

Thyristors

SKT 250 SKT 300



Features

- Hermetic metal cases with ceramic insulators
- Threaded studs ISO M24 x 1,5 or UNF 3/4-16
- High i^2t and I_{TSM} values for easy fusing
- International standard cases

Typical Applications

- DC motor control (e. g. for machine tools)
- Controlled rectifiers (e. g. for battery charging)
- AC controllers (e. g. for temperature control)

V_{RSM}	V_{RRM} V_{DRM}	$\left(\frac{dv}{dt}\right)_{cr}$	I_{TRMS} (maximum values for continuous operation)	
			450 A	550 A
V	V	V/ μ s	I_{TAV} (sin. 180; $T_{case} = \dots$ °C)	
			285 A (77 °C)	350 A (85 °C)
500	400	500	SKT 250/04 D	SKT 300/04 D
900	800	500	SKT 250/08 D	SKT 300/08 D*
1300	1200	1000	SKT 250/12 E	SKT 300/12 E*
1500	1400	1000	SKT 250/14 E	SKT 300/14 E*
1700	1600	1000	SKT 250/16 E	SKT 300/16 E*

Symbol	Conditions	SKT 250	SKT 300	Units
I_{TAV}	sin. 180; ($T_{case} = \dots$)	250 (85 °C)	300 (93 °C)	A
I_{TSM}	$T_{vj} = 25$ °C; 10 ms $T_{vj} = 130$ °C; 10 ms	7000 6000	11 000 10 000	A A
i^2t	$T_{vj} = 25$ °C; 8,35 ... 10 ms $T_{vj} = 130$ °C; 8,35 ... 10 ms	245 000 180 000	600 000 500 000	A ² s A ² s
t_{gd}	$T_{vj} = 25$ °C; $I_G = 1$ A; $di_G/dt = 1$ A/ μ s	typ. 1		μ s
t_{gr}	$V_D = 0,67 \cdot V_{DRM}$	typ. 2		μ s
$(di/dt)_{cr}$	$f = 50 \dots 60$ Hz	100		A/ μ s
I_H	$T_{vj} = 25$ °C;	typ. 150; max. 250		mA
I_L	$T_{vj} = 25$ °C; $R_G = 33 \Omega$	typ. 300; max. 600		mA
t_q	$T_{vj} = 130$ °C; typ.	50 ... 150		μ s
V_T	$T_{vj} = 25$ °C; $I_T = 800$ A; max.	1,65	1,45	V
$V_{T(TO)}$	$T_{vj} = 130$ °C	1,0	0,9	V
r_T	$T_{vj} = 130$ °C	0,7	0,5	m Ω
I_{DD}, I_{RD}	$T_{vj} = 130$ °C; $V_{DD} = V_{DRM}$ $V_{RD} = V_{RRM}$	50	50	mA
V_{GT}	$T_{vj} = 25$ °C	3		V
I_{GT}	$T_{vj} = 25$ °C	200		mA
V_{GD}	$T_{vj} = 130$ °C	0,25		V
I_{GD}	$T_{vj} = 130$ °C	10		mA
R_{thjc}	cont. sin. 180 rec. 120	0,110 0,123 0,137	0,090 0,096 0,101	°C/W °C/W °C/W
R_{thch}		0,015		°C/W
T_{vj}		- 40 ... +130		°C
T_{stg}		- 55 ... +150		°C
M	SI units	60 (UNF: 30)		Nm
a	US units	530 (UNF: 265)		lb. in.
w		5 · 9,81		m/s ²
		450		g
Case		B 7		

