

SKT 10



Stud Thyristor

Line Thyristor

SKT 10

Features

- Hermetic metal case with glass insulator
- Threaded stud ISO M5
- 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 $V_{VRMS} \leq 400$ V:
 $R = 100 \Omega / 5$ W, $C = 0,1 \mu F$

V_{RSM} V	V_{RRM}, V_{DRM} V	$I_{TRMS} = 30$ A (maximum value for continuous operation) $I_{TAV} = 10$ A (sin. 180; $T_c = 111$ °C)		
700	600	SKT 10/06D		
900	800	SKT 10/08D		
1300	1200	SKT 10/12E		

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; $T_c = 100$ (85) °C	14 (19)	A
I_D	K9; $T_a = 45$ °C; B2 / B6	12 / 16,5	A
	K5; $T_a = 45$ °C; B2 / B6	17 / 24	A
I_{RMS}	K9; $T_a = 45$ °C; W1C	13	A
I_{TSM}	$T_{vj} = 25$ °C; 10 ms	250	A
	$T_{vj} = 130$ °C; 10 ms	210	A
i^2t	$T_{vj} = 25$ °C; 8,35 ... 10 ms	310	A ² s
	$T_{vj} = 130$ °C; 8,35 ... 10 ms	220	A ² s
V_T	$T_{vj} = 25$ °C; $I_T = 30$ A	max. 1,6	V
$V_{T(TO)}$	$T_{vj} = 130$ °C	max. 1	V
r_T	$T_{vj} = 130$ °C	max. 18	mΩ
I_{DD}, I_{RD}	$T_{vj} = 130$ °C; $V_{RD} = V_{RRM}, V_{DD} = V_{DRM}$	max. 4	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. 50	A/μs
$(dv/dt)_{cr}$	$T_{vj} = 125$ °C; SKT ...D / SKT ...E	max. 500 / 1000	V/μs
t_q	$T_{vj} = 130$ °C	80	μs
I_H	$T_{vj} = 25$ °C; typ. / max.	80 / 150	mA
I_L	$T_{vj} = 25$ °C; typ. / max.	150 / 300	mA
V_{GT}	$T_{vj} = 25$ °C; d.c.	min. 3	V
I_{GT}	$T_{vj} = 25$ °C; d.c.	min. 100	mA
V_{GD}	$T_{vj} = 130$ °C; d.c.	max. 0,25	V
I_{GD}	$T_{vj} = 130$ °C; d.c.	max. 3	mA
$R_{th(j-c)}$	cont.	1,2	K/W
$R_{th(j-c)}$	sin. 180	1,3	K/W
$R_{th(j-c)}$	rec. 120	1,35	K/W
$R_{th(c-s)}$		1	K/W
T_{vj}		- 40 ... + 130	°C
T_{stg}		- 40 ... + 150	°C
V_{isol}		-	V~
M_s	to heatsink	2,0	Nm
a		5 * 9,81	m/s ²
m	approx.	7	g
Case		B 1	



