SKT 1000

Capsule Thyristor

Line Thyristor

SKT 1000

Features

- Hermetic metal case with ceramic insulator
- Capsule package for double sided cooling
- International standard case
- Off-state and reverse voltages up to 2800 V
- Amplifying gate

Typical Applications

- DC motor control (e. g. for machine tools)
- Controlled rectifiers (e. g. for battery charging)
- AC controllers (e. g. for temperature control)
- Recommended snubber network e. g. for $V_{VRMS} \leq 400$ V: R = 33 Ω/32 W, C = 1 µF

SKT

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 2300 A (maximum value for continuous operation) I_{TAV} = 1000 A (sin. 180; DSC; T_c = 85 °C)		
1300	1200	SKT 1000/12E		
1700	1600	SKT 1000/16E		
2300	2200	SKT 1000/22EL2		
2700	2600	SKT 1000/26EL2		
2900	2800	SKT 1000/28EL2		

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 100 (85) °C	710 (1000)	A
I_D	2 x P8/180; T_a = 45 °C; B2 / B6	360 / 500	A
	2 x P8/180F; T_a = 35 °C; B2 / B6	1250 /1750	A
I_{RMS}	2 x P8/180; T_a = 45 °C; W1C	400	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	19000	A
	T_{vj} = 125 °C; 10 ms	16500	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	1800000	A²s
	T_{vj} = 125 °C; 8,3 ... 10 ms	1360000	A²s
V_T	T_{vj} = 25 °C; I_T = 3600 A	max. 2	V
$V_{T(TO)}$	T_{vj} = 125 °C	1,14	V
r_T	T_{vj} = 125 °C	0,243	mΩ
I_{DD}; I_{RD}	T_{vj} = 125 °C; V_{RD} = V_{RRM}; V_{DD} = V_{DRM}	max. 100	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. 125	A/µs
$(dv/dt)_{cr}$	T_{vj} = 125 °C	max. 1000	V/µs
t_q	T_{vj} = 125 °C	100 ... 250	µs
I_H	T_{vj} = 25 °C; typ. / max.	250 / 500	mA
I_L	T_{vj} = 25 °C R_G = 33 Ω; typ. / max.	0,5 / 2	mA
V_{GT}	T_{vj} = 25 °C; d.c.	min. 5	V
I_{GT}	T_{vj} = 25 °C; d.c.	min. 250	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.; DSC	0,021	K/W
$R_{th(j-c)}$	sin. 180; DSC / SSC	0,0225 / 0,054	K/W
$R_{th(j-c)}$	rec. 120; DSC / SSC	0,027 / 0,06	K/W
$R_{th(c-s)}$	DSC / SSC	0,005 / 0,01	K/W
T_{vj}		- 40 ... + 125	°C
T_{stg}		- 40 ... + 130	°C
V_{isol}		-	V~
F	mounting force	22 ... 25	kN
a			m/s²
m	approx.	550	g
Case		B 14	