* available with UNF thread 3/4-16 UNF2A, e.g. SKT 300/08 D UNF

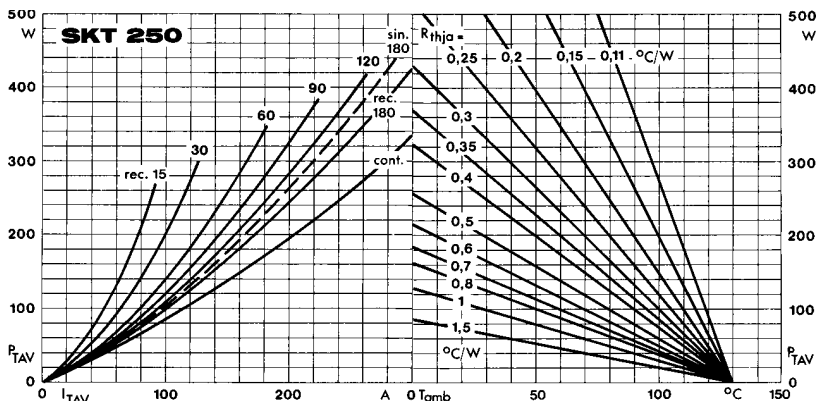


Fig. 1 a Power dissipation vs. on-state current and ambient temperature

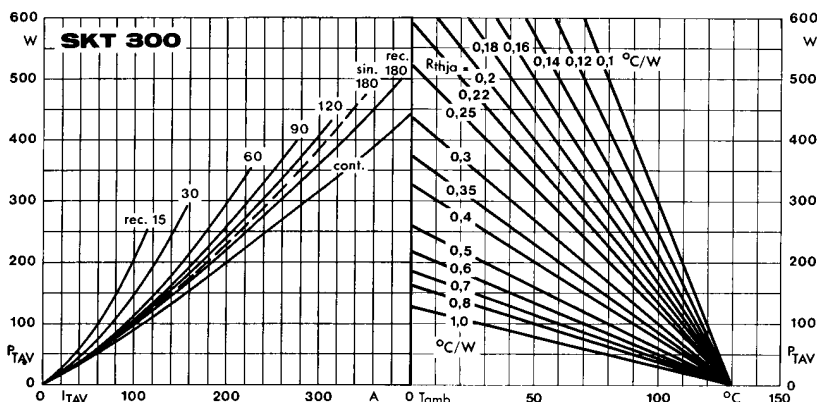


Fig. 1 b Power dissipation vs. on-state current and ambient temperature

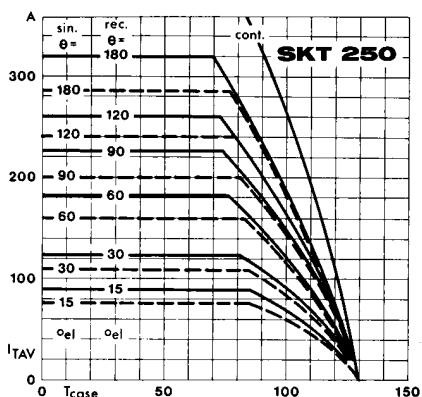


Fig. 2 a Rated on-state current vs. case temperature

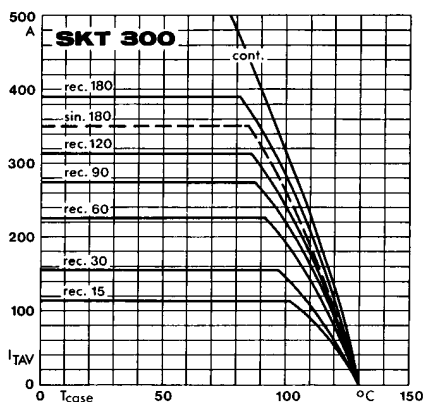


Fig. 2 b Rated on-state current vs. case temperature

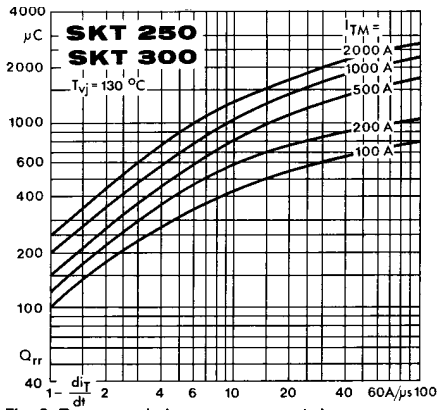


Fig. 3 Recovered charge vs. current decrease

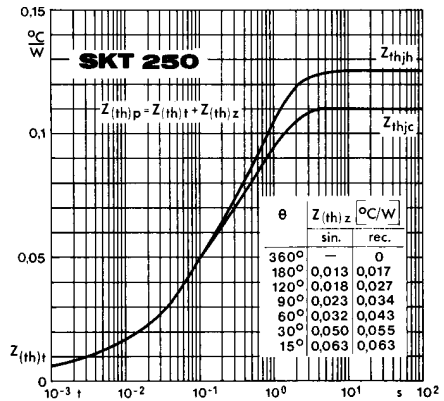


Fig. 4 a Transient thermal impedance vs. time

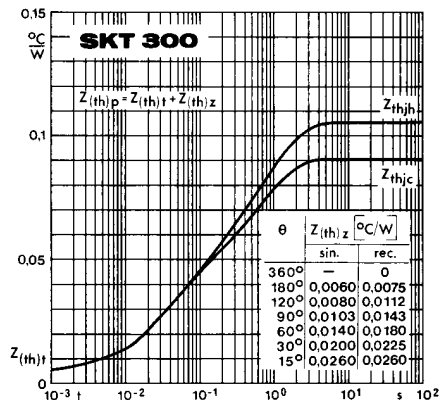


