Thyristors

SKT 250
SKT 300

V_{RSM}	V_{RRM} V_{DRM}	$\left(\frac{dv}{dt}\right)_{cr}$	I_{TRMS} (maximum values for continuous operation) 450 A	550 A
			I_{TAV} (sin. 180; T_{case} = . . . °C)	
V	V	V/µs	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} = . . .)	250 (85 °C)	300 (93 °C)	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	7000	11 000	A
	T_{vj} = 130 °C; 10 ms	6000	10 000	A
i^2t	T_{vj} = 25 °C; 8,35 ... 10 ms	245 000	600 000	A^2s
	T_{vj} = 130 °C; 8,35 ... 10 ms	180 000	500 000	A^2s
t_{gd}	T_{vj} = 25 °C; I_G = 1 A; di_G/dt = 1 A/µs	typ. 1		µs
t_{gr}	V_D = 0,67 · V_{DRM}	typ. 2		µs
$(di/dt)_{cr}$	f = 50 . . . 60 Hz	100		A/ µs
I_H	T_{vj} = 25 °C;	typ. 150; max. 250		mA
I_L	T_{vj} = 25 °C; R_G = 33 Ω	typ. 300; max. 600		mA
t_q	T_{vj} = 130 °C; typ.	50 ... 150		µs
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	mΩ
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.	0,110	0,090	°C/W
	sin. 180	0,123	0,096	°C/W
	rec. 120	0,137	0,101	°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
	US units	530 (UNF: 265)		lb. in.
a		5 · 9,81		m/s^2
w		450		g
Case		B 7		

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

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)

