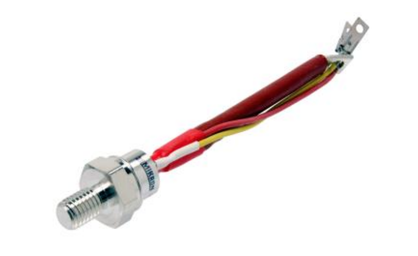
SKT 100



Stud Thyristor

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 100/04 D
900	800	SKT 100/08 D
1300	1200	SKT 100/12 E
1500	1400	SKT 100/14 E
1700	1600	SKT 100/16 E
1900	1800	SKT 100/18 E

Line Thyristor

SKT 100

Features

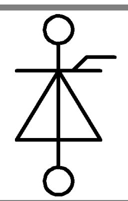
- Hermetic metal case with glass insulator
- Threaded stud ISO M12 x 1,75 or ½" - 20 UNF 2A
- Interchangeable with international standard case

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_{RMS} ≤ 400 V: R= 47 Ω/10 W, C = 0,22 µF

1) Mounting with grease-like thermal compound or joint contact compound
2) M12 x 1,75 is standard, "UNF" should be added in description for ½" - 20 2A thread. e.g.: SKT 100/08 D UNF

Symbol	Condition	Values	Units
I_{TAV}	sin. 180; T_C = 100 (85) °C	74 (100)	A
I_D	2 x P1/120; T_a = 50 °C; B2/B6	125 / 176	A
	2 x P1/120F; T_a = 40 °C; B2/B6	182 / 250	A
I_{RMS}	2 x P1/120; T_a = 45 °C; W1C	146	A
I_{TSM}	T_{vj} = 25 °C ; 10 ms	2000	A
	T_{vj} = 130 °C ; 10 ms	1750	A
i^2t	T_{vj} = 25 °C ; 8,3...10 ms	20000	A^2s
	T_{vj} = 130 °C ; 8,3...10 ms	15300	A^2s
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 = 1A; di_G/d_t = 1 A/µs	1	µs
t_{gr}	V_D = 0,67 * V_{DRM}	2	µs
$(d_i/d_t)_{cr}$	T_{vj} = 130 °C	max. 50	A/µs
$(d_V/d_t)_{cr}$	T_{vj} = 130 °C; D (E)	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	M12 or ½" - 20 UNF	10	Nm
	M12 or ½" - 20 UNF (lubricated)[1)]	7,5	Nm
a		5 * 9,81	m/s^2
m	approx.	100	g
Case		B5	



