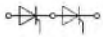
V_{RSM} V	V_{RRM} V_{DRM} V	$(dv/dt)_{cr}$ V/µs	I_{TRMS} (maximum value for continuous operation) 40 A I_{TAV} (sin. 180; T_{case} = 60 °C) 25 A		
700	600	500	**SKKT 19/06 D**	**SKKT 20/06 D**	–
900	800	500	**SKKT 19/08 D**	**SKKT 20/08 D**	**SKKT 20B08 D**
1300	1200	500	**SKKT 19/12 D**	–	–
1300	1200	1000	**SKKT 19/12 E**	**SKKT 20/12 E**	**SKKT 20B12 E**
1500	1400	1000	**SKKT 19/14 E**	**SKKT 20/14 E**	**SKKT 20B14 E**
1700	1600	1000	**SKKT 19/16 E**	**SKKT 20/16 E**	**SKKT 20B16 E**

Symbol	Conditions		SKKT 19	SKKT 20 SKKT 20B
I_{TAV}	sin. 180;	T_{case} = 60 °C	25 A	
		T_{case} = 85 °C	18 A	
I_D	B2/B6	T_{amb} = 45 °C; P 3/180	31 A/38 A	
		T_{amb} = 35 °C; P 3/180 F	46 A/60 A	
I_{RMS}	W1/W3	T_{amb} = 45 °C; P 3/180	42 A/3 x 30 A	
I_{TSM}	T_{vj} = 25 °C; 10 ms		320 A	
	T_{vj} = 125 °C; 10 ms		280 A	
i^2t	T_{vj} = 25 °C; 8,3 ... 10 ms		510 A^2s	
	T_{vj} = 125 °C; 8,3 ... 10 ms		390 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}		1 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./max.		100/200 mA	
I_L	T_{vj} = 25 °C; R_G = 33 Ω; typ./max.		250/400 mA	
V_T	T_{vj} = 25 °C; I_T = 75 A		max. 2,3 V	
$V_{T(TO)}$	T_{vj} = 125 °C		1,0 V	
r_T	T_{vj} = 125 °C		16 mΩ	
I_{DD}; I_{RD}	T_{vj} = 125 °C; V_{DD} = V_{DRM}; V_{RD} = V_{RRM}		max. 10 mA	
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.		5 mA	
R_{thjc}	cont.	per thyristor/per module	1,2 °C/W / 0,6 °C/W	
	sin. 180		1,3 °C/W / 0,65 °C/W	
	rec. 120		1,35 °C/W / 0,68 °C/W	
R_{thch}			0,2 °C/W / 0,1 °C/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 V~/ 3000 V~	
M_1	to heatsink	SI units / US units	5 Nm/44 lb. in. ± 15 %[1]	
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 19: A 5 SKKT 20: A 46 SKKT 20B: A 48	

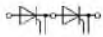
[1] See the assembly instructions

SEMIPACK® 1
Thyristor/ Diode Modules

SKKT 19
SKKT 20
SKKT 20B



SKKT 19



SKKT 20

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)

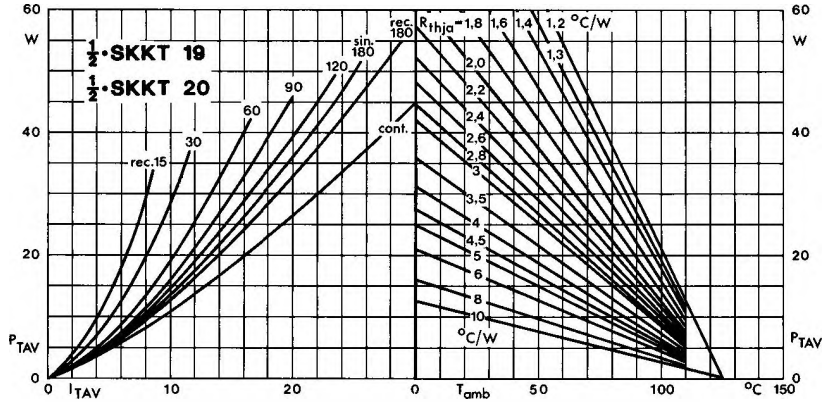


Fig. 1 Power dissipation per thyristor vs. on-state current and ambient temperature