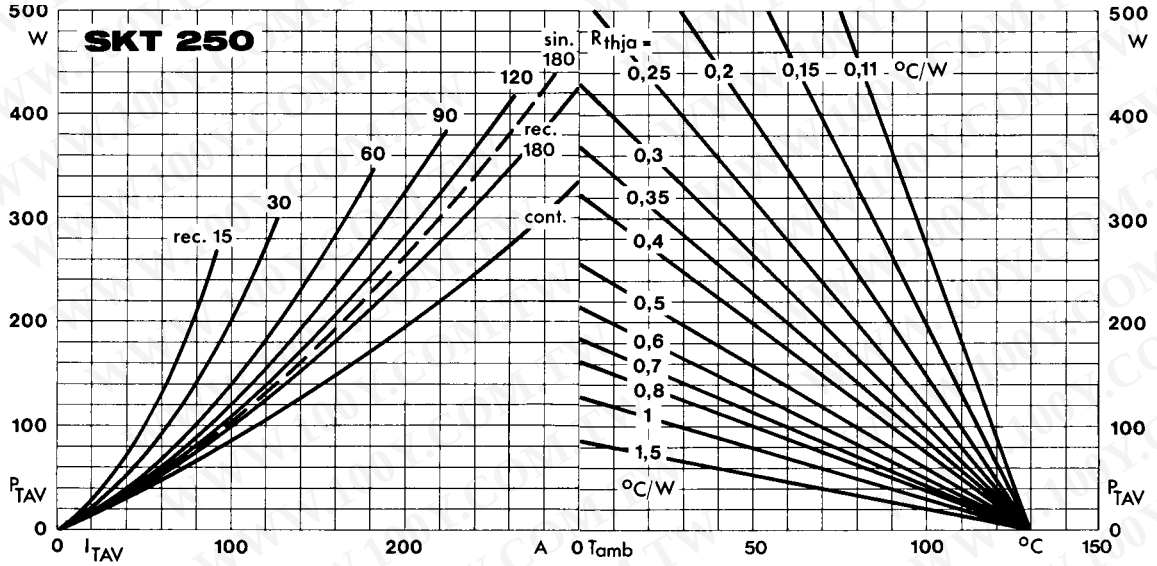


Fig. 1 a Power dissipation vs. on-state current and ambient temperature

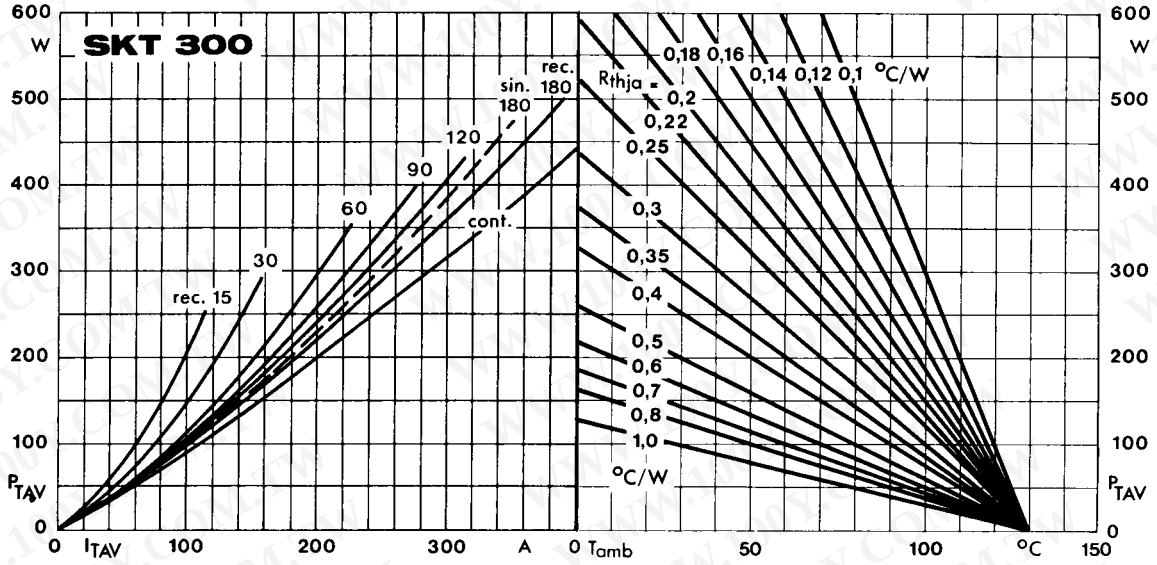


Fig. 1 b Power dissipation vs. on-state current and ambient temperature

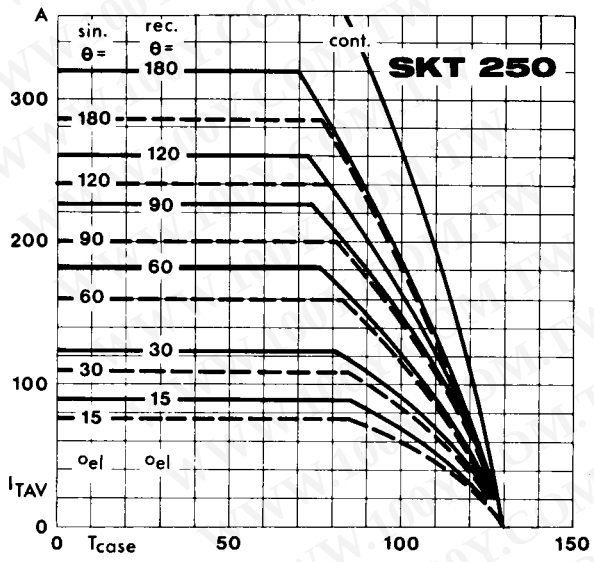


Fig. 2 a Rated on-state current vs. case temperature

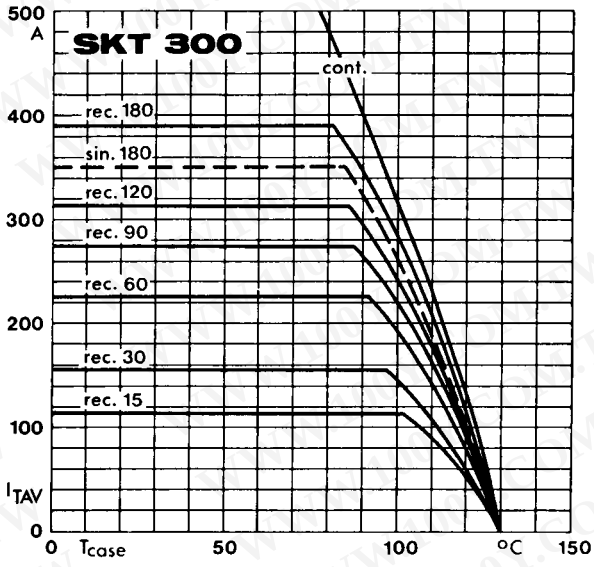


