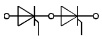
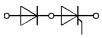
SEMIPACK® 1
Thyristor/ Diode Modules

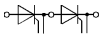
SKKT 71 **SKKH 71**
SKKT 72 **SKKH 72**
SKKT 72B

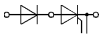
V_{RSM} V	V_{RRM} V_{DRM} V	$(dv/dt)_{cr}$ V/µs	I_{TRMS} (maximum value for continuous operation) 125 A			
			I_{TAV} (sin. 180; T_{case} = 78 °C) 80 A			
700	600	500	**SKKT 71/06 D**	–	–	**SKKH 72/06 D**
900	800	500	**SKKT 71/08 D**	**SKKT 72/08 D**[1)]	**SKKH 71/08 D**	**SKKH 72/08 D**
1300	1200	500	**SKKT 71/12 D**	–	**SKKH 71/12 D**	–
1300	1200	1000	**SKKT 71/12 E**	**SKKT 72/12 E**[1)]	–	**SKKH 72/12 E**
1500	1400	1000	**SKKT 71/14 E**	**SKKT 72/14 E**[1)]	**SKKH 71/14 E**	**SKKH 72/14 E**
1700	1600	1000	**SKKT 71/16 E**	**SKKT 72/16 E**[1)]	**SKKH 71/16 E**	**SKKH 72/16 E**
1900	1800	1000	**SKKT 71/18 E**	**SKKT 72/18 E**[1)]	**SKKH 71/18 E**	**SKKH 72/18 E**
2100	2000	1000	**SKKT 71/20 E**	**SKKT 72/20 E**[1)]	–	**SKKH 72/20 E**
2300	2200	1000	**SKKT 71/22 E**	**SKKT 72/22 E**[1)]	–	**SKKH 72/22 E**

Symbol	**Conditions**		**SKKT 71 SKKH 71**	**SKKT 72 SKKT 72B SKKH 72**
I_{TAV}	sin. 180; T_{case} = 78 °C		80 A	
	T_{case} = 85 °C		70 A	
I_D	B2/B6	T_{amb} = 45 °C; P 3/180	62 A/75 A	
		T_{amb} = 35 °C; P 3/180 F	115 A/145 A	
I_{RMS}	W1/W3	T_{amb} = 35 °C; P 3/180 F	155 A/3 x 115 A	
I_{TSM}	T_{vj} = 25 °C; 10 ms		1 600 A	
	T_{vj} = 125 °C; 10 ms		1 450 A	
i^2t	T_{vj} = 25 °C; 8,3 ... 10 ms		13 000 A^2s	
	T_{vj} = 125 °C; 8,3 ... 10 ms		10 500 A^2s	
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		150 A/µs	
t_q	T_{vj} = 125 °C		typ. 80 µs	
I_H	T_{vj} = 25 °C;		typ.150 mA; max. 250 mA	
I_L	T_{vj} = 25 °C; R_G = 33 Ω		typ.300 mA; max. 600 mA	
V_T	T_{vj} = 25 °C; I_T = 300 A		max. 1,9 V	
$V_{T(TO)}$	T_{vj} = 125 °C		0,9 V	
r_T	T_{vj} = 125 °C		3,5 mΩ	
I_{DD}; I_{RD}	T_{vj} = 125 °C; V_{DD} = V_{DRM}; V_{RD} = V_{RRM}		max. 20 mA[3)]	
V_{GT}	T_{vj} = 25 °C; d. c.		3 V	
I_{GT}	T_{vj} = 25 °C; d. c.		150 mA	
V_{GD}	T_{vj} = 125 °C; d. c.		0,25 V	
I_{GD}	T_{vj} = 125 °C; d. c.		6 mA	
R_{thjc}	cont.	per thyristor/per module	0,35 °C/W / 0,18 °C/W	
	sin. 180		0,37 °C/W / 0,19 °C/W	
	rec.120		0,39 °C/W / 0,20 °C/W	
R_{thch}			0,2 °C/W / 0,1 °C/W	
T_{vj}, T_{stg}			– 40 ... +125 °C	
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s/1 min		3600 V~ / 3000 V~	
M_1	to heatsink	SI units/ US units	5 Nm/44 lb. in. ± 15 %[2)]	
M_2	to terminals		3 Nm/26 lb. in. ± 15 %	
a			5 · 9,81 m/s^2	
w	approx.		120 g	
Case	→ page B 1 – 93		SKKT 71: A 5 SKKH 71: A 6	SKKT 72: A 46 SKKT 72B: A 48 SKKH 72: A 47


SKKT 71


SKKH 71


SKKT 72


SKKH 72

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)
- AC motor soft starters
- Temperature control (e. g. for ovens, chemical processes)
- Professional light dimming (studios, theaters)

1) Also available in SKKT 72 B configuration (case A 48)