Fig. 4 b Transient thermal impedance vs. time

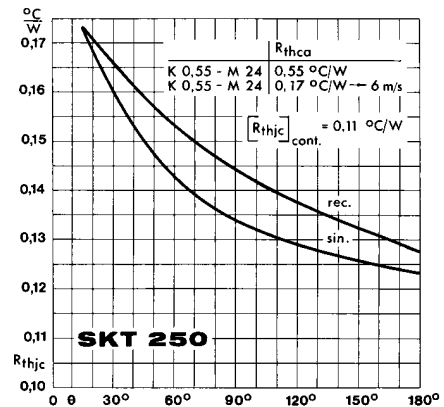


Fig. 5 a Thermal resistance vs. conduction angle

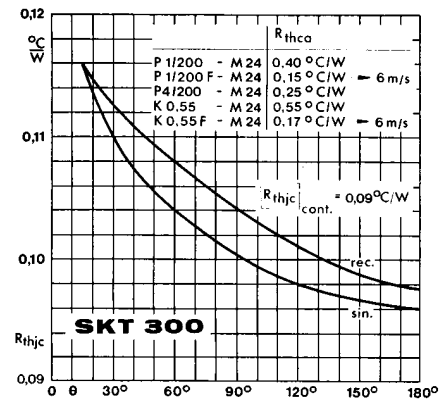


Fig. 5 b Thermal resistance vs. conduction angle

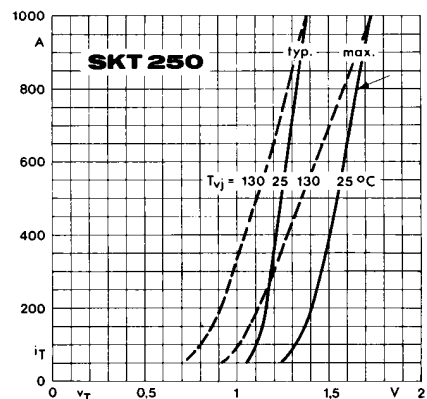


Fig. 6 a On-state characteristics

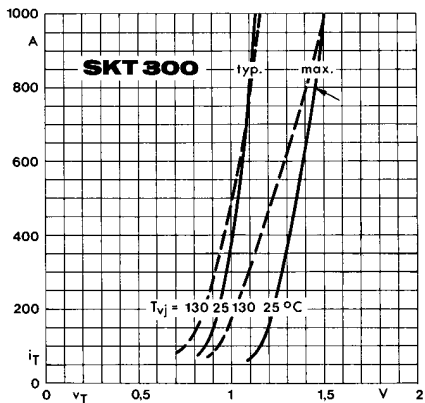


Fig. 6 b On-state characteristics

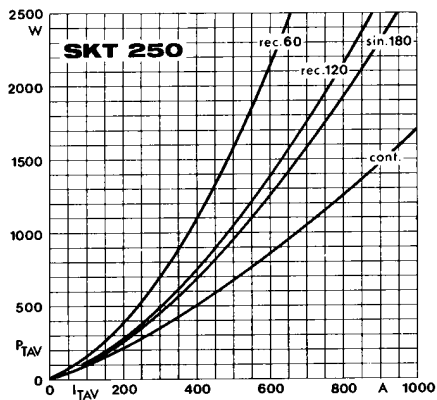


Fig. 7 a Power dissipation vs. on-state current

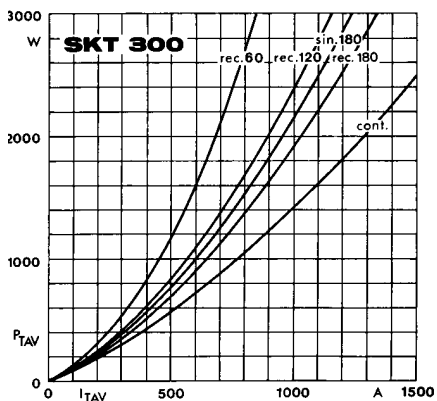


Fig. 7 b Power dissipation vs. on-state current

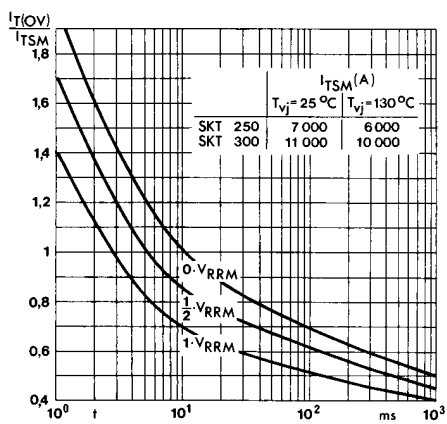


Fig. 8 Surge overload current vs. time

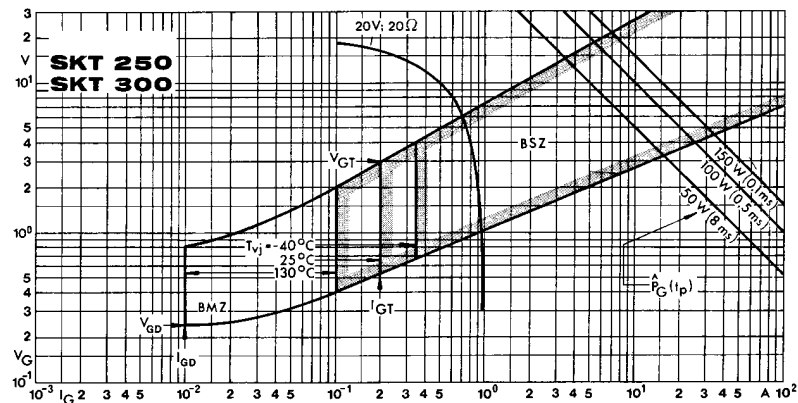


