

# SKT 100



**Stud Thyristor**

## Line Thyristor

### SKT 100

#### 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:  
 $R = 47 \Omega / 10$  W,  $C = 0,22 \mu F$

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

$V_{RSM}$ 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 <sup>1)</sup>	
1300	1200	SKT 100/12E <sup>1)</sup>	
1500	1400	SKT 100/14E <sup>1)</sup>	
1700	1600	SKT 100/16E <sup>1)</sup>	
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 K0,55; $T_a = 45$ °C; B2 / B6	90 / 125 130 / 180	A
$I_{RMS}$	K1,1; $T_a = 45$ °C; W1C	100	A
$I_{TSM}$	$T_{vj} = 25$ °C; 10 ms $T_{vj} = 130$ °C; 10 ms	2000 1750	A
$i^2t$	$T_{vj} = 25$ °C; 8,35 ... 10 ms $T_{vj} = 130$ °C; 8,35 ... 10 ms	20000 15000	A <sup>2</sup> s
$V_T$	$T_{vj} = 25$ °C; $I_T = 300$ A	max. 1,75	V
$V_{T(TO)}$	$T_{vj} = 130$ °C	1	V
$r_T$	$T_{vj} = 130$ °C	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/s <sup>2</sup>
$m$	approx.	95	g
Case		B 5	