2) See the assembly instructions

3) /20 E, /22 E max. 30 mA

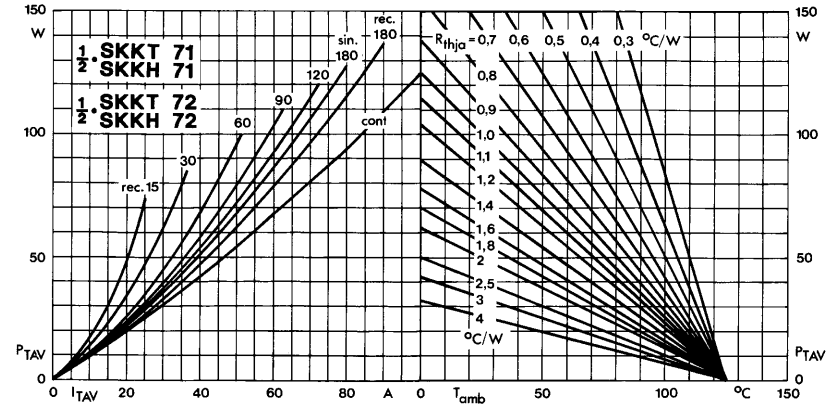


Fig. 1 Power dissipation per thyristor vs. on-state current and ambient temperature

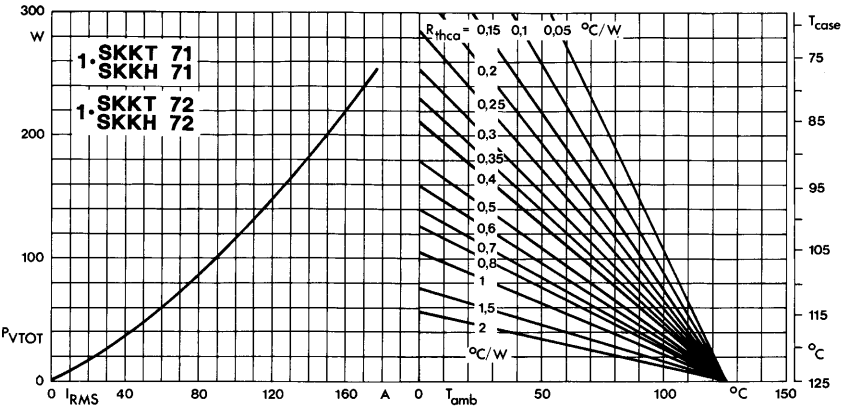


Fig. 2 Power dissipation per module vs. rms current and case temperature

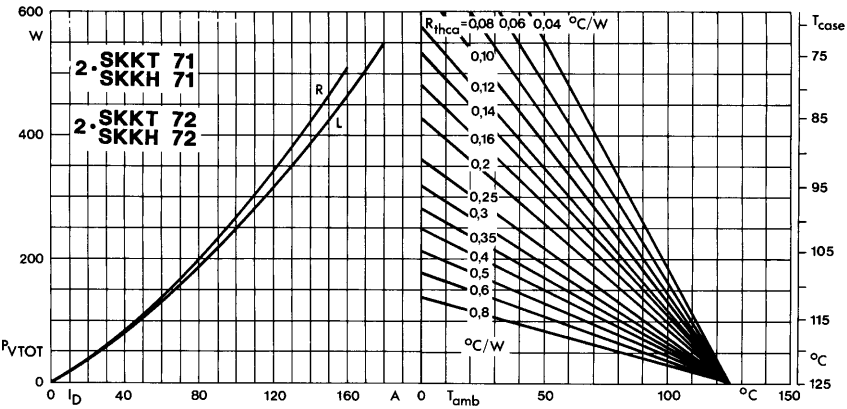


Fig. 3 Power dissipation of two modules vs. direct current and case temperature

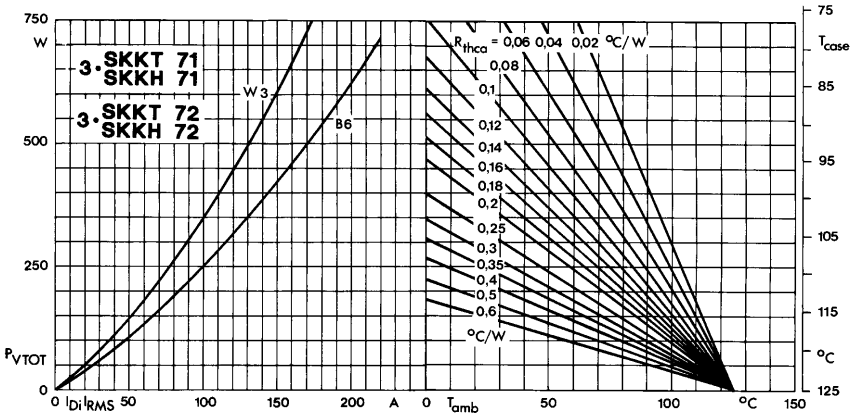


Fig. 4 Power dissipation of three modules vs. direct and rms current and case temperature

