SKT 2000

Capsule Thyristor

Line Thyristor

SKT 2000

Features

- Hermetic metal case with ceramic insulator
- Capsule package for double sided cooling
- Shallow design with single sided cooling
- 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)
- Soft starters for AC motors
- Recommended snubber network e. g. for $V_{VRMS} \leq 400$ V: R = 33 Ω/32 W, C = 1 µF

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 5000 A (maximum value for continuous operation) I_{TAV} = 2000 A (sin. 180; DSC; T_c = 75 °C)		
2300	2200	SKT 2000/22E		
2700	2600	SKT 2000/26E		
2900	2800	SKT 2000/28E		

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 100 (85) °C;	1250 (1730)	A
I_D	2 x N4/250; T_a = 45 °C; B2 / B6	2150 / 3050	A
	2 x N4/400; T_a = 45 °C; B2 / B6	2400 /3400	A
I_{RMS}	2 x N4/250; T_a = 45 °C; W1C	2400	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	45000	A
	T_{vj} = 125 °C; 10 ms	39000	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	10125000	A²s
	T_{vj} = 125 °C; 8,3 ... 10 ms	7600000	A²s
V_T	T_{vj} = 25 °C; I_T = 3000 A	max. 1,8	V
$V_{T(TO)}$	T_{vj} = 125 °C	max. 1,09	V
r_T	T_{vj} = 125 °C	max. 0,236	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. 150	A/µs
$(dv/dt)_{cr}$	T_{vj} = 125 °C	max. 1000	V/µs
t_q	T_{vj} = 125 °C ,	200 ... 300	µs
I_H	T_{vj} = 25 °C; typ. / max.	500 / 1000	mA
I_L	T_{vj} = 25 °C; typ. / max.	2000 / 5000	mA
V_{GT}	T_{vj} = 25 °C; d.c.	min. 3	V
I_{GT}	T_{vj} = 25 °C; d.c.	min. 300	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	0,0105	K/W
$R_{th(j-c)}$	sin. 180; DSC / SSC	0,011 / 0,024	K/W
$R_{th(j-c)}$	rec. 120; DSC / SSC	0,0118 / 0,025	K/W
$R_{th(c-s)}$	DSC / SSC	0,002 / 0,004	K/W
T_{vj}		- 40 ... + 125	°C
T_{stg}		- 40 ... + 130	°C
V_{isol}		-	V~
F	mounting force	37 ... 47	kN
a			m/s²
m	approx.	1000	g
Case		B 20	

