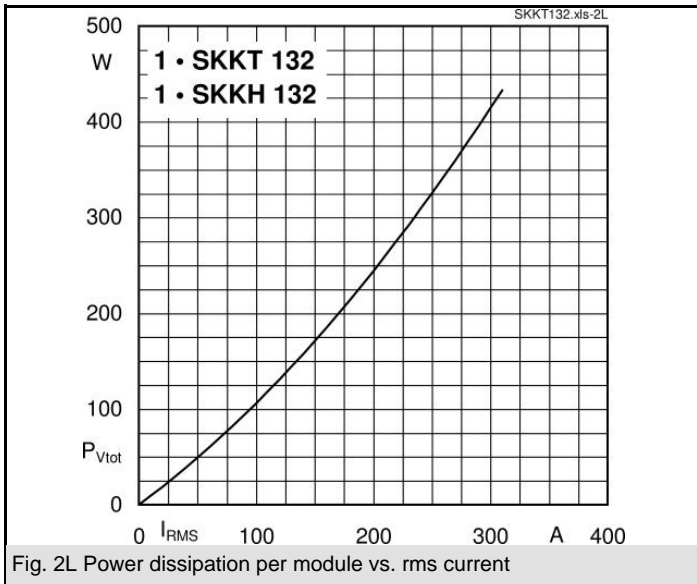
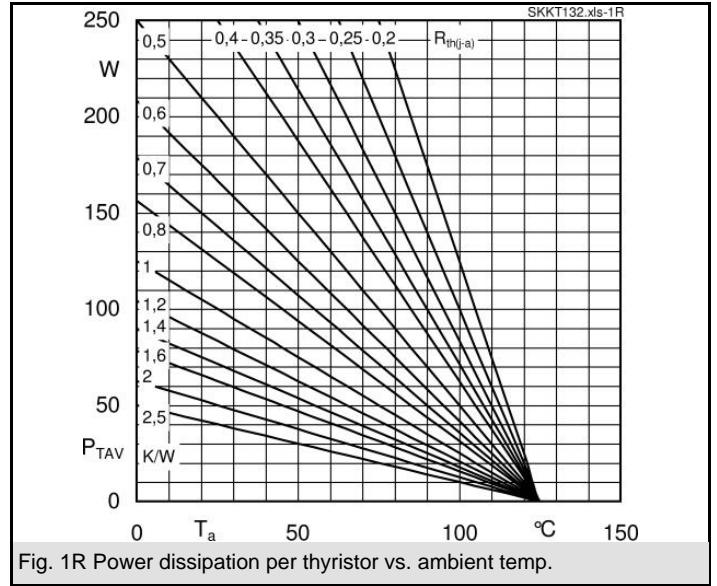
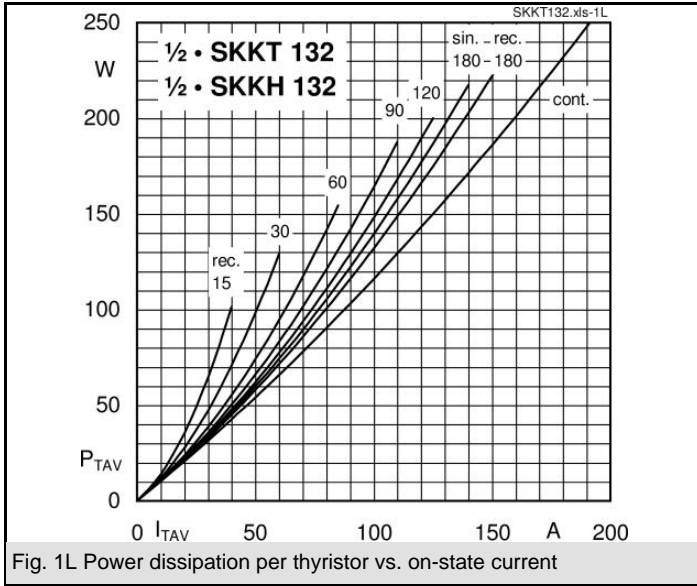