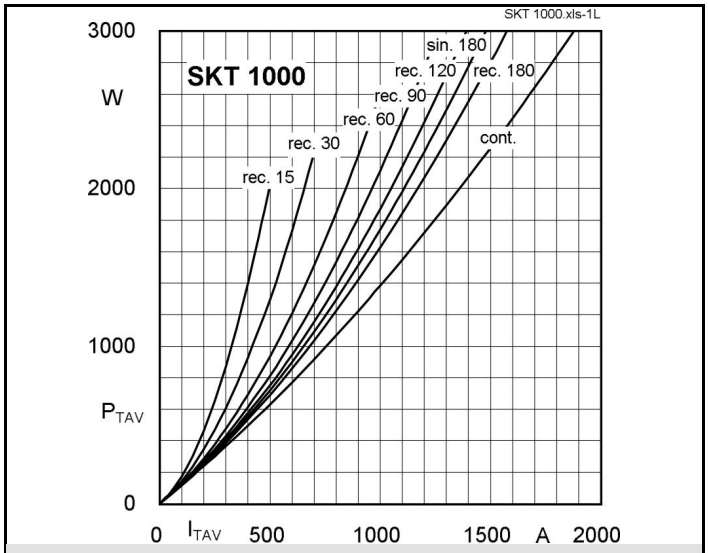


Fig. 1L Power dissipation vs. on-state current

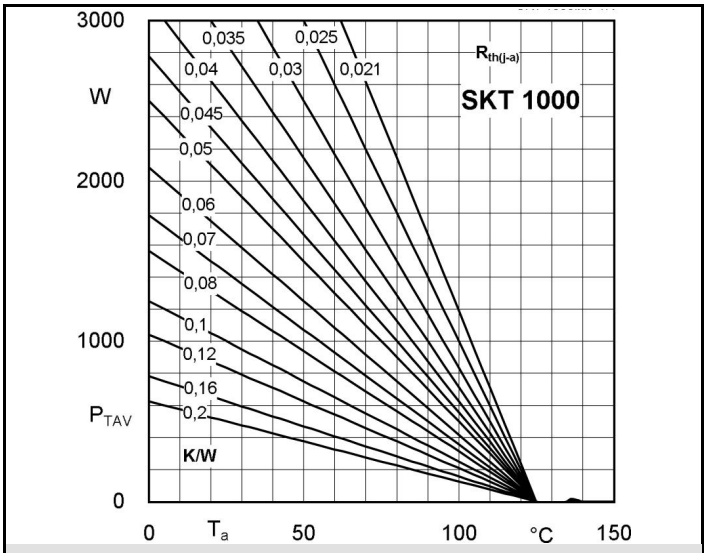


Fig. 1R Power dissipation vs. ambient temperature

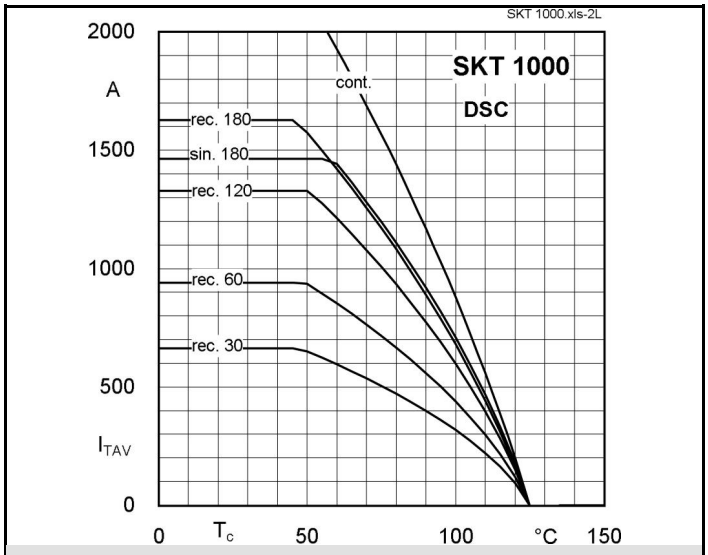


Fig. 2L Rated on-state current vs. case temperature