**SKT**

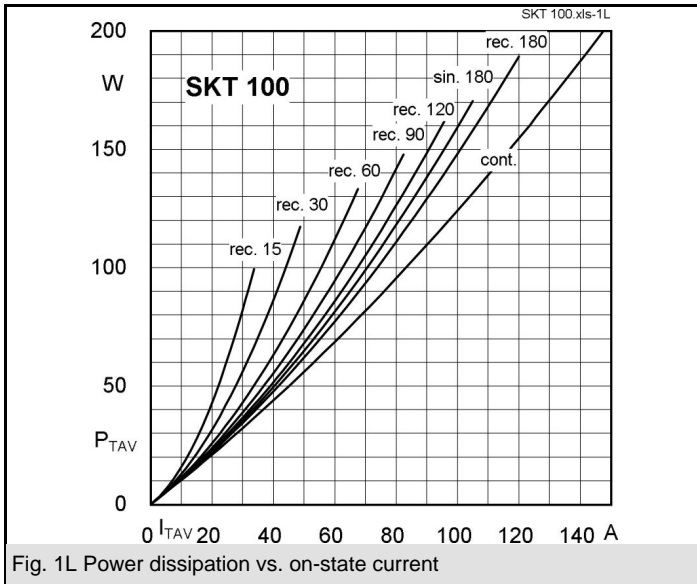


Fig. 1L Power dissipation vs. on-state current

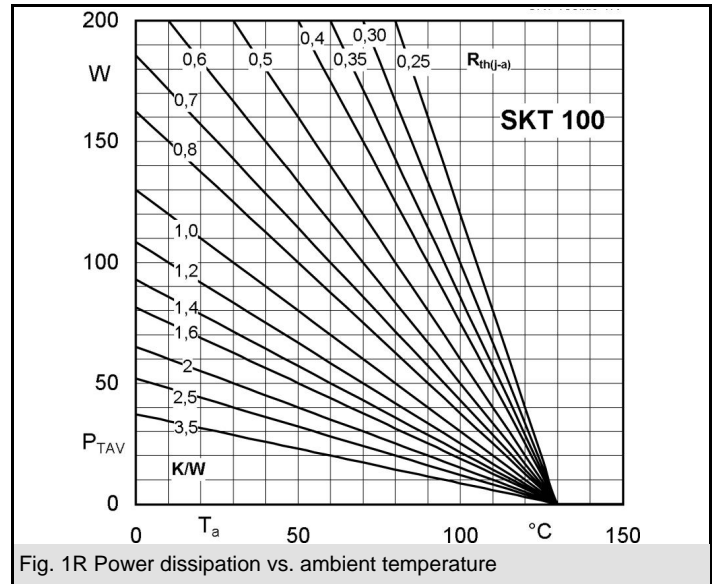


Fig. 1R Power dissipation vs. ambient temperature

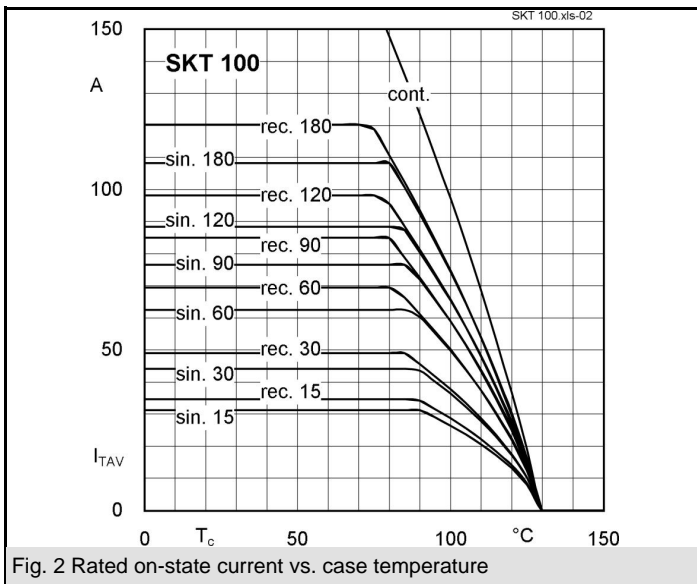


Fig. 2 Rated on-state current vs. case temperature

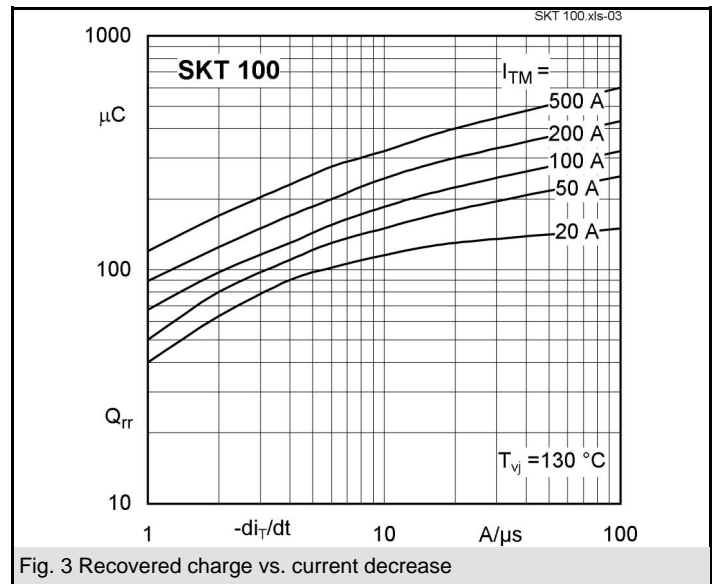


Fig. 3 Recovered charge vs. current decrease

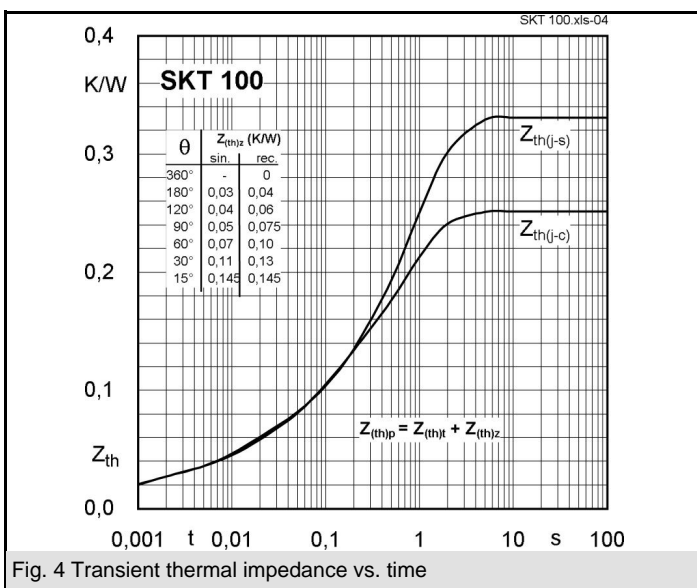