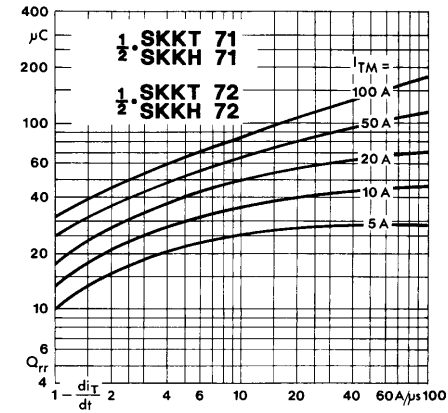


Fig. 5 Recovered charge vs. current decrease

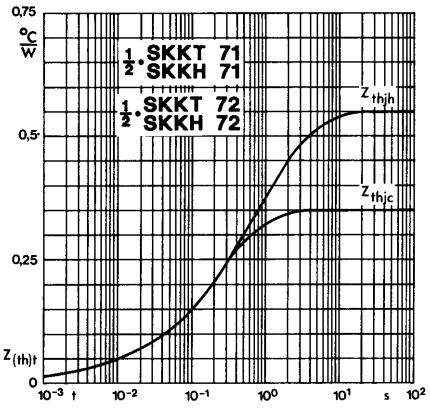


Fig. 6 Transient thermal impedance vs. time

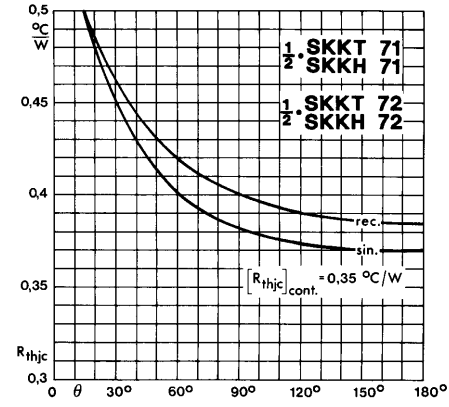


Fig. 7 Thermal resistance vs. conduction angle

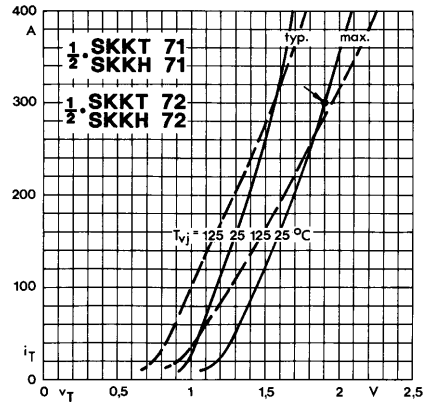


Fig. 8 On-state characteristics

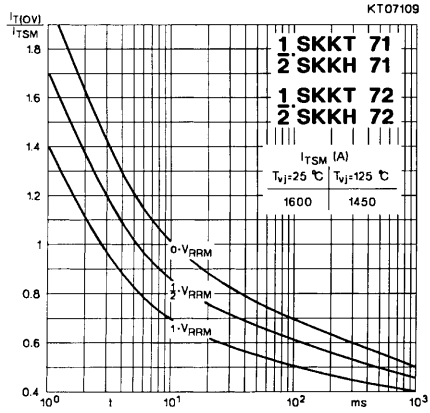


Fig. 9 Surge overload current vs. time

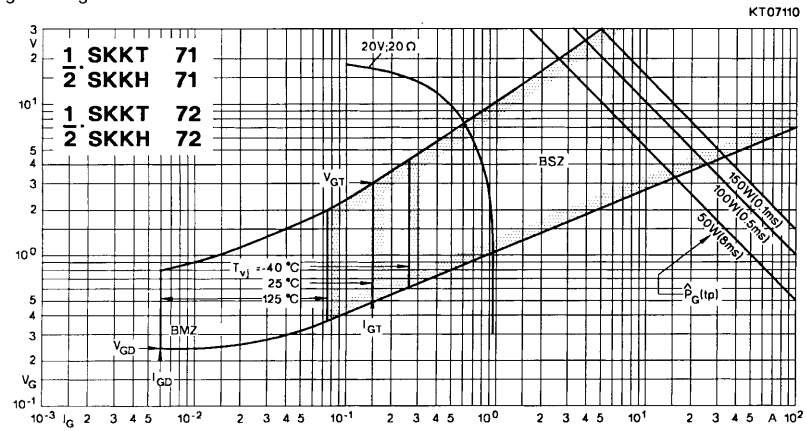


Fig. 10 Gate trigger characteristics