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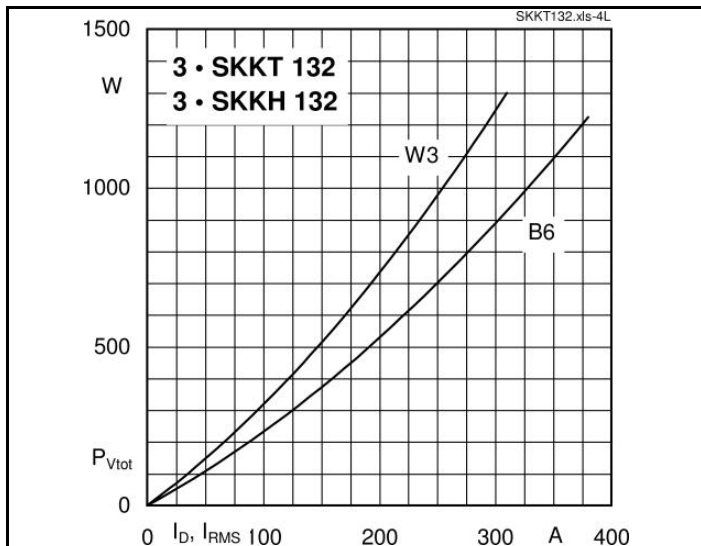


Fig. 4L Power dissipation of three modules vs. direct and rms current

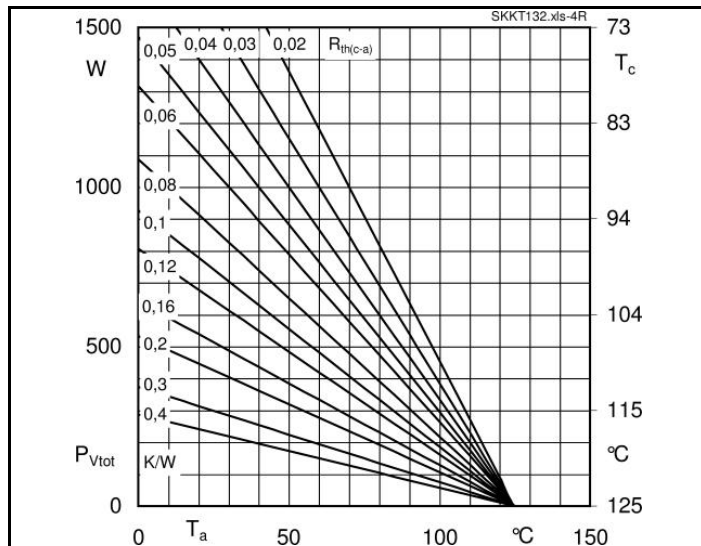


Fig. 4R Power dissipation of three modules vs. case temp.