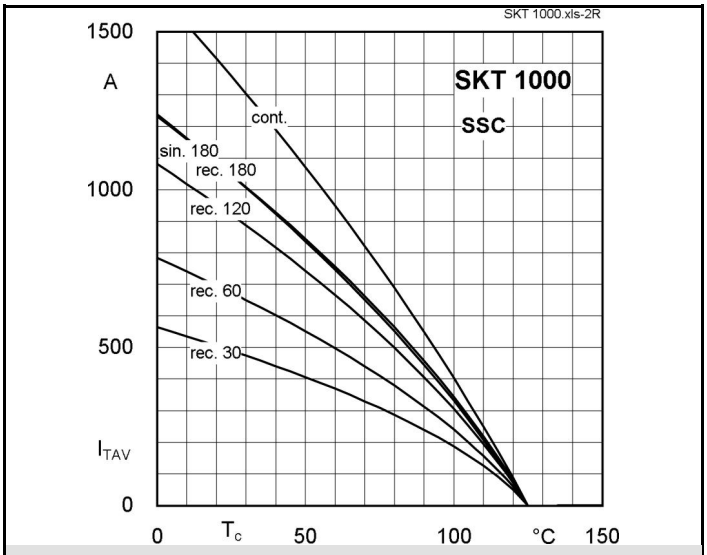


Fig. 2R Rated on-state current vs. case temperature

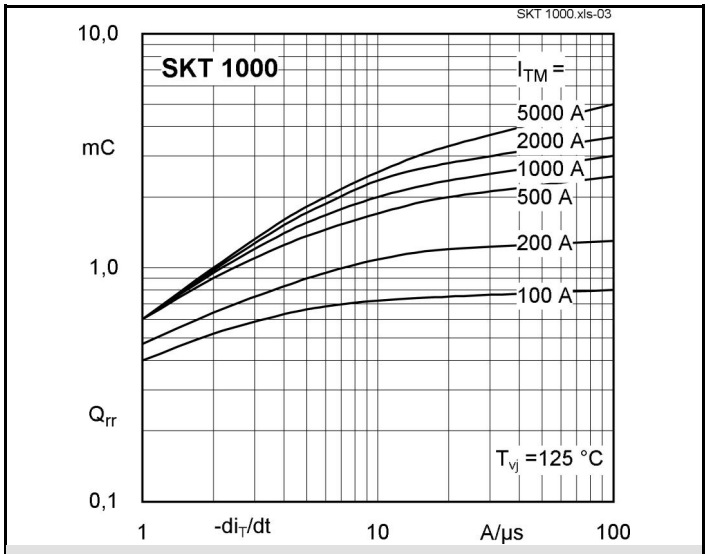


Fig. 3 Recovered charge vs. current decrease

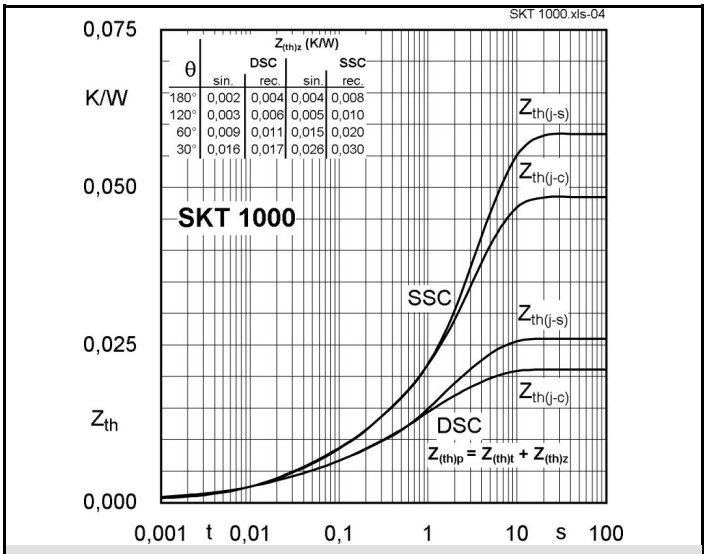


Fig. 4 Transient thermal impedance vs. time