SKT

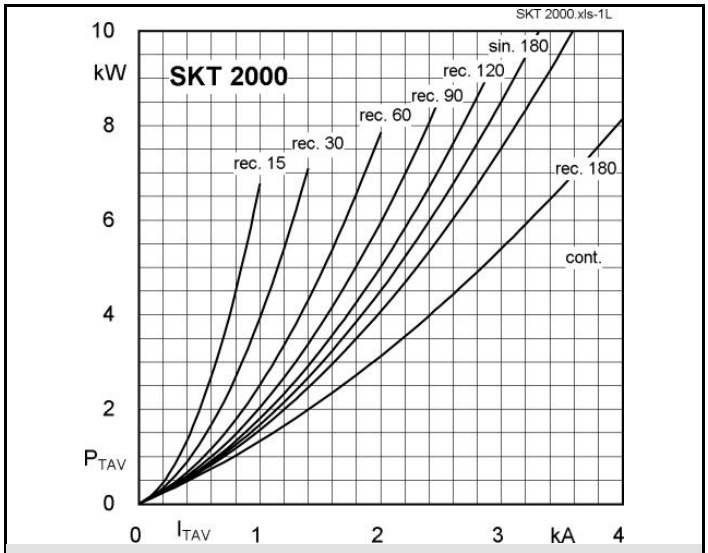


Fig. 1L Power dissipation vs. on-state current

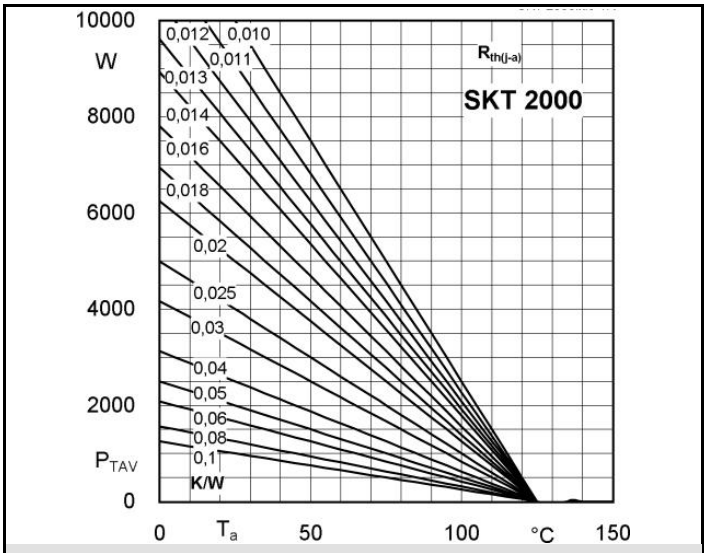


Fig. 1R Power dissipation vs. ambient temperature

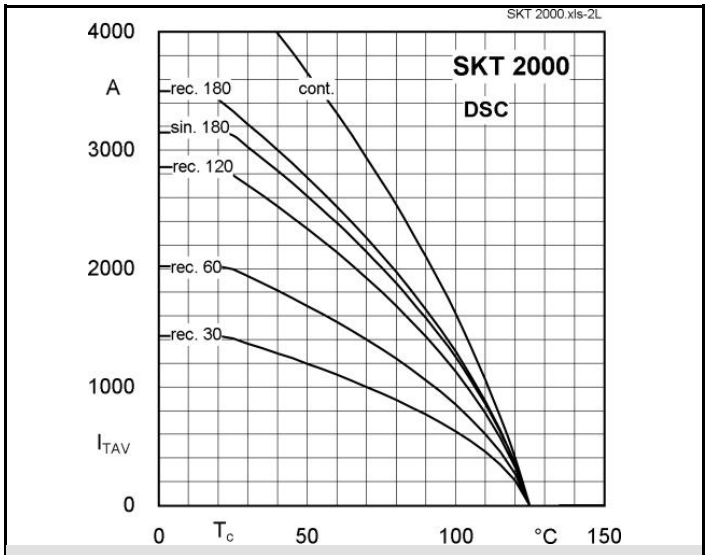


Fig. 2L Rated on-state current vs. case temperature

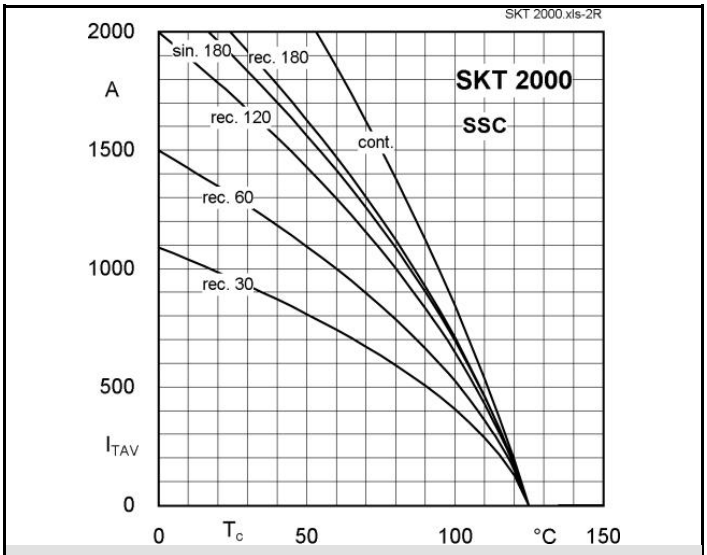


Fig. 2R Rated on-state current vs. case temperature

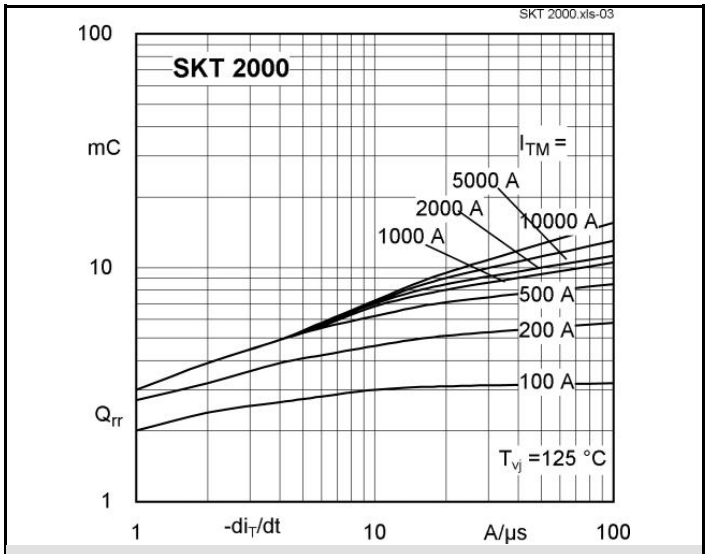


Fig. 3 Recovered charge vs. current decrease

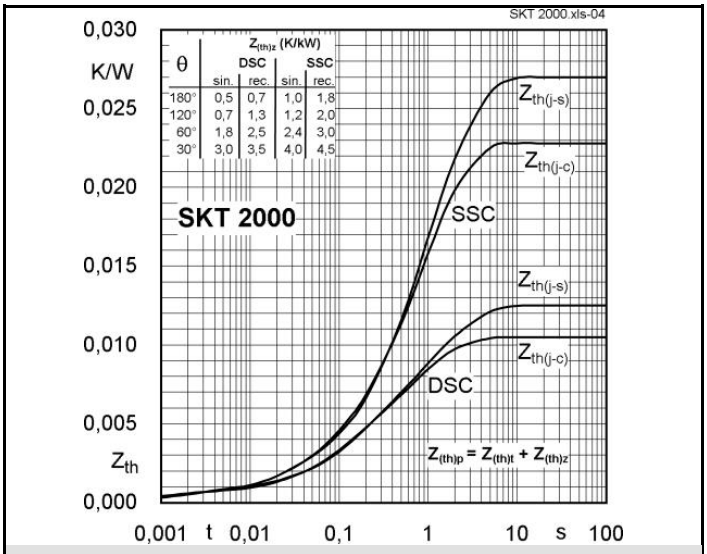


Fig. 4 Transient thermal impedance vs. time

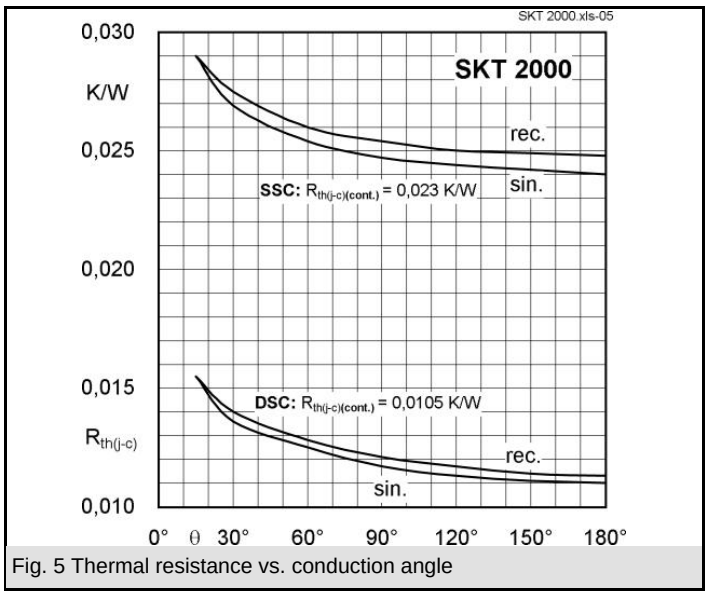


Fig. 5 Thermal resistance vs. conduction angle

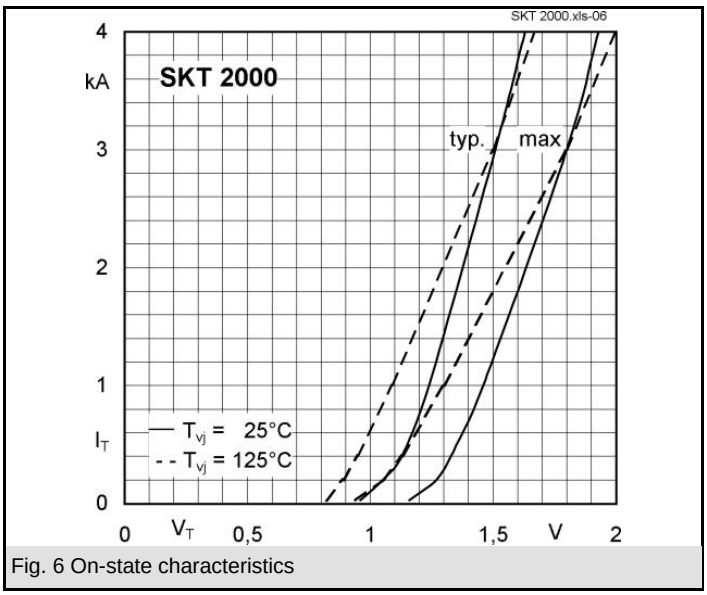


Fig. 6 On-state characteristics

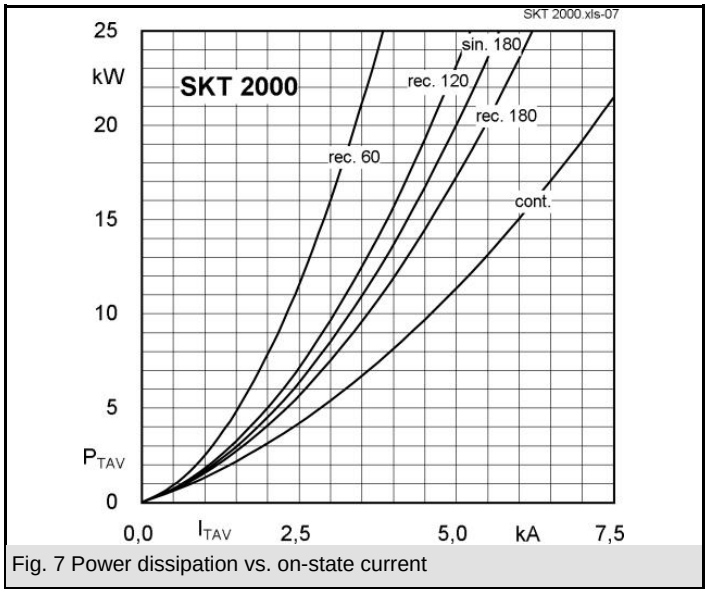


Fig. 7 Power dissipation vs. on-state current