Fig. 2 b Rated on-state current vs. case temperature

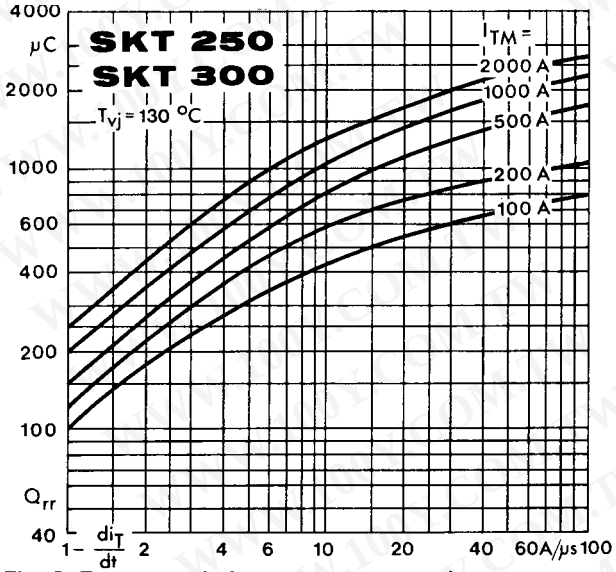


Fig. 3 Recovered charge vs. current decrease

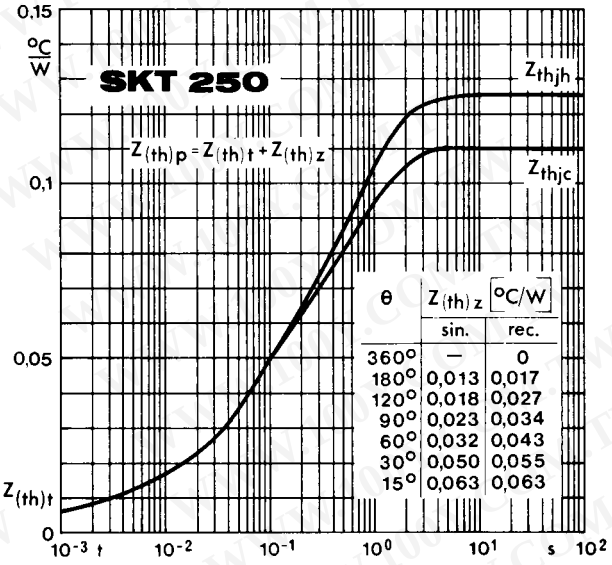


Fig. 4 a Transient thermal impedance vs. time

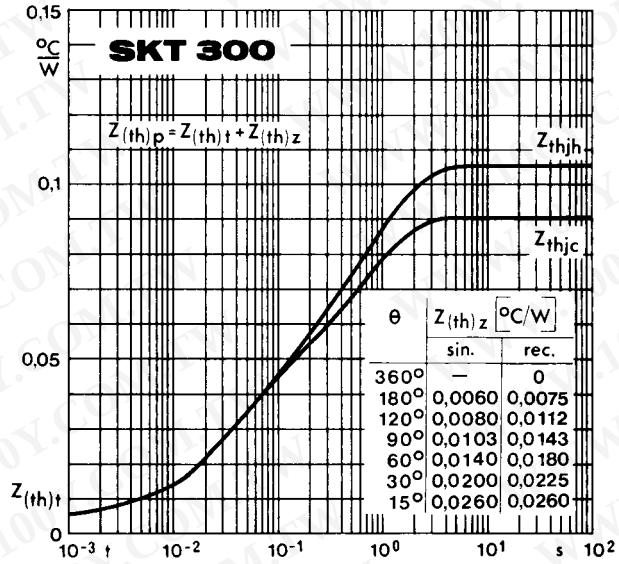


Fig. 4 b Transient thermal impedance vs. time

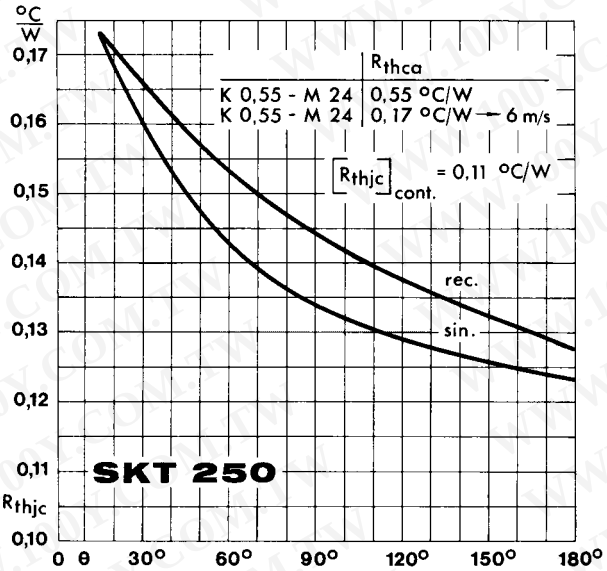