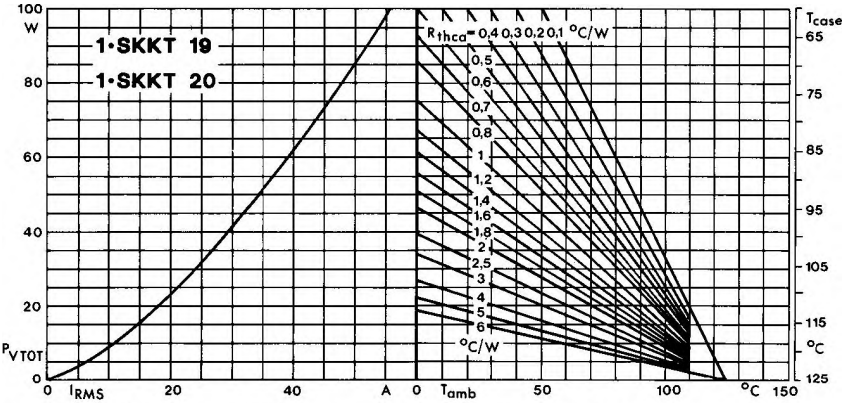


Fig. 2 Power dissipation per module vs. rms current and case temperature

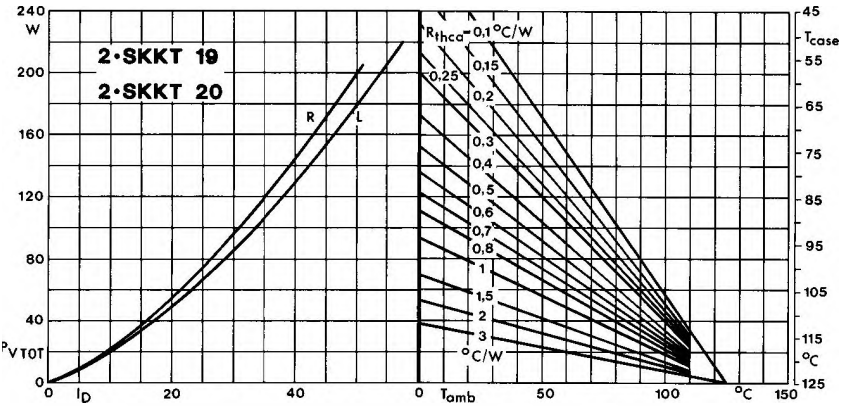


Fig. 3 Power dissipation of two modules vs. direct current and case temperature

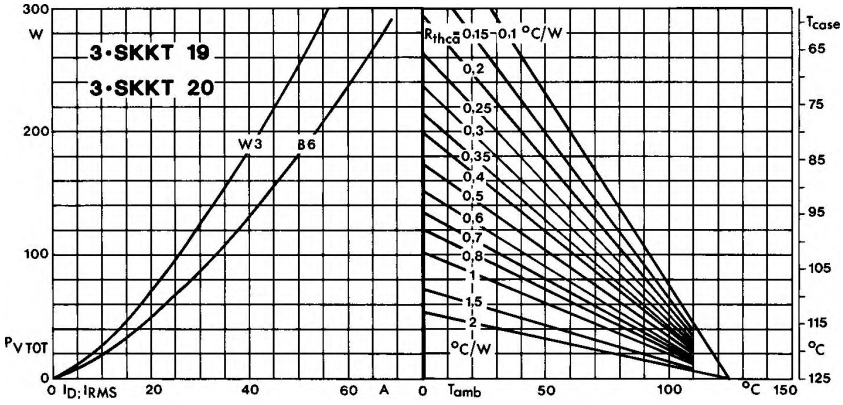


Fig. 4 Power dissipation of three modules vs. direct and rms current and case temperature