SKT

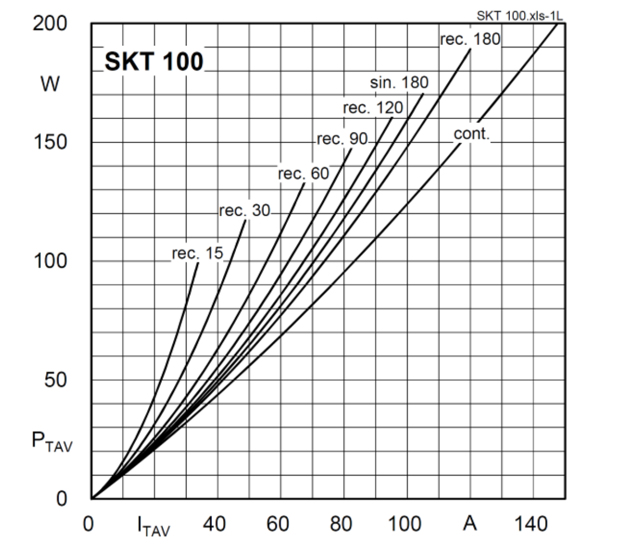


Fig. 1L Power dissipation vs. on-state current

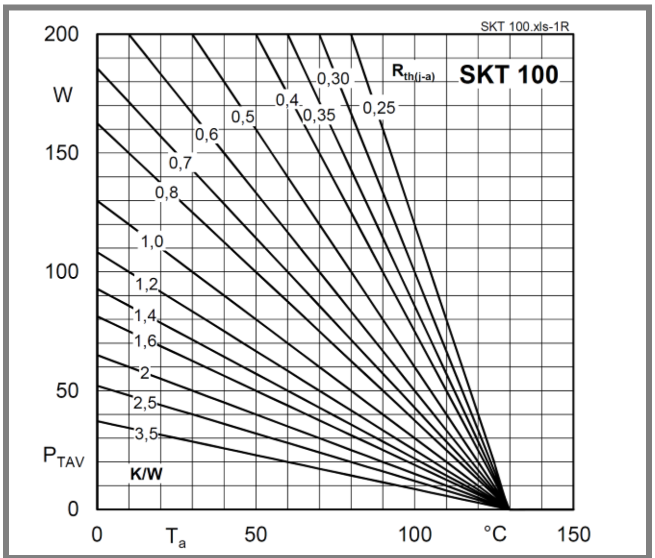


Fig. 1R Power dissipation vs. ambient temperature

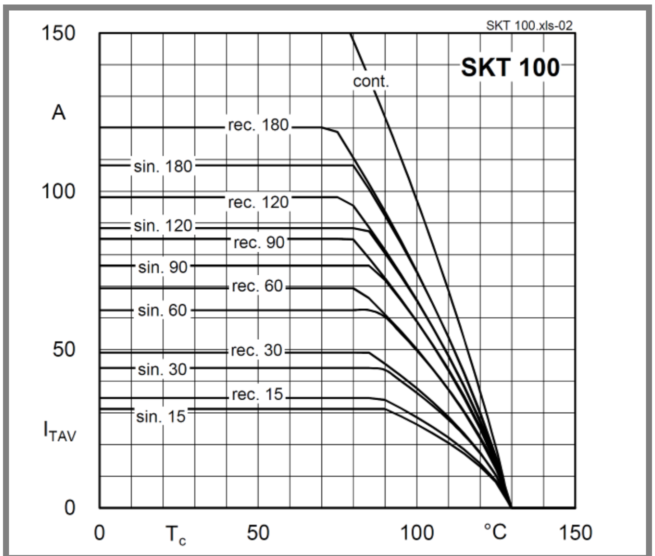