Fig. 5 a Thermal resistance vs. conduction angle

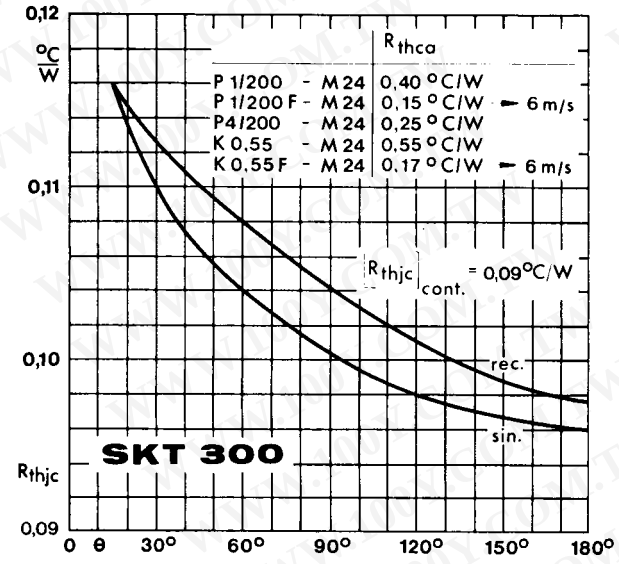


Fig. 5 b Thermal resistance vs. conduction angle

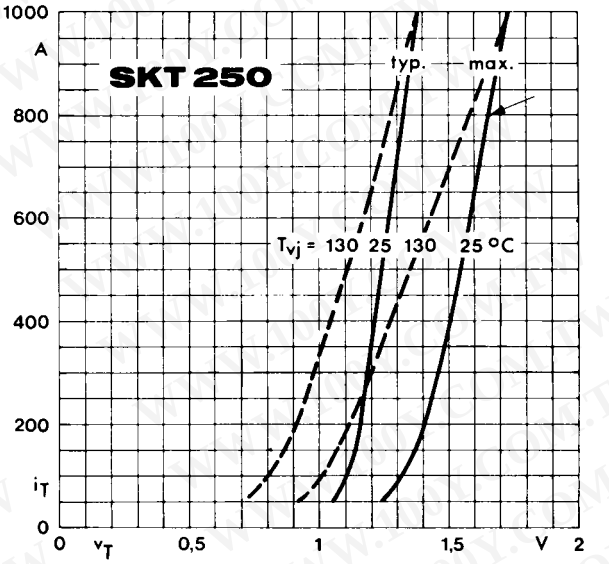


Fig. 6 a On-state characteristics

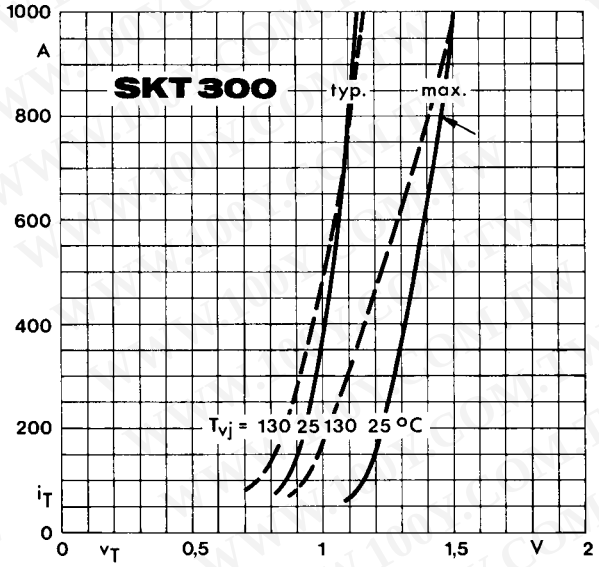


Fig. 6 b On-state characteristics

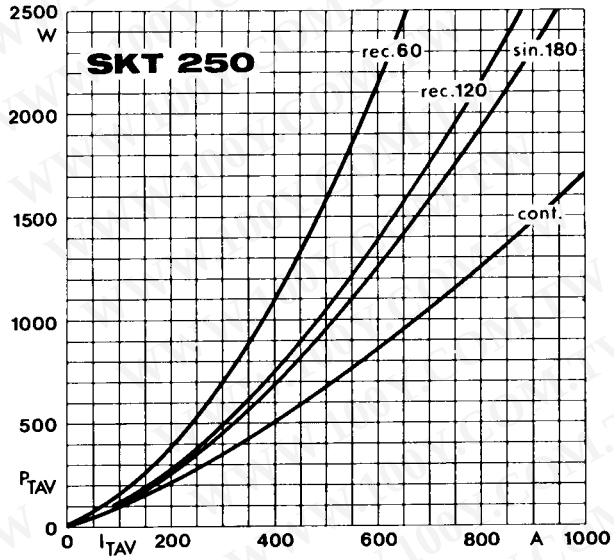


Fig. 7 a Power dissipation vs. on-state current