SKT

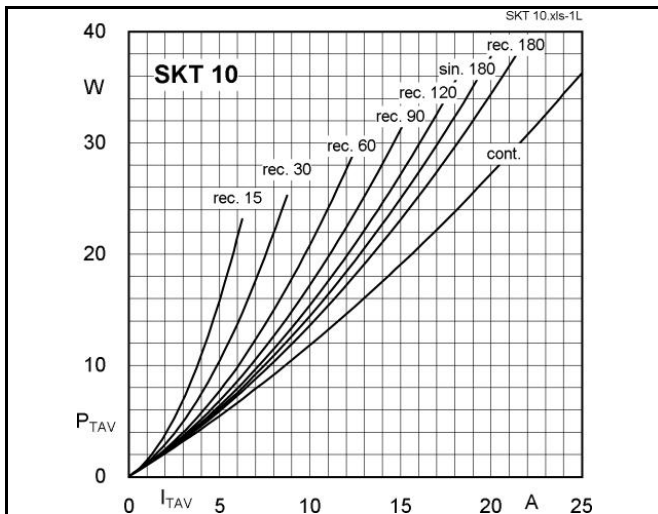


Fig. 1L Power dissipation vs. on-state current

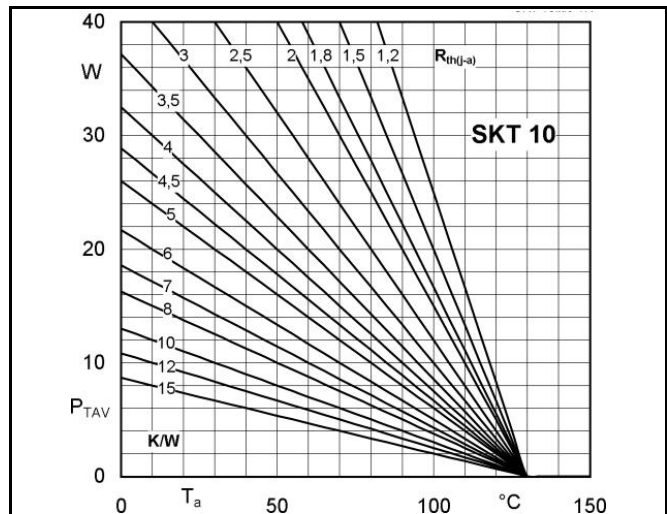


Fig. 1R Power dissipation vs. ambient temperature

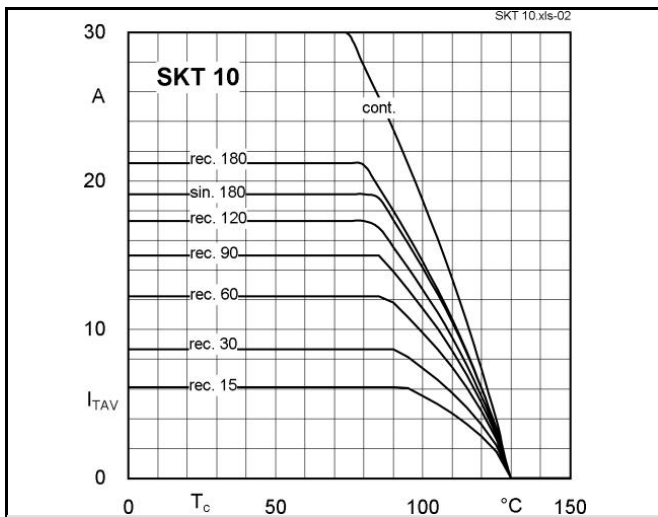


Fig. 2 Rated on-state current vs. case temperature

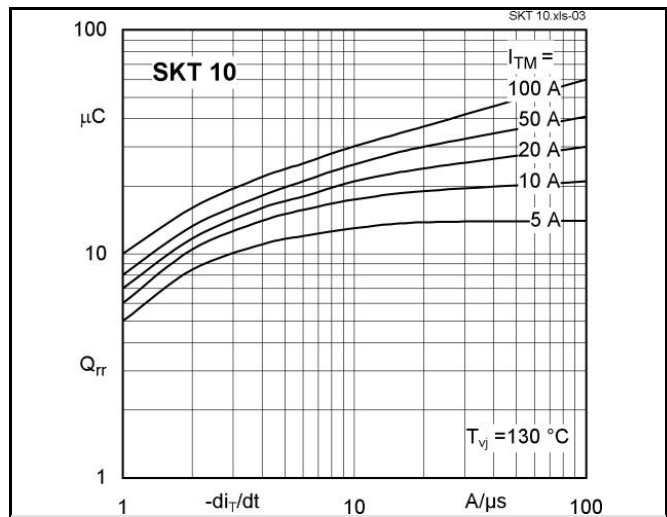


