Thyristors

SKT 600
SKT 760

V_{RSM}	V_{RRM} V_{DRM}	$\left(\frac{dv}{dt}\right)_{cr}$	I_{TRMS} (maximum values for continuous operation)	
			1400 A	1600 A
			I_{TAV} (sin. 180; T_{case} = . . . ; DSC)	
V	V	V/µs	890 A (57 °C)	1020 A (56 °C)
500	400	500	**SKT 600/04 D**	**SKT 760/04 D**
900	800	500	**SKT 600/08 D**	**SKT 760/08 D**
1300	1200	500	**SKT 600/12 D**	**SKT 760/12 D**
		1000	**SKT 600/12 E**	**SKT 760/12 E**
1500	1400	1000	**SKT 600/14 E**	**SKT 760/14 E**
1700	1600	1000	**SKT 600/16 E**	**SKT 760/16 E**
1900	1800	1000	**SKT 600/18 E**	**SKT 760/18 E**

Symbol	Conditions	SKT 600	SKT 760
I_{TAV}	sin. 180; (T_{case} = ...); DSC	600 A (85 °C)	760 A (80 °C)
I_{TSM}	T_{vj} = 25 °C: 10 ms	11 500 A	15 000 A
	T_{vj} = 125 °C: 10 ms	10 000 A	13 000 A
i^2t	T_{vj} = 25 °C: 8,3 ... 10 ms	660 kA^2s	1125 kA^2s
	T_{vj} = 125 °C: 8,3 ... 10 ms	500 kA^2s	845 kA^2s
t_{gd}	T_{vj} = 25 °C; I_G = 1 A; di_G/dt = 1 A/µs	typ. 1 µs	
t_{gr}	V_D = 0,67 · V_{DRM}	typ. 2 µs	
$(di/dt)_{cr}$	f = 50 . . . 60 Hz	125 A/ µs	
I_H	T_{vj} = 25 °C; typ./max.	150 mA/500 mA	
I_L	T_{vj} = 25 °C; typ./max.	500 mA/2 A	
t_q	T_{vj} = 125 °C; typ.	100 ... 200 µs	
V_T	T_{vj} = 25 °C; I_T = 2400 A; max.	2,0 V	1,65 V
$V_{T(TO)}$	T_{vj} = 125 °C	1,0 V	0,92 V
r_T	T_{vj} = 125 °C	0,4 mΩ	0,3 mΩ
I_{DD}, I_{RD}	T_{vj} = 125 °C; V_{DD} = V_{DRM} ; V_{RD} = V_{RRM}	80 mA	80 mA
V_{GT}	T_{vj} = 25 °C	3 V	
I_{GT}	T_{vj} = 25 °C	200 mA	
V_{GD}	T_{vj} = 125 °C	0,25 V	
I_{GD}	T_{vj} = 125 °C	10 mA	
R_{thjc}	cont. DSC	0,038 °C/W	
	sin. 180; DSC/SSC	0,040/0,082 °C/W	
	rec. 120; DSC/SSC	0,045/0,093 °C/W	
R_{thch}	DSC/SSC	0,007/0,014 °C/W	
T_{vj}		– 40 ... +125 °C	
T_{stg}		– 40 ... +130 °C	
F	SI units	10 ... 13 kN	
	US units	2200 ... 2850 lbs.	
w		240 g	
Case		B 10	

Features

- Hermetic metal cases with ceramic insulators
- Capsule packages for double sided cooling
- Shallow design with single sided cooling
- International standard cases
- Off-state and reverse voltages up to 1800 V

Typical Applications

- DC motor control (e. g. for machine tools)
- Controlled rectifiers (e. g. for battery charging)
- AC controllers (e. g. for temperature control)