Fig. 4 Transient thermal impedance vs. time

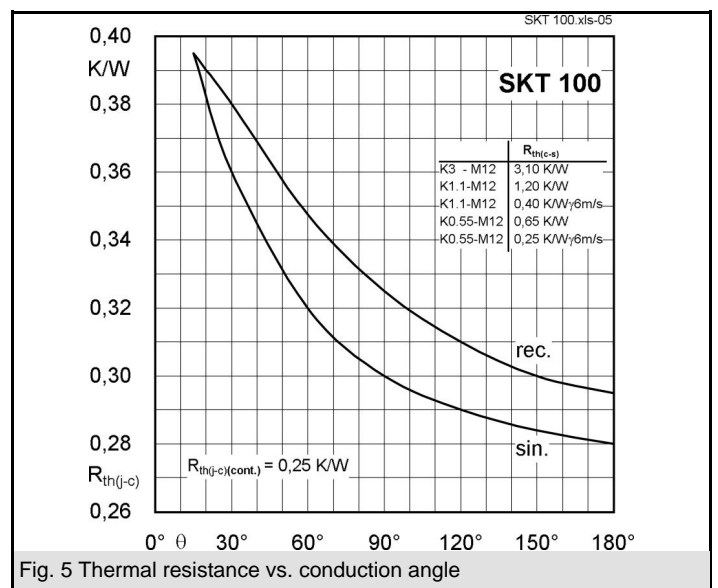
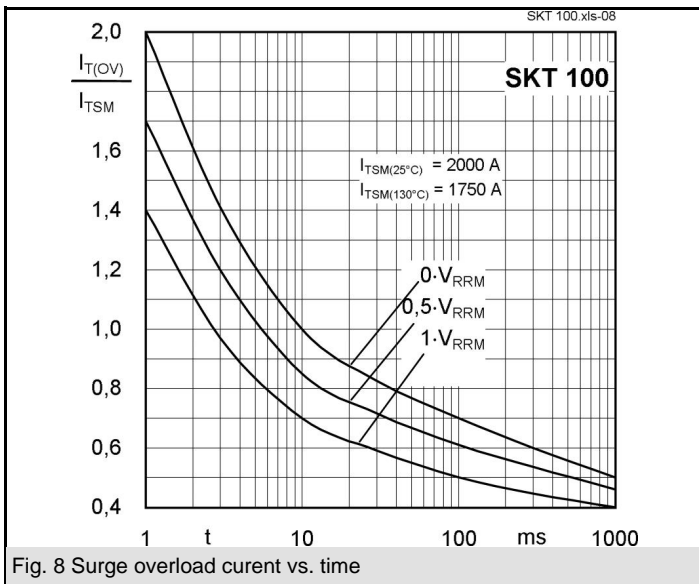
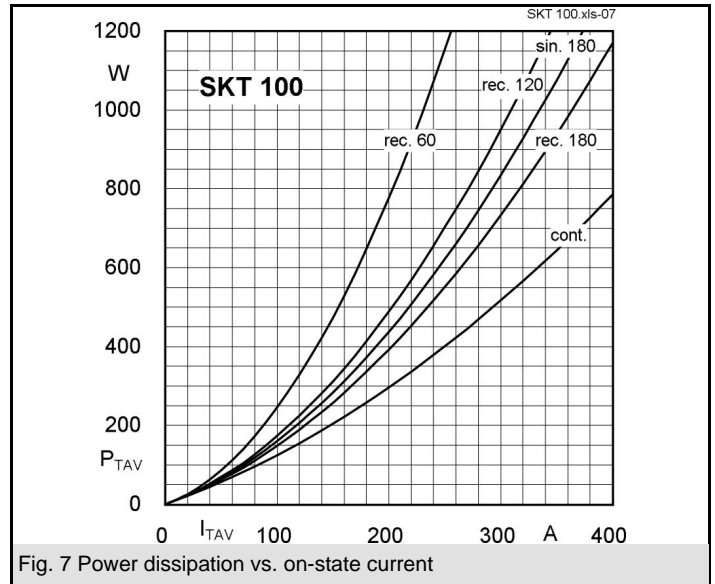
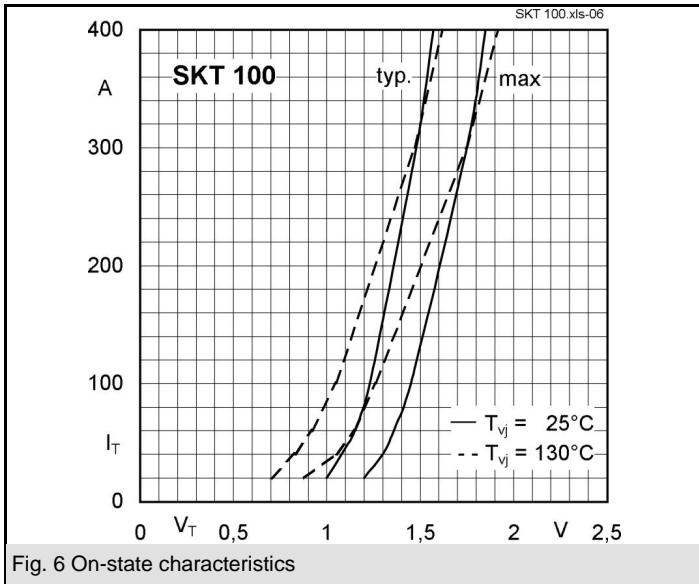
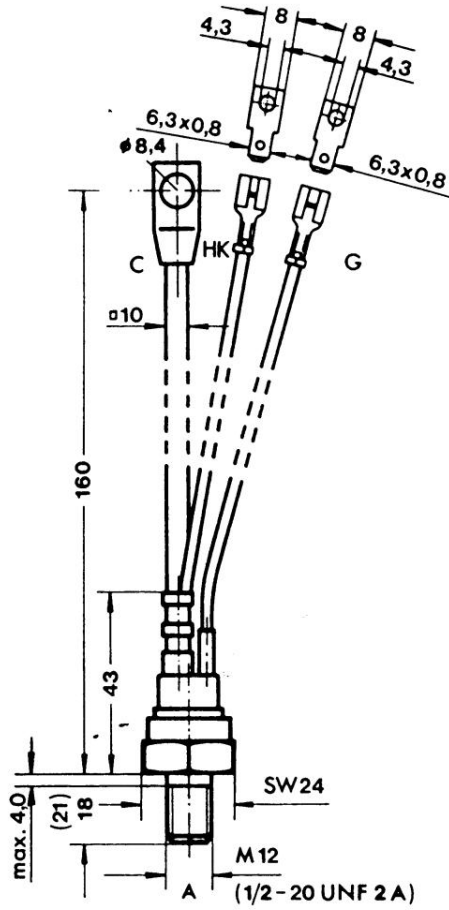


Fig. 5 Thermal resistance vs. conduction angle



Dimensions in mm



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

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