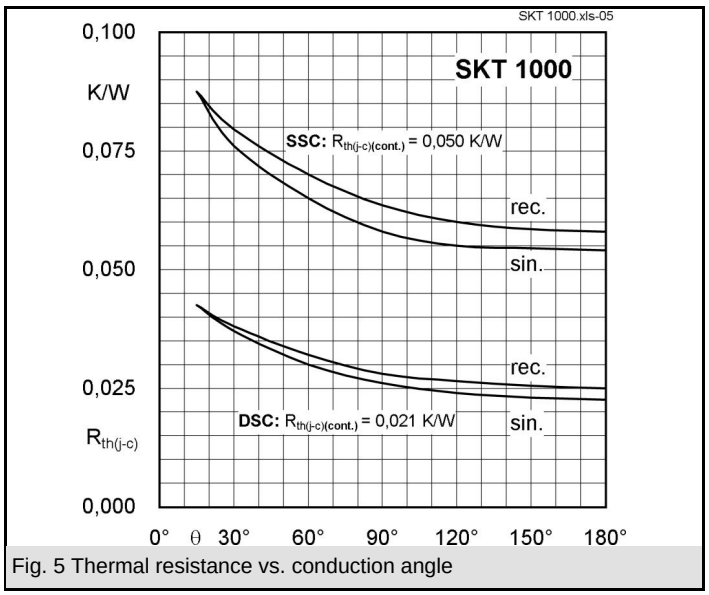


Fig. 5 Thermal resistance vs. conduction angle

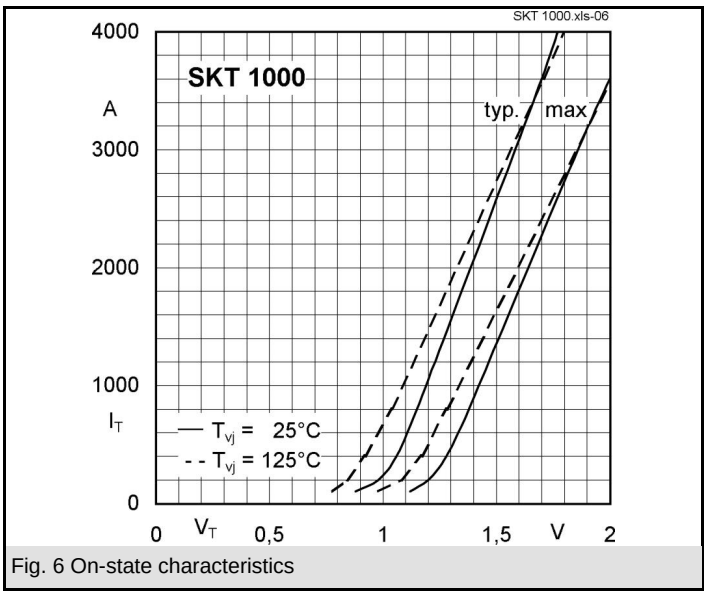


Fig. 6 On-state characteristics

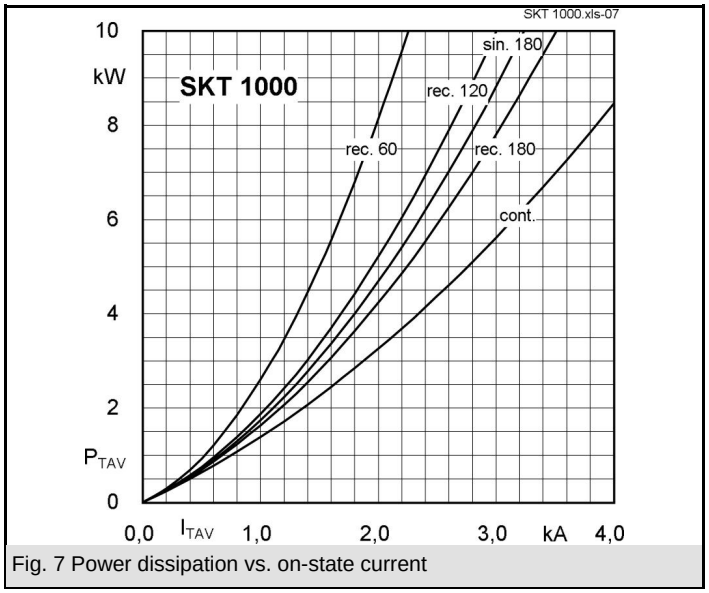


Fig. 7 Power dissipation vs. on-state current