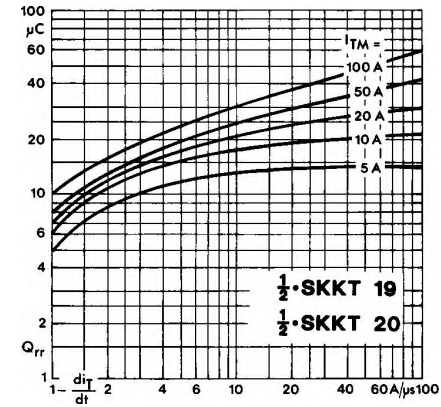


Fig. 5 Recovered charge vs. current decrease

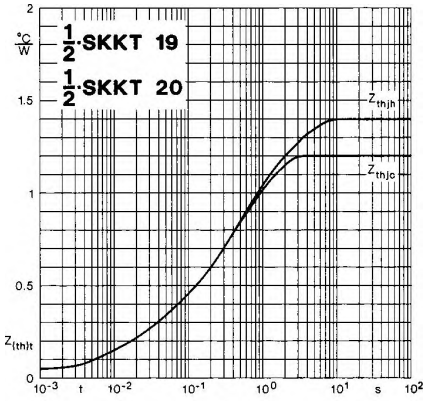


Fig. 6 Transient thermal impedance vs. time

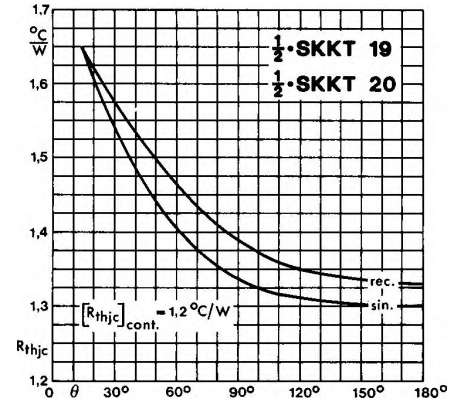


Fig. 7 Thermal resistance vs. conduction angle

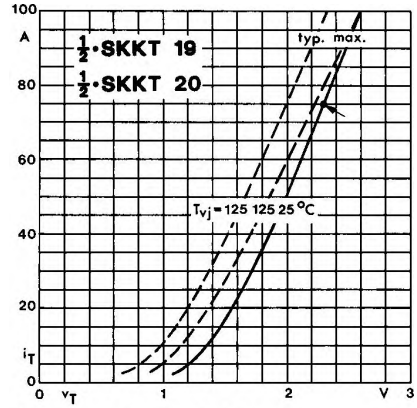


Fig. 8 On-state characteristics

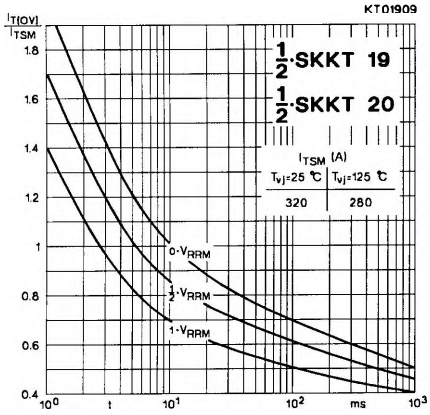


Fig. 9 Surge overload current vs. time

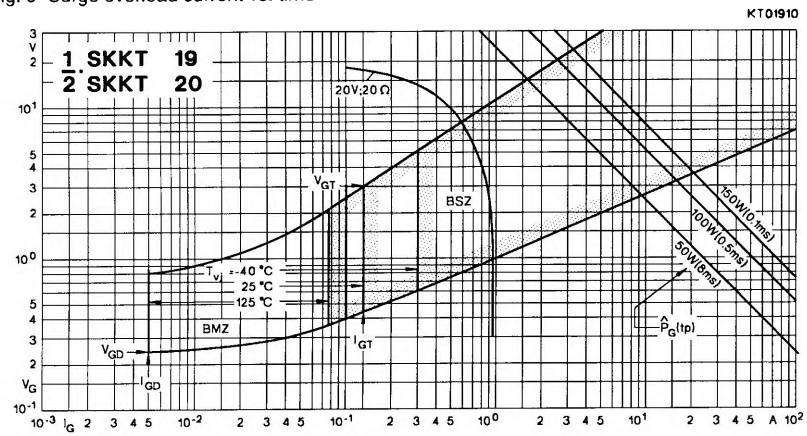


Fig. 10 Gate trigger characteristics