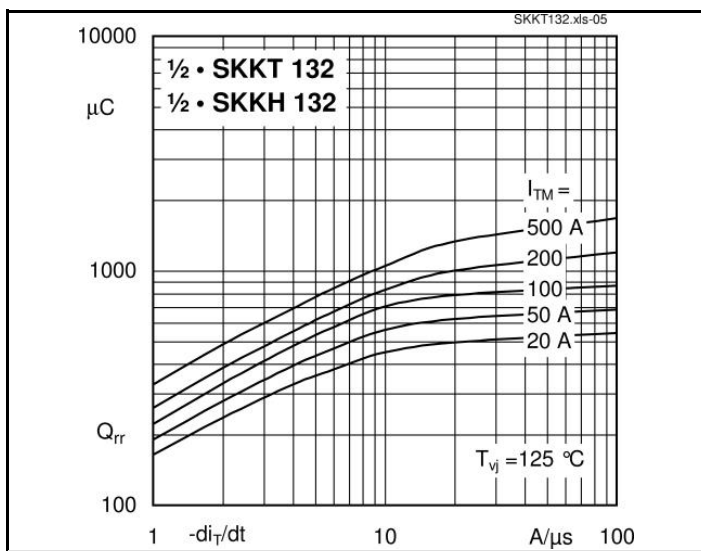


Fig. 5 Recovered charge vs. current decrease

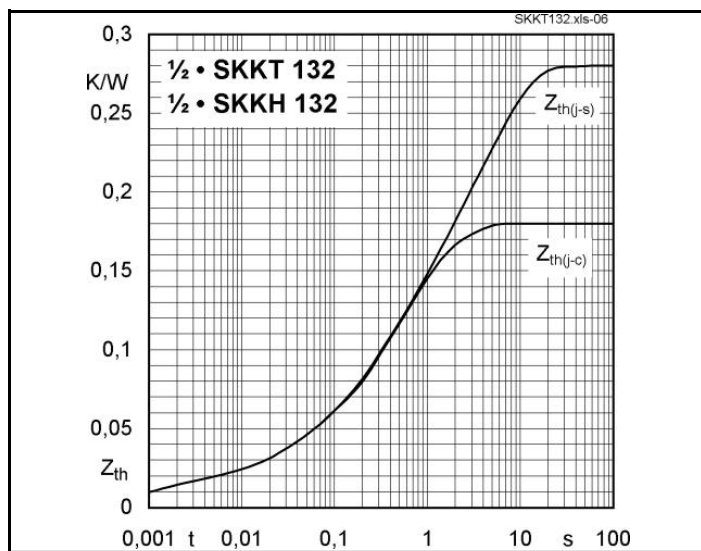


Fig. 6 Transient thermal impedance vs. time

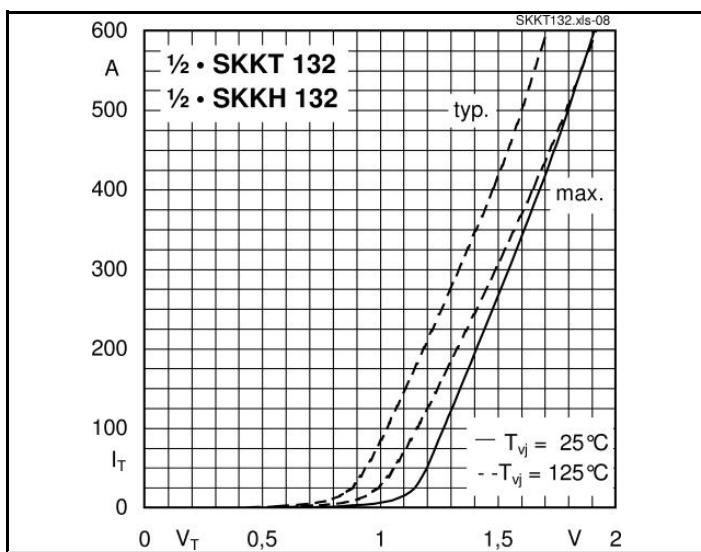


Fig. 7 On-state characteristics

