

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

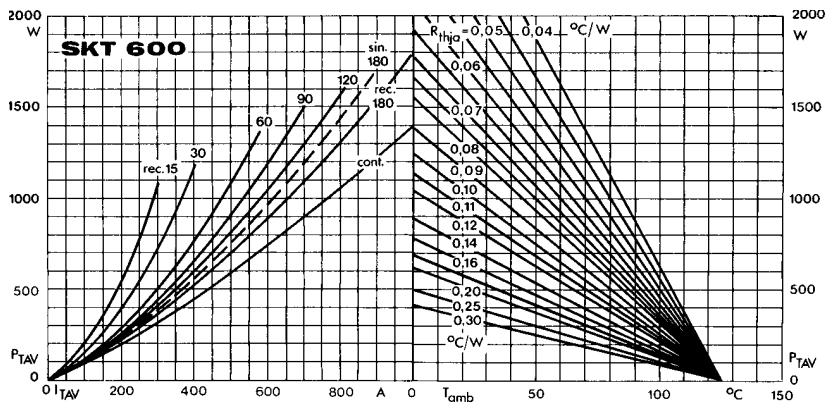


Fig. 1 a Power dissipation vs. on-state current and ambient temperature

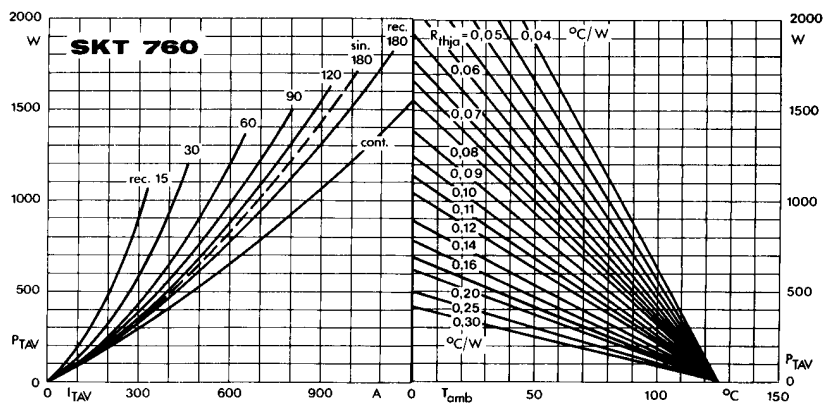


Fig. 1 b Power dissipation vs. on-state current and ambient temperature

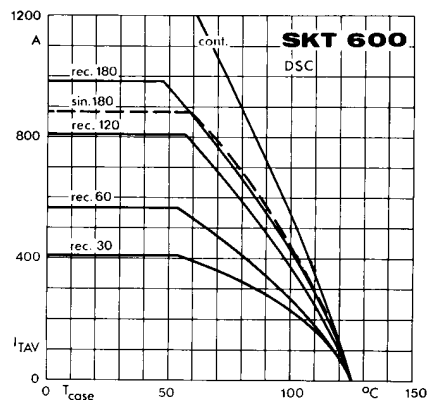


Fig. 2 a Rated on-state current vs. case temperature

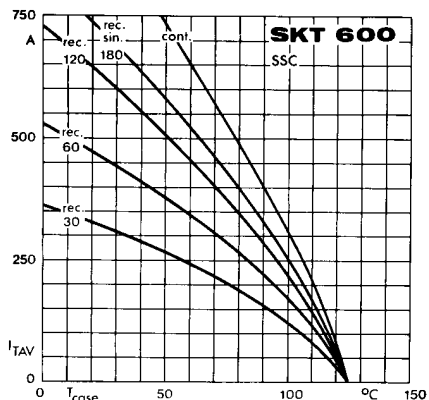


Fig. 2 b Rated on-state current vs. case temperature

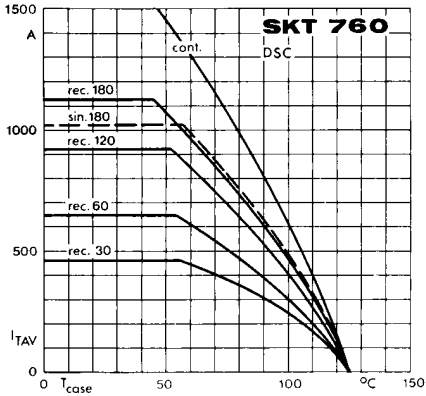


Fig. 2 c Rated on-state current vs. case temperature

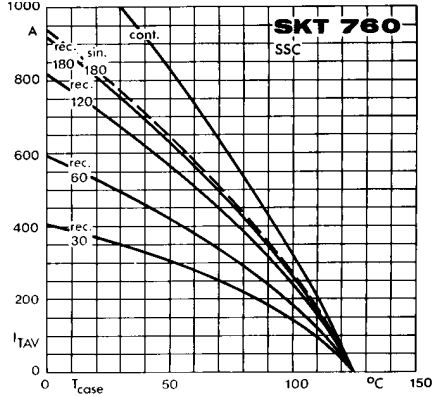


Fig. 2 d Rated on-state current vs. case temperature

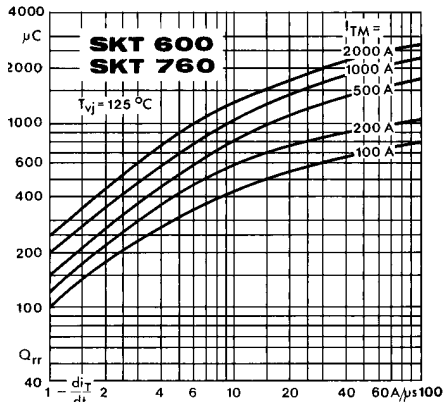