Fig. 2 Rated on-state current vs. case temperature

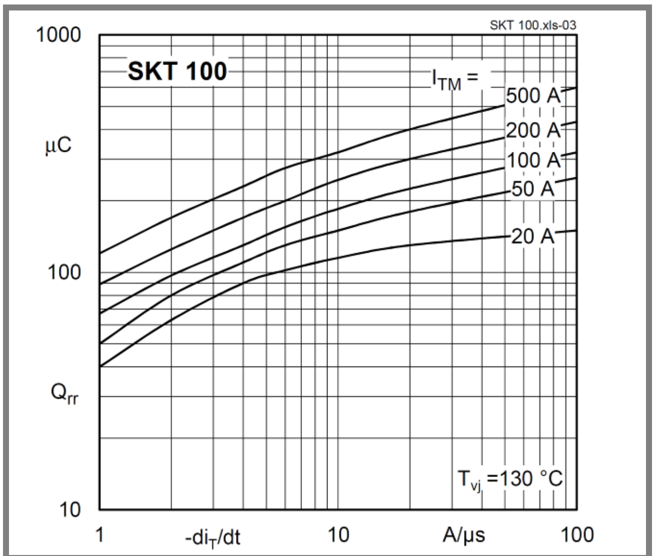


Fig. 3 Recovered charge vs. current decrease

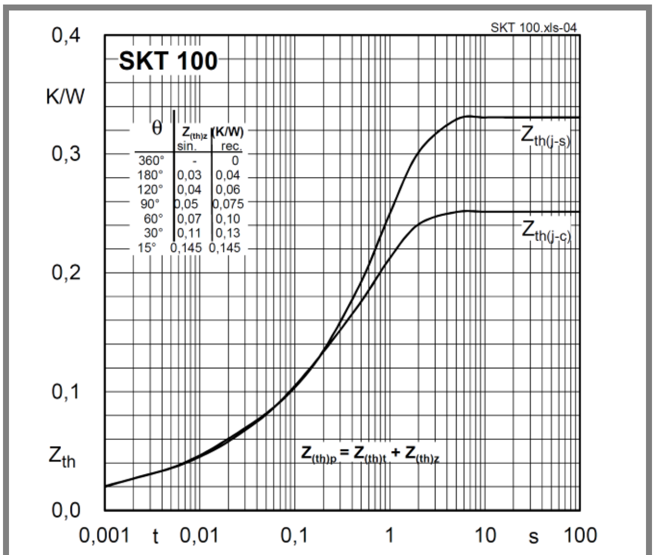


Fig. 4 Transient thermal impedance vs. time

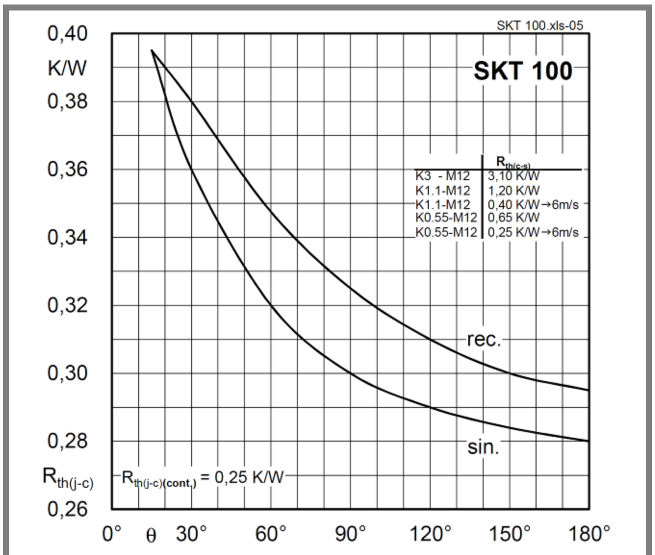