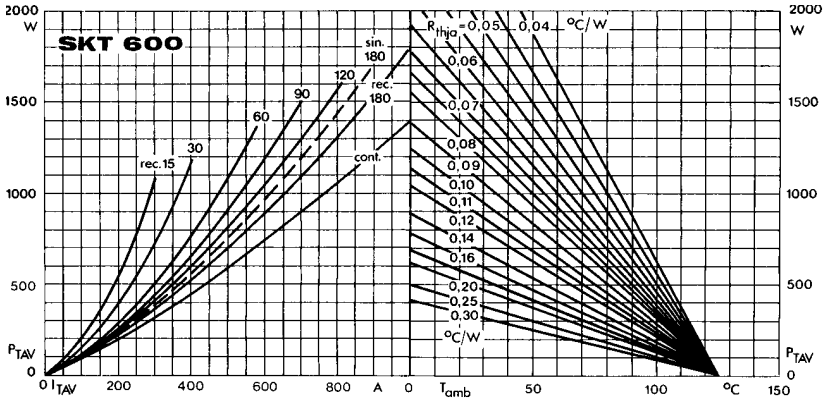

Fig. 1 a Power dissipation vs. on-state current and ambient temperature

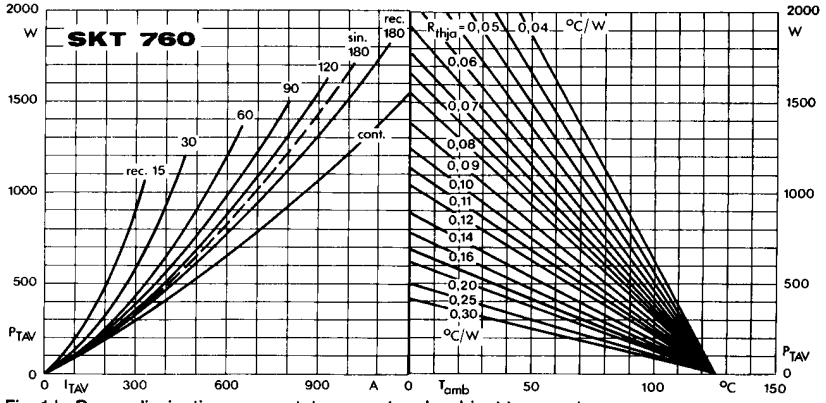

Fig. 1 b Power dissipation vs. on-state current and ambient temperature

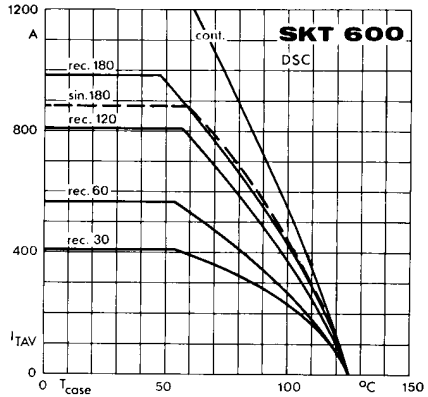

Fig. 2 a Rated on-state current vs. case temperature

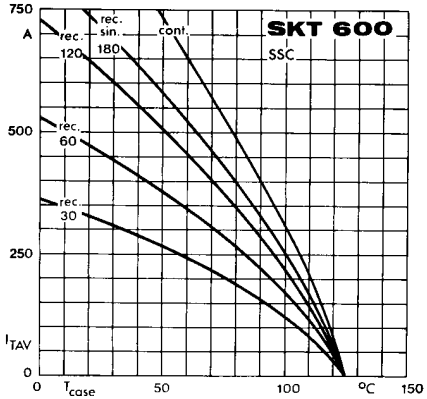

Fig. 2 b Rated on-state current vs. case temperature

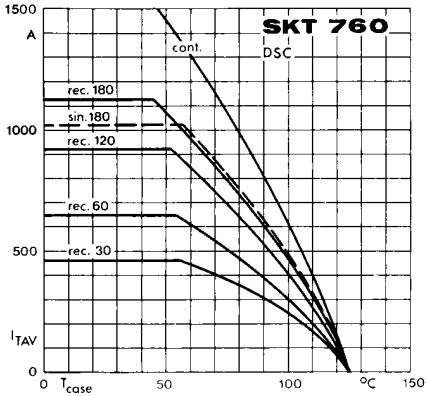

Fig. 2 c Rated on-state current vs. case temperature

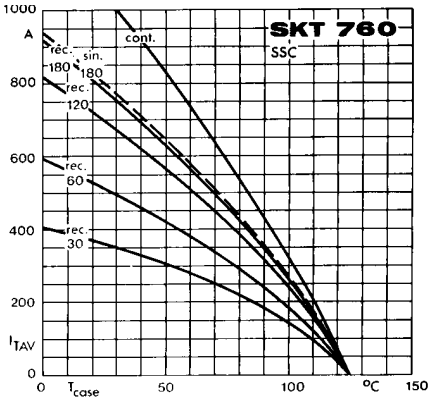

Fig. 2 d Rated on-state current vs. case temperature

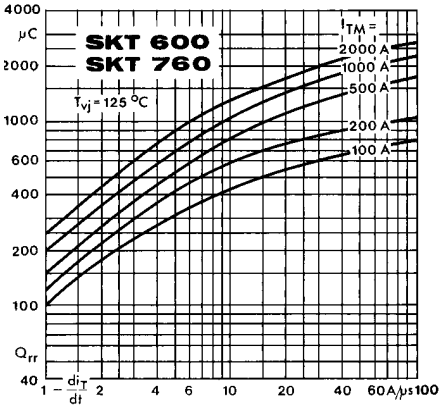

Fig. 3 Recovered charge vs. current decrease