Fig. 9 Gate trigger characteristics

SKT 250

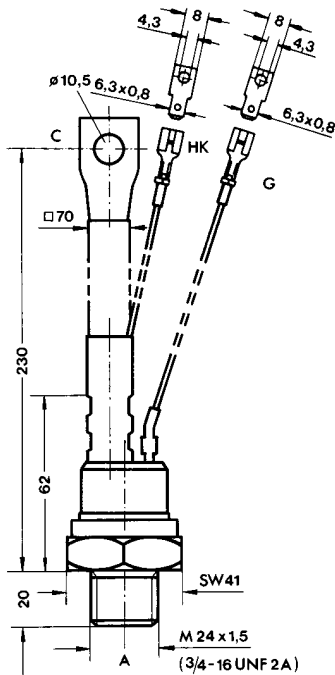
SKT 300

Case B 7

IEC-Publ. 191-2: A 29 MA

DIN 41893: (207 B 4)

JEDEC: TO-209 AD (TO-118)



C: Cathode terminal (red sleeve) Dimensions in mm

A: Anode terminal

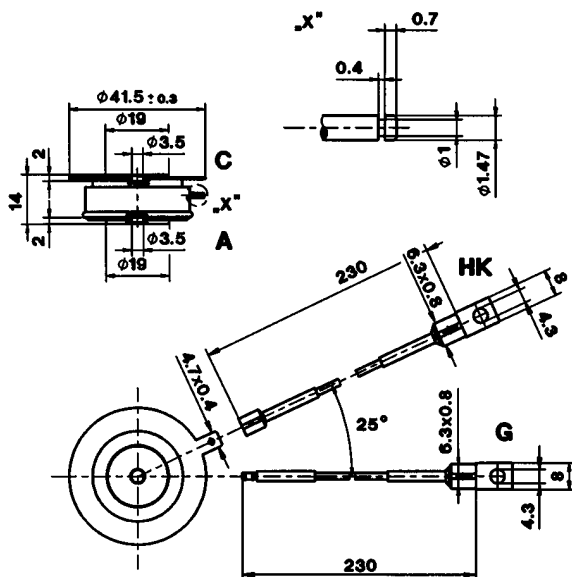
G: Gate terminal (yellow sleeve)

HK: Auxiliary cathode terminal (red sleeve)

SKT 240
SKT 340

Case B 8

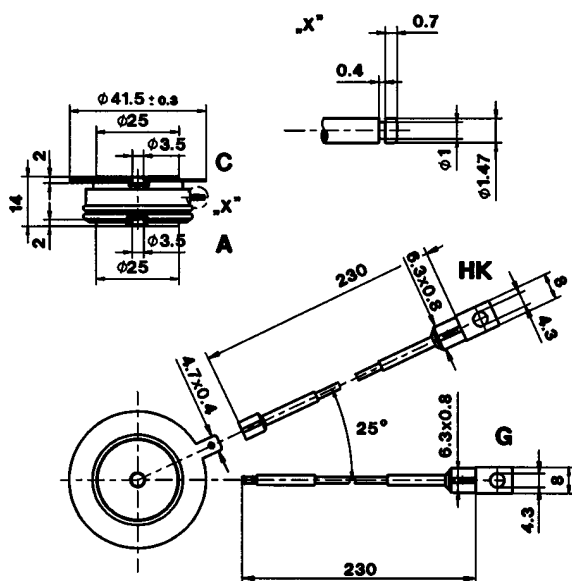
DIN 41814: 151 A 4
JEDEC: TO-200 AB



SKT 491
SKT 551

Case B 11

DIN 41814: 152 A 4
JEDEC: TO-200 AB



C: Cathode terminal (red sleeve)
A: Anode terminal
G: Gate terminal (yellow sleeve)
HK: Auxiliary cathode terminal (red sleeve)

Dimensions in mm