Fig. 5 Thermal resistance vs. conduction angle

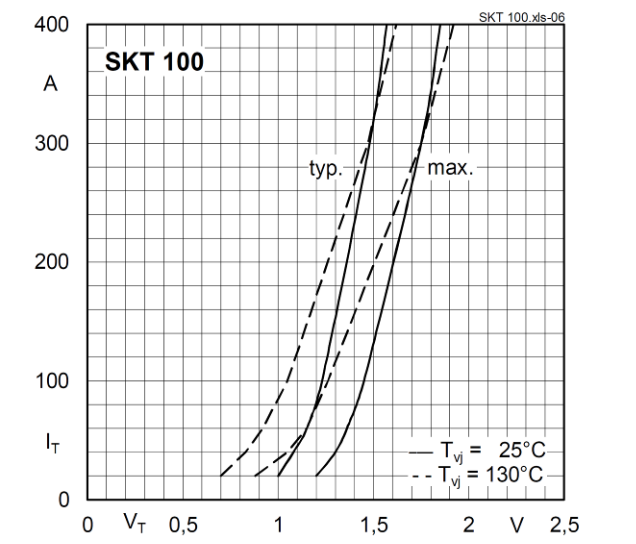


Fig. 6 On-state characteristics

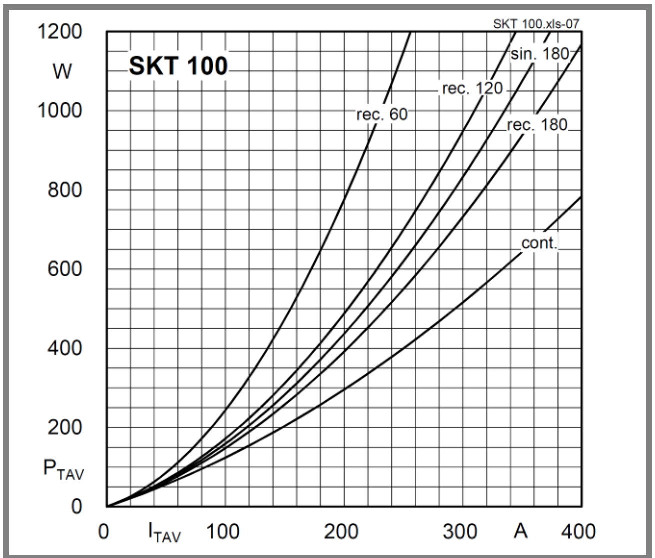


Fig. 7 Power dissipation vs. on-state current

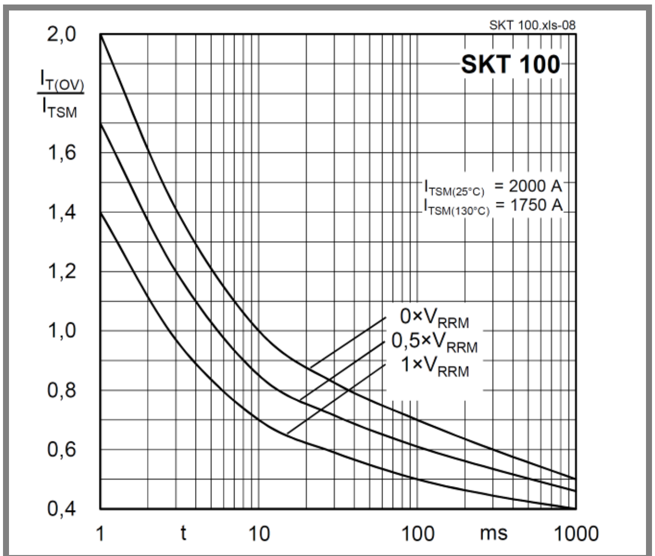