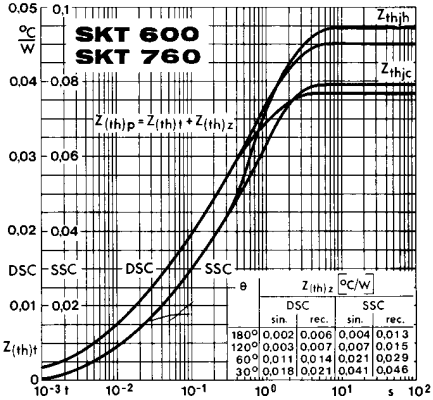

Fig. 4 Transient thermal impedance vs. time

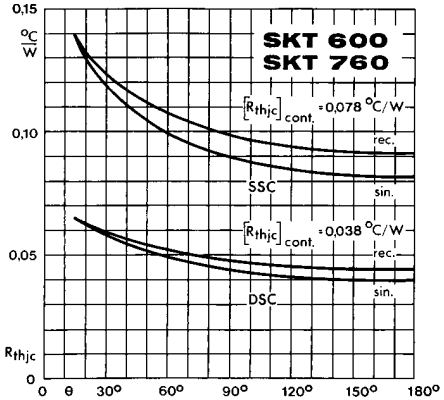

Fig. 5 Thermal resistance vs. conduction angle

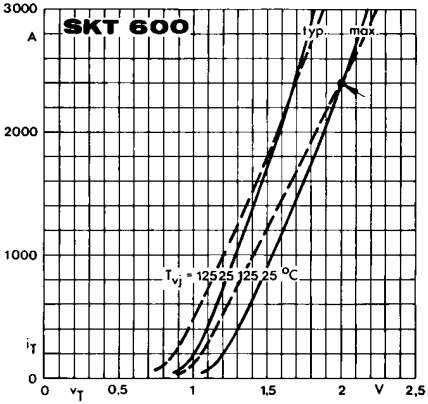

Fig. 6 a On-state characteristics

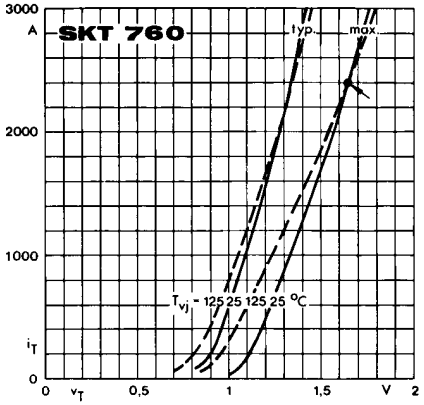

Fig. 6 b On-state characteristics

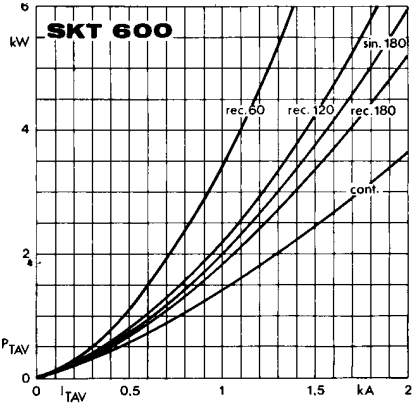

Fig. 7 a Power dissipation vs. on-state current

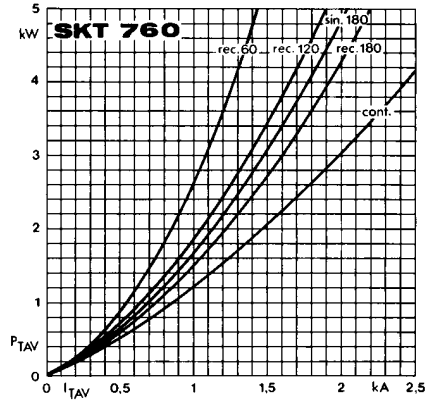

Fig. 7 b Power dissipation vs. on-state current

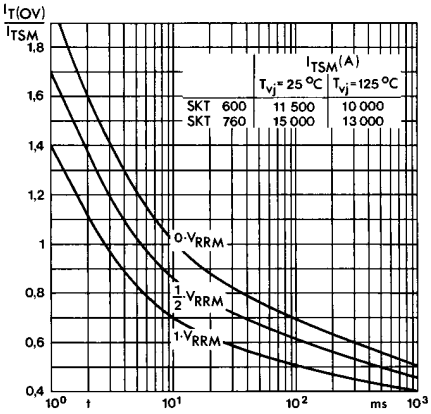

Fig. 8 Surge overload current vs. time

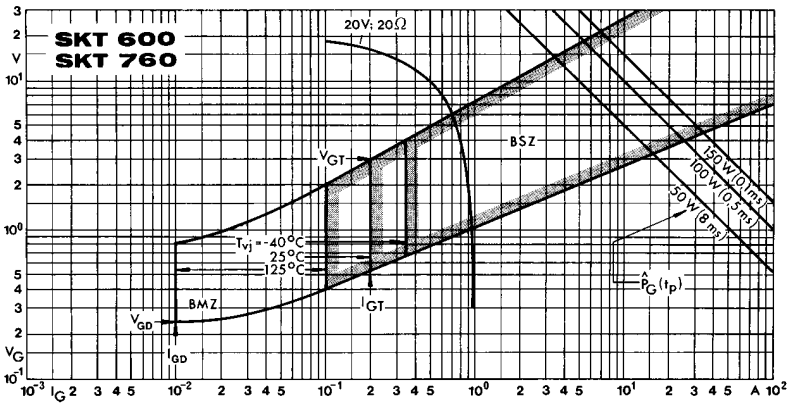

Fig. 9 Gate trigger characteristics