Fig. 3 Recovered charge vs. current decrease

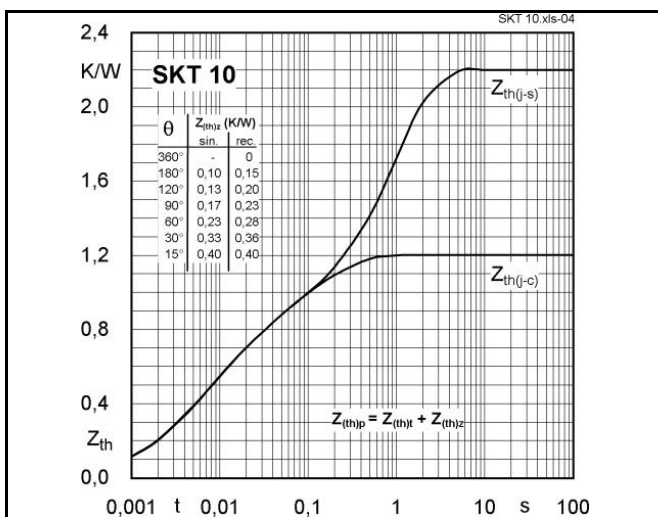


Fig. 4 Transient thermal impedance vs. time

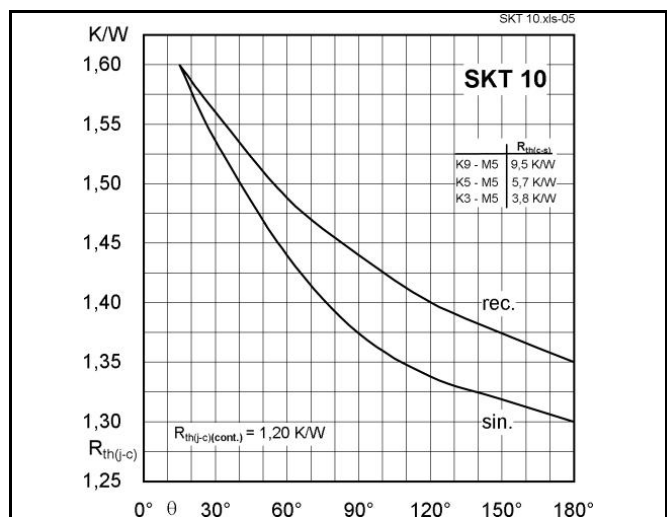


Fig. 5 Thermal resistance vs. conduction angle

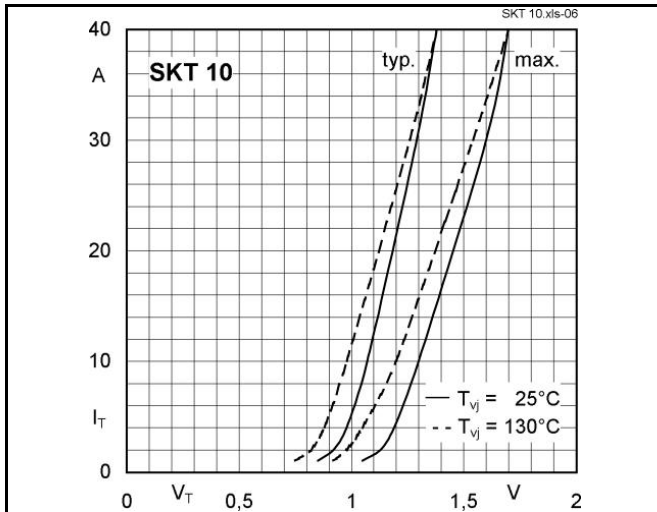


Fig. 6 On-state characteristics

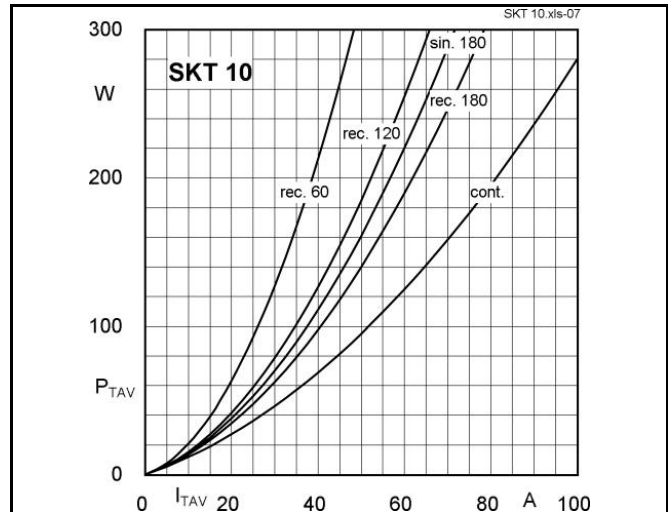