Fig. 3 Recovered charge vs. current decrease

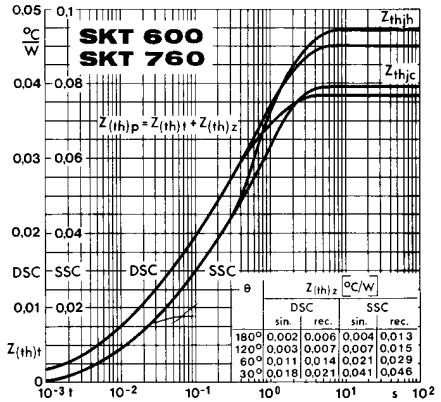


Fig. 4 Transient thermal impedance vs. time

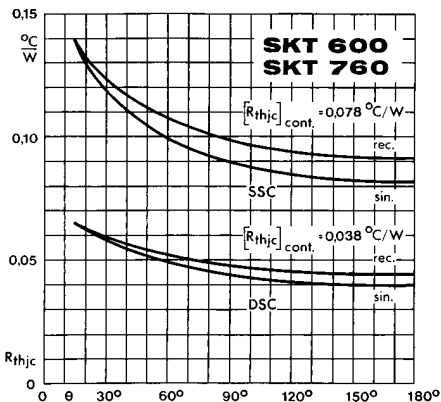


Fig. 5 Thermal resistance vs. conduction angle

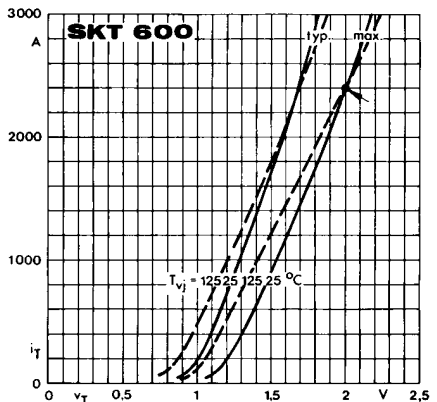


Fig. 6 a On-state characteristics

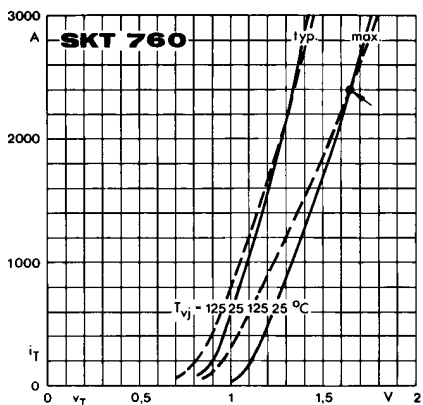


Fig. 6 b On-state characteristics

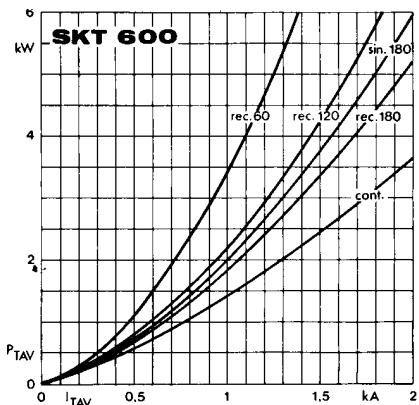


Fig. 7 a Power dissipation vs. on-state current

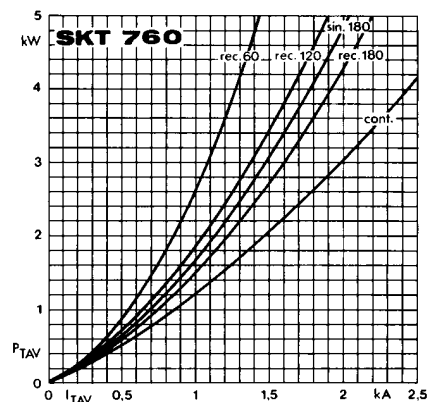


Fig. 7 b Power dissipation vs. on-state current

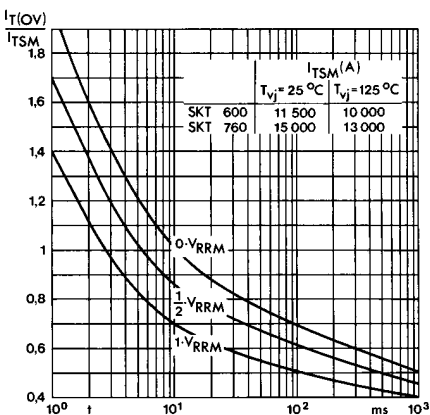


Fig. 8 Surge overload current vs. time

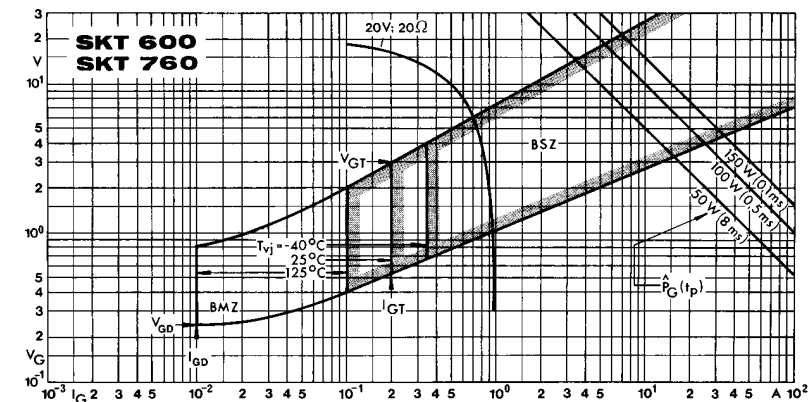


Fig. 9 Gate trigger characteristics