Fig. 8 Surge overload current vs. time

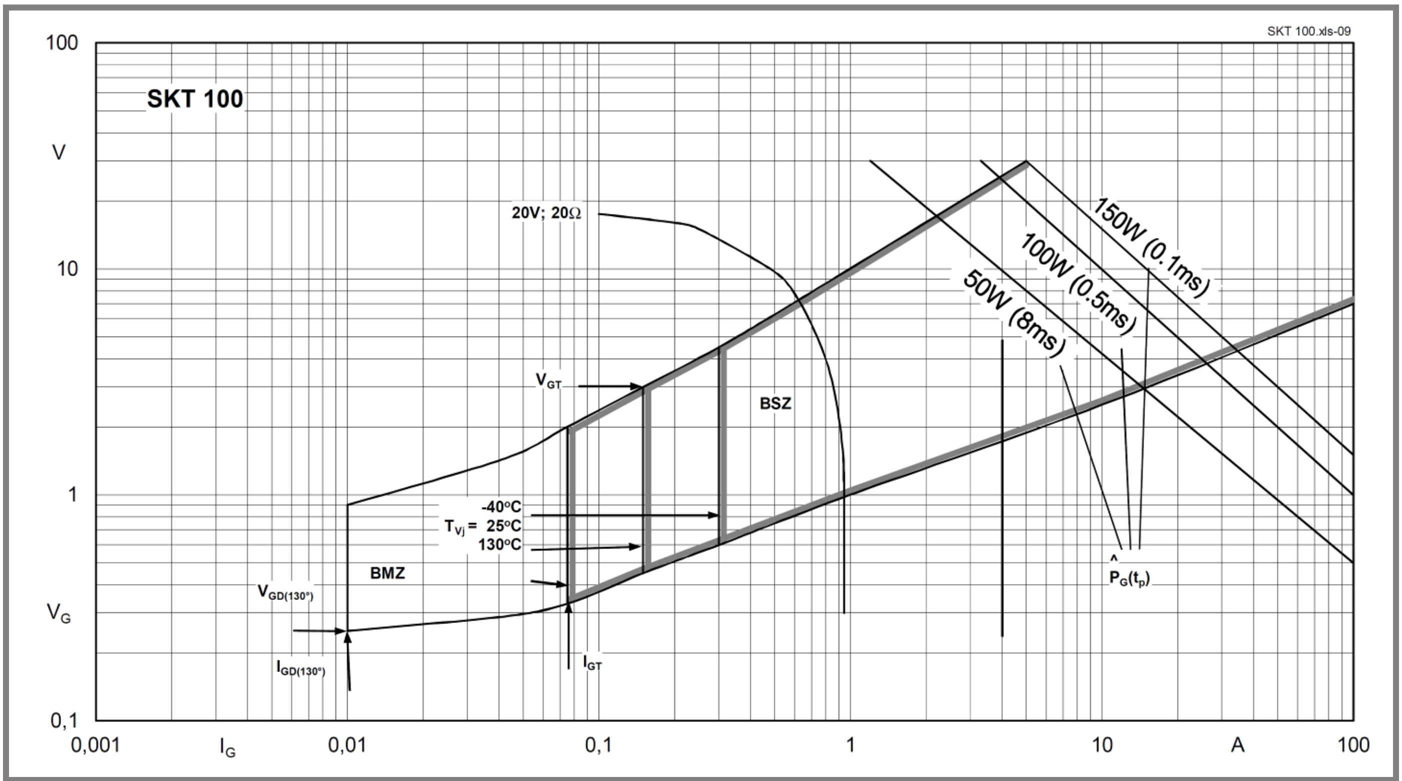
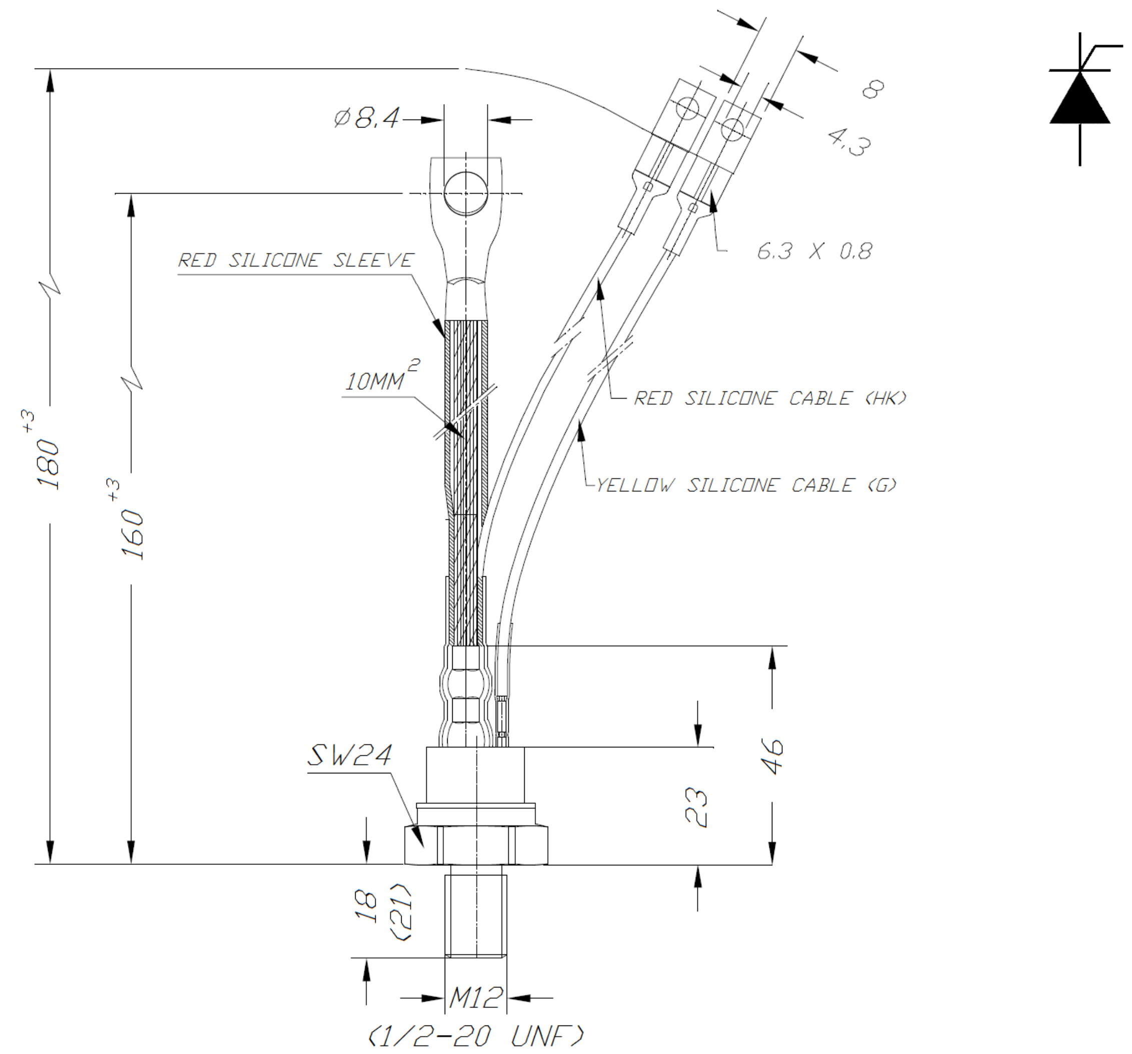


Fig. 9 Gate trigger characteristics

Dimensions in mm



Case B5 (IEC 60191-2: A12MA, A12U; JEDEC: TO-209 (TO94))