Fig. 7 Power dissipation vs. on-state current

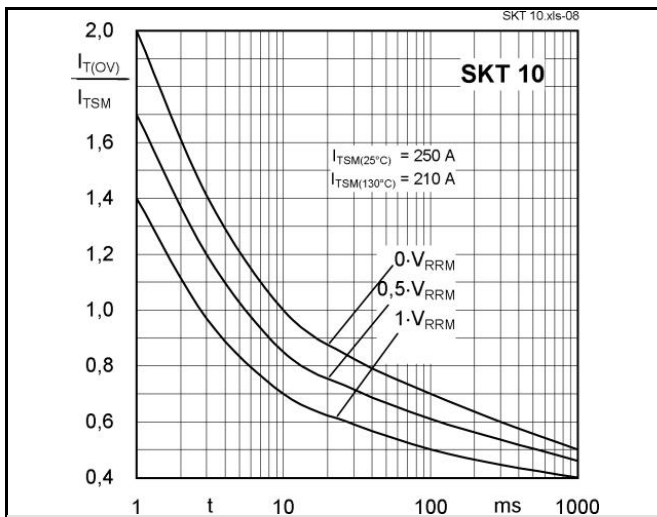


Fig. 8 Surge overload current vs. time

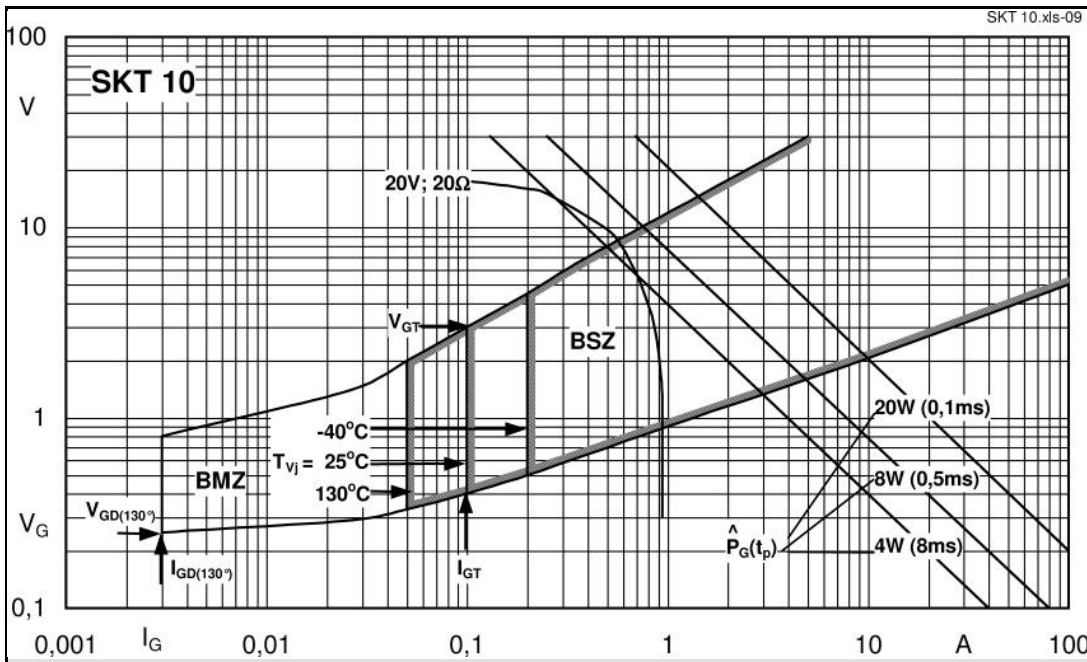
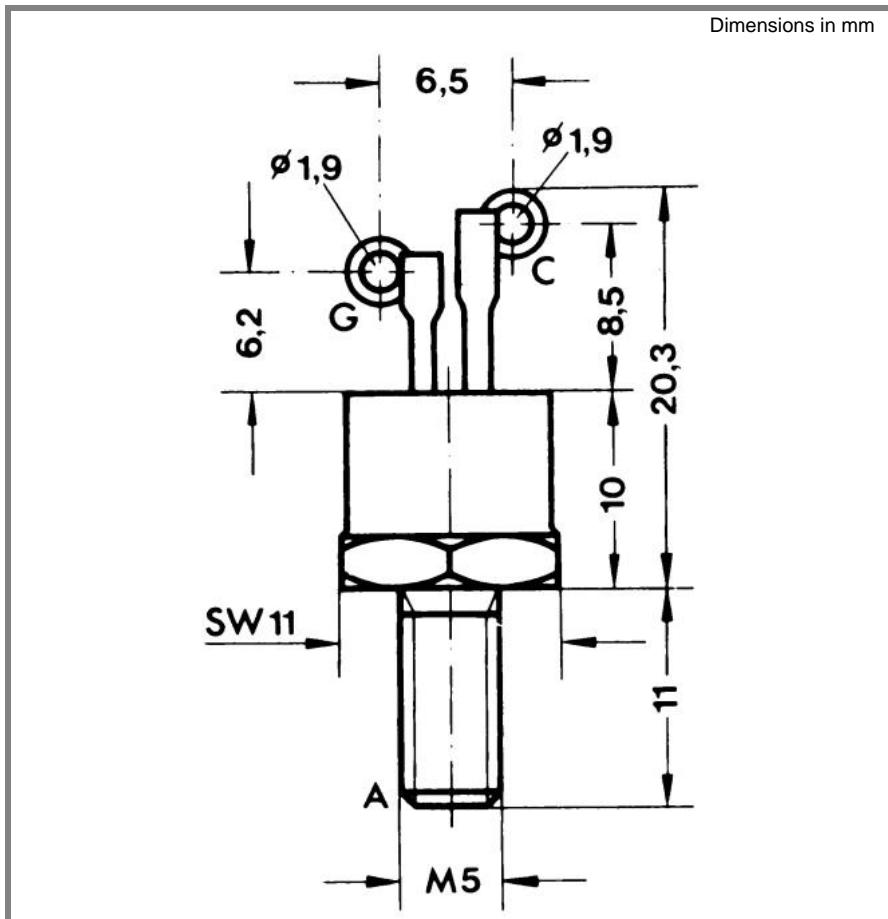


Fig. 9 Gate trigger characteristics



Case B 1 (IEC 60191-2: A13M; JEDEC: TO-208AB (TO-64) metric)

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