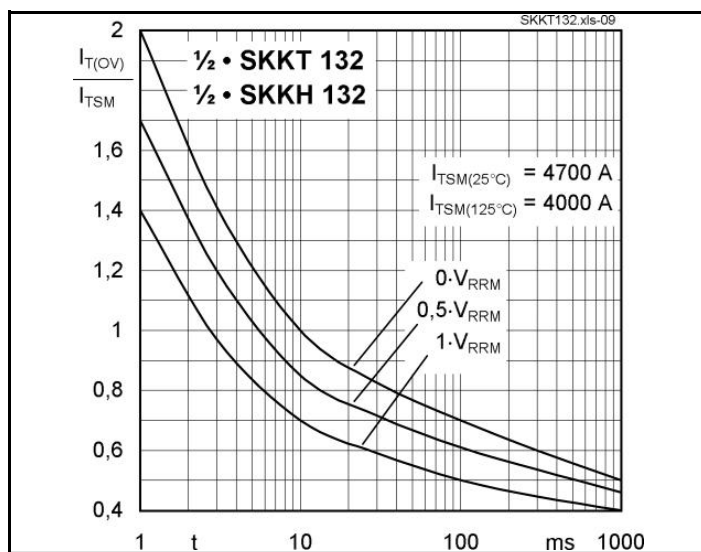
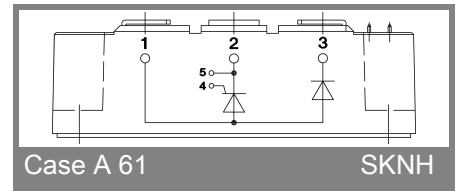
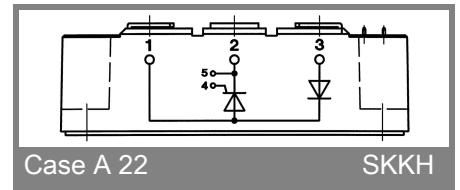
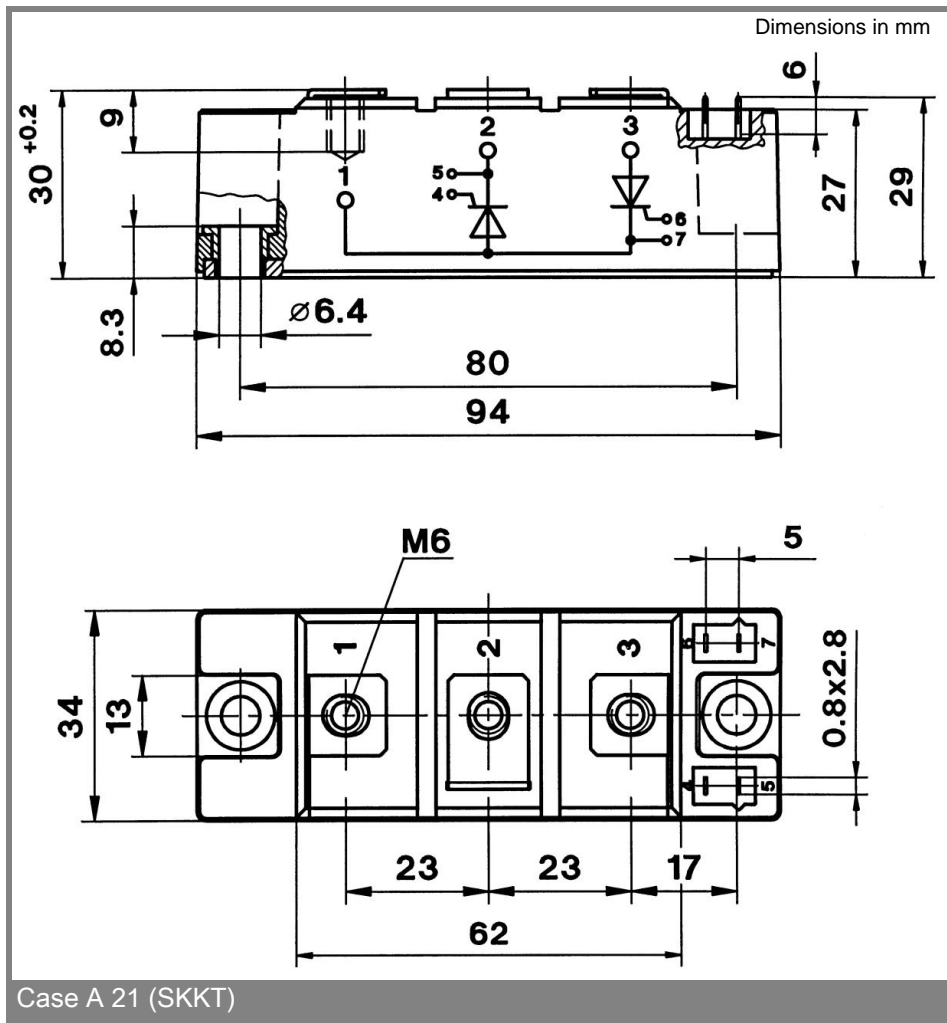


Fig. 8 Surge overload current vs. time

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