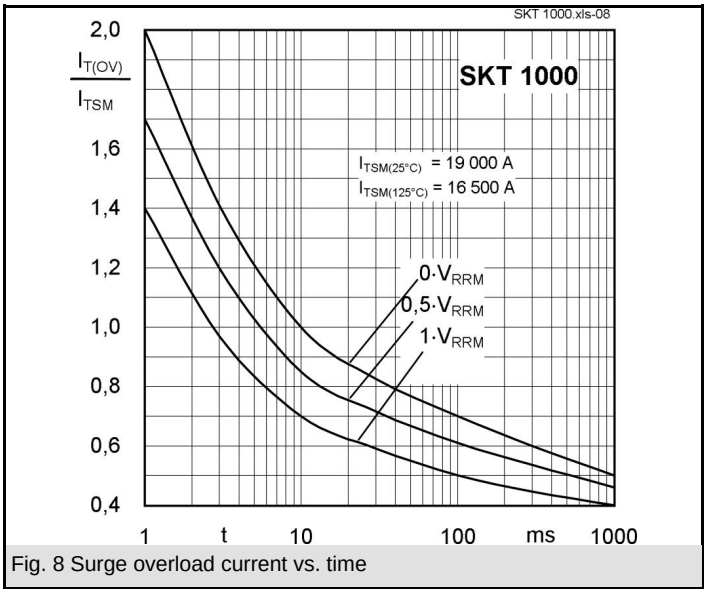


Fig. 8 Surge overload current vs. time

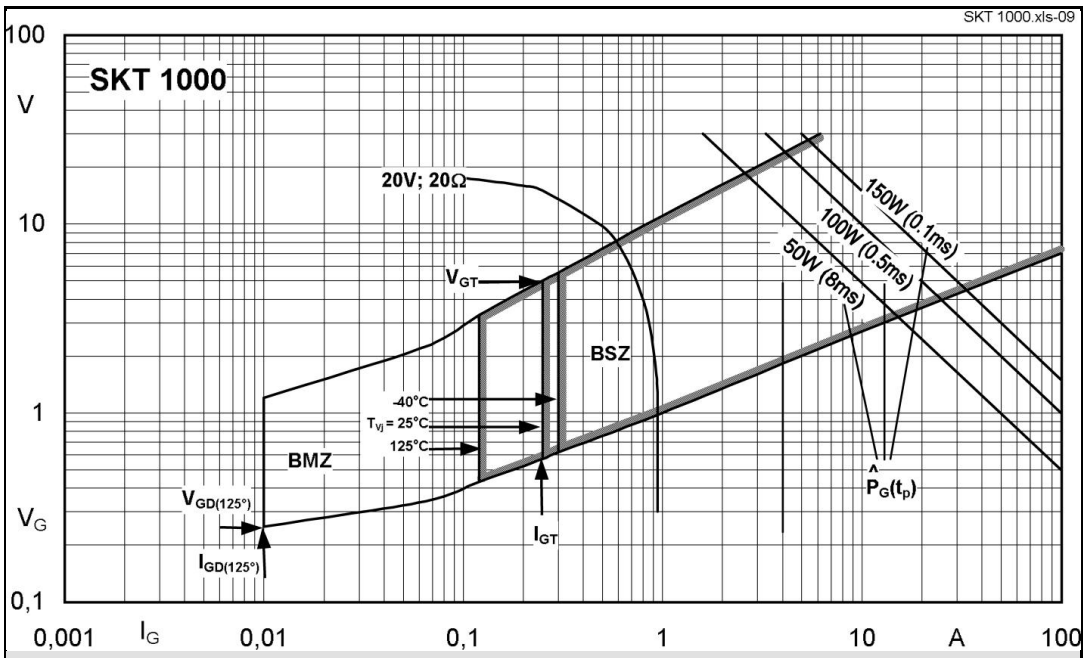
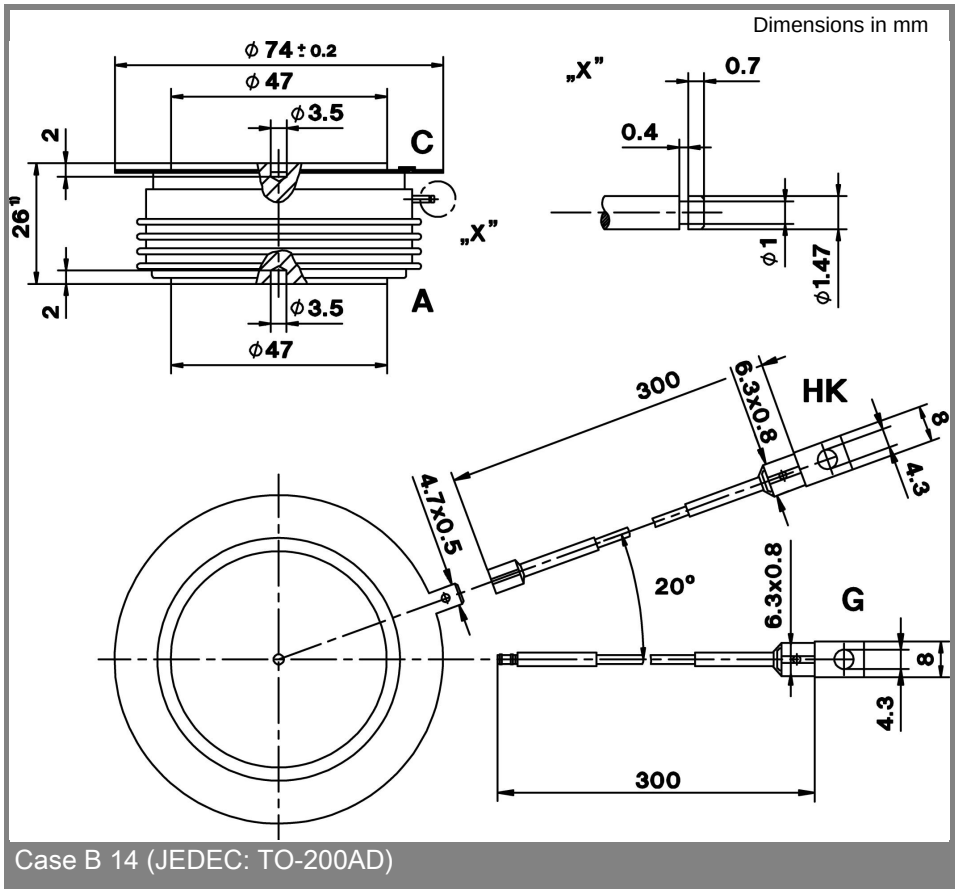


Fig. 9 Gate trigger characteristics



Case B 14 (JEDEC: TO-200AD)

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