

Stud Thyristor

Line Thyristor

SKT 100

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 175 A (maximum value for continuous operation) I_{TAV} = 100 A (sin. 180; T_c = 85 °C)		
500	400	SKT 100/04D		
900	800	SKT 100/08D[1)]		
1300	1200	SKT 100/12E[1)]		
1500	1400	SKT 100/14E[1)]		
1700	1600	SKT 100/16E[1)]		
1900	1800	SKT 100/18E		

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 100 (85) °C;	74 (100)	A
I_D	K1,1; T_a = 45 °C; B2 / B6	90 / 125	A
	K0,55; T_a = 45 °C; B2 / B6	130 /180	A
I_{RMS}	K1,1; T_a = 45 °C; W1C	100	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	2000	A
	T_{vj} = 130 °C; 10 ms	1750	A
i²t	T_{vj} = 25 °C; 8,35 ... 10 ms	20000	A²s
	T_{vj} = 130 °C; 8,35 ... 10 ms	15000	A²s
V_T	T_{vj} = 25 °C; I_T = 300 A	max. 1,75	V
$V_{T(TO)}$	T_{vj} = 130 °C	max. 1	V
r_T	T_{vj} = 130 °C	max. 2,4	mΩ
I_{DD}; I_{RD}	T_{vj} = 130 °C; V_{RD} = V_{RRM}; V_{DD} = V_{DRM}	max. 30	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} = 130 °C	max. 50	A/µs
$(dv/dt)_{cr}$	T_{vj} = 130 °C ; SKT ...D / SKT ...E	max. 500 / 1000	V/µs
t_q	T_{vj} = 130 °C ,	100	µs
I_H	T_{vj} = 25 °C; typ. / max.	150 / 250	mA
I_L	T_{vj} = 25 °C; typ. / max.	300 / 600	mA
V_{GT}	T_{vj} = 25 °C; d.c.	min. 3	V
I_{GT}	T_{vj} = 25 °C; d.c.	min. 150	mA
V_{GD}	T_{vj} = 130 °C; d.c.	max. 0,25	V
I_{GD}	T_{vj} = 130 °C; d.c.	max. 10	mA
$R_{th(j-c)}$	cont.	0,25	K/W
$R_{th(j-c)}$	sin. 180	0,28	K/W
$R_{th(j-c)}$	rec. 120	0,31	K/W
$R_{th(c-s)}$		0,08	K/W
T_{vj}		- 40 ... + 130	°C
T_{stg}		- 55 ... + 150	°C
V_{isol}		-	V~
M_s	to heatsink	16	Nm
a		5 * 9,81	m/s²
m	approx.	100	g
Case		B 5	

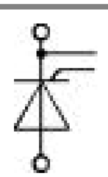
Features

- Hermetic metal case with glass insulator
- Threaded stud ISO M12 or UNF 1/2-20
- Interchangeable with international standard case

Typical Applications*

- DC motor control (e. g. for machines 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 = 47 Ω/10 W, C = 0,22 µF

1) Available with UNF thread 1/2-20 UNF2A, e. g. SKT 100/08D UNF



SKT

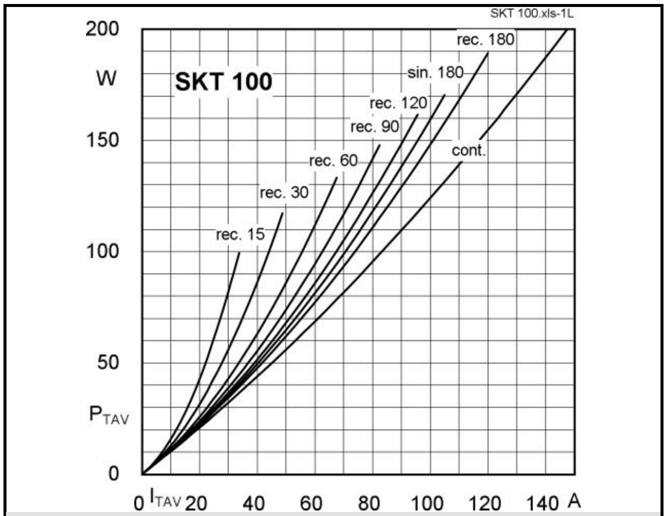


Fig. 1L Power dissipation vs. on-state current

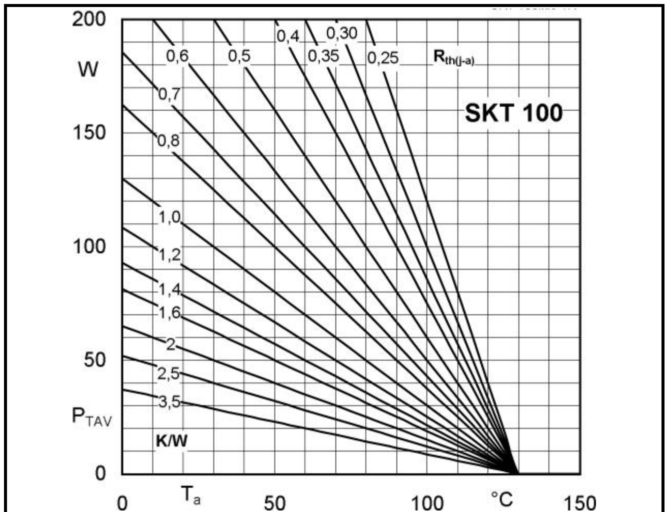


Fig. 1R Power dissipation vs. ambient temperature

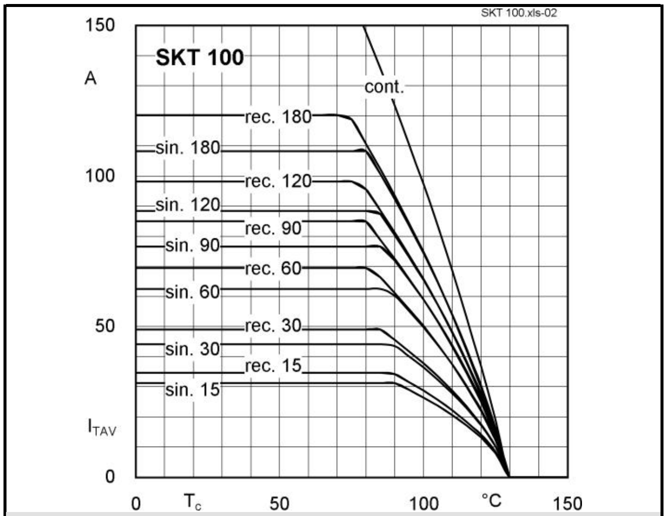


Fig. 2 Rated on-state current vs. case temperature

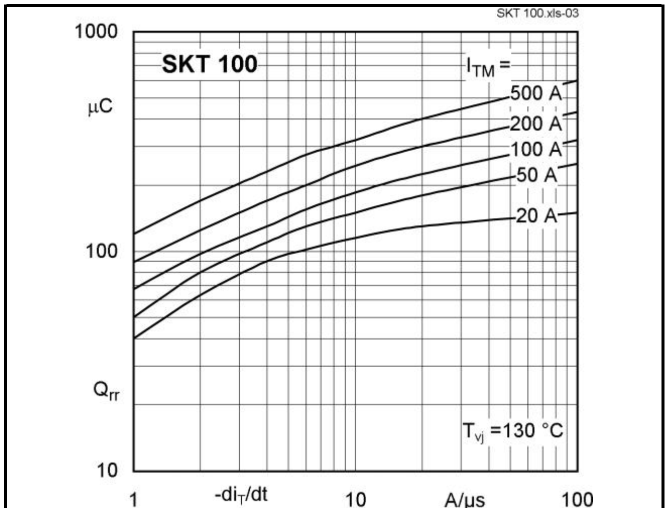


Fig. 3 Recovered charge vs. current decrease

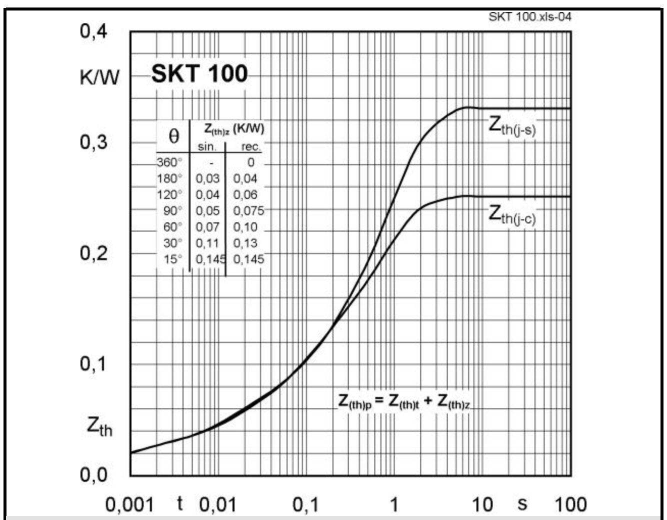


Fig. 4 Transient thermal impedance vs. time

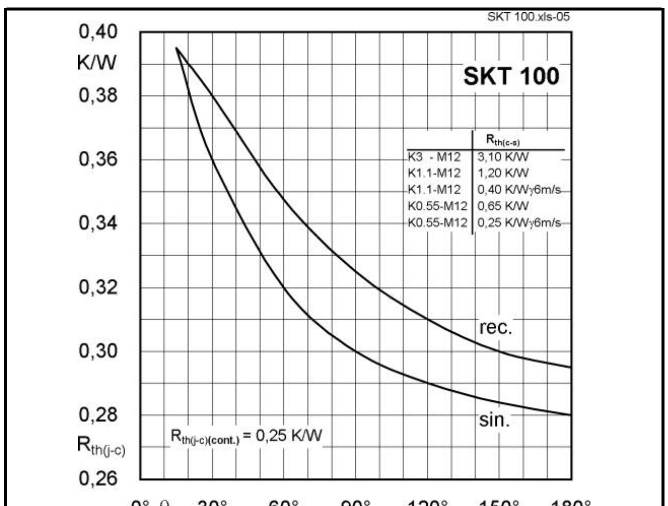


Fig. 5 Thermal resistance vs. conduction angle

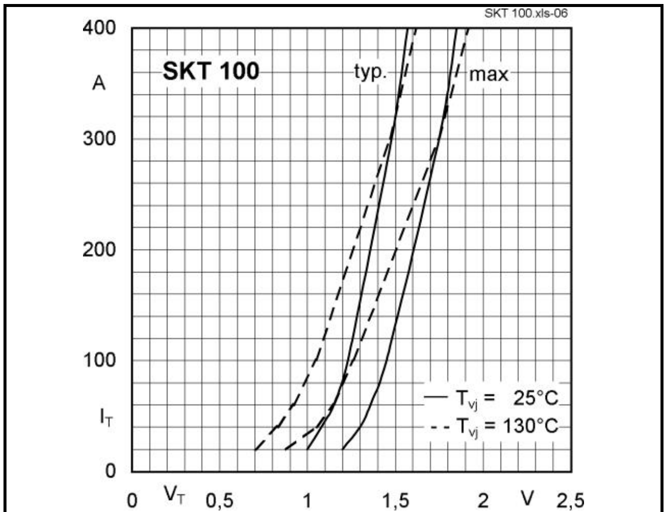


Fig. 6 On-state characteristics

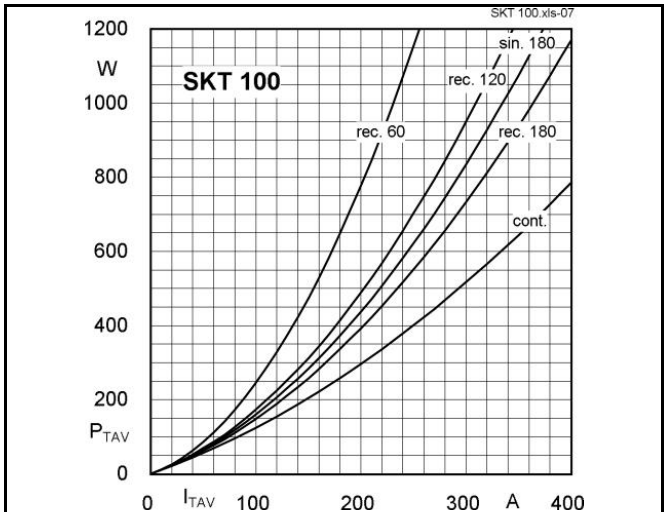


Fig. 7 Power dissipation vs. on-state current

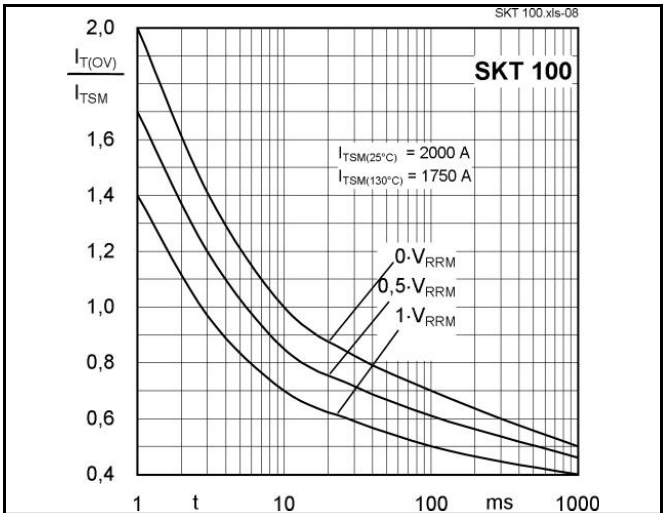


Fig. 8 Surge overload curent vs. time

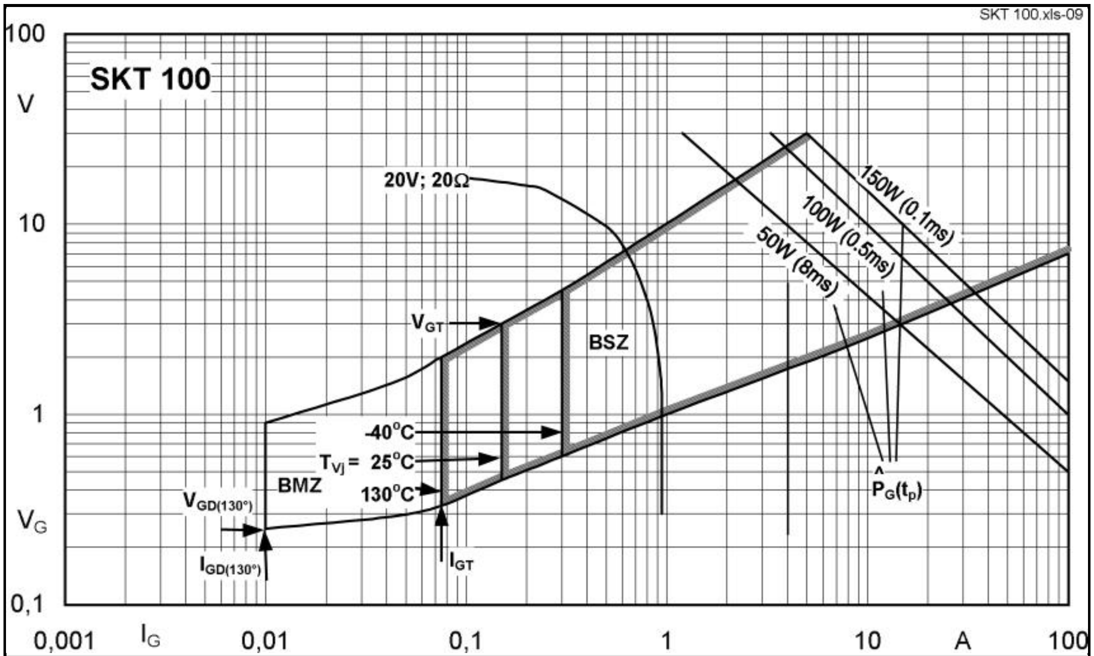
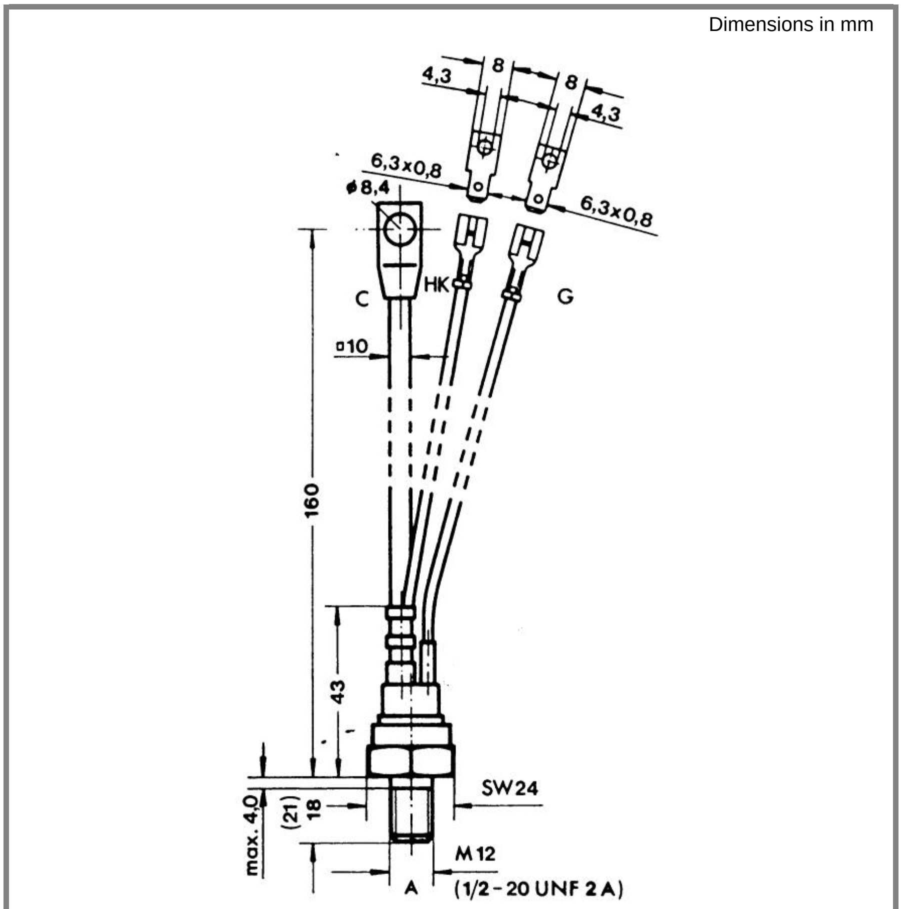


Fig. 9 Gate trigger characteristics



Case B 5 (IEC 60191-2: A12MA, A12U; JEDEC: TO-209 (TO94))

* 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.