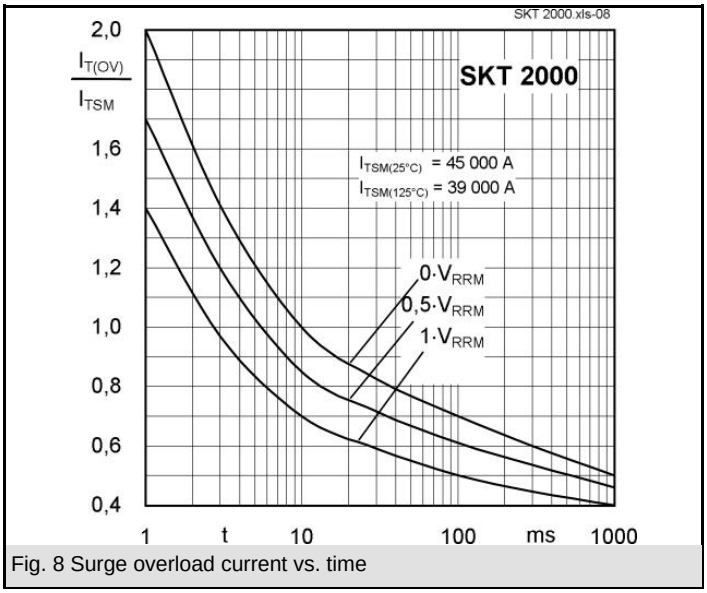


Fig. 8 Surge overload current vs. time

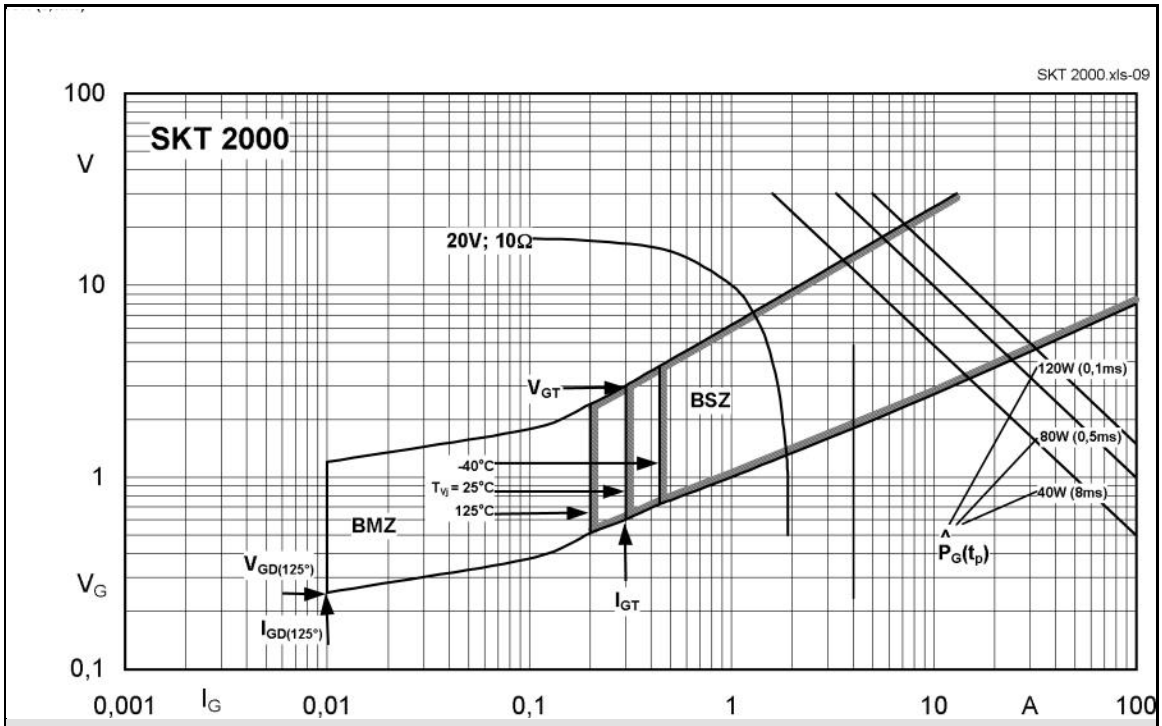
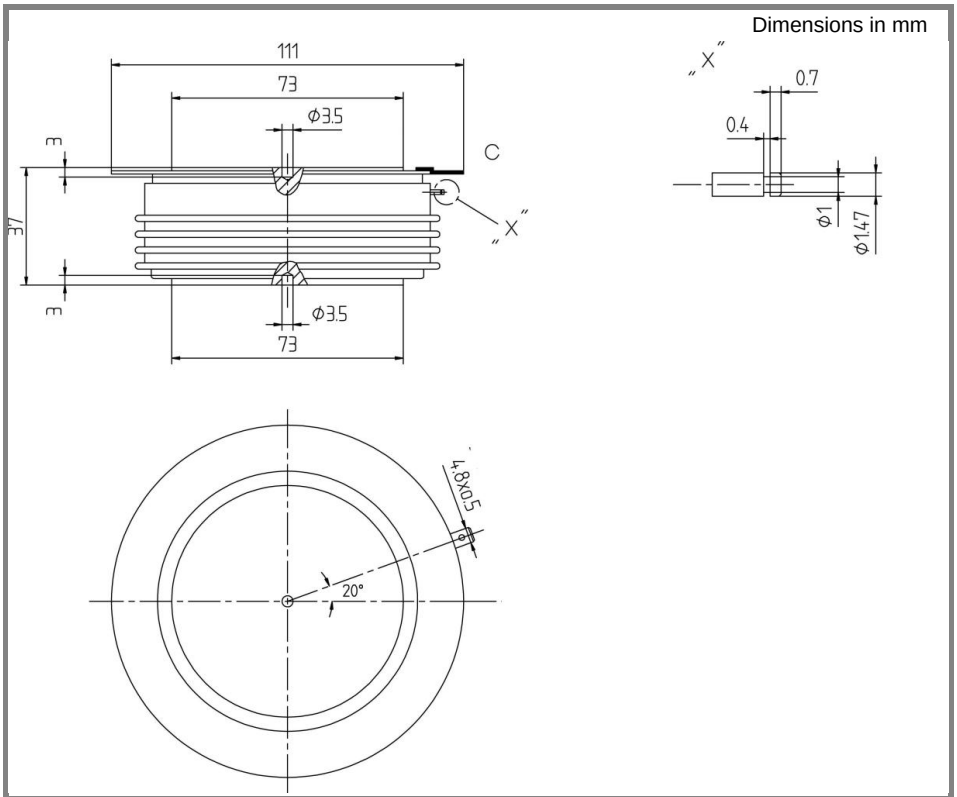


Fig. 9 Gate trigger characteristics



Case B 20 (JEDEC: TO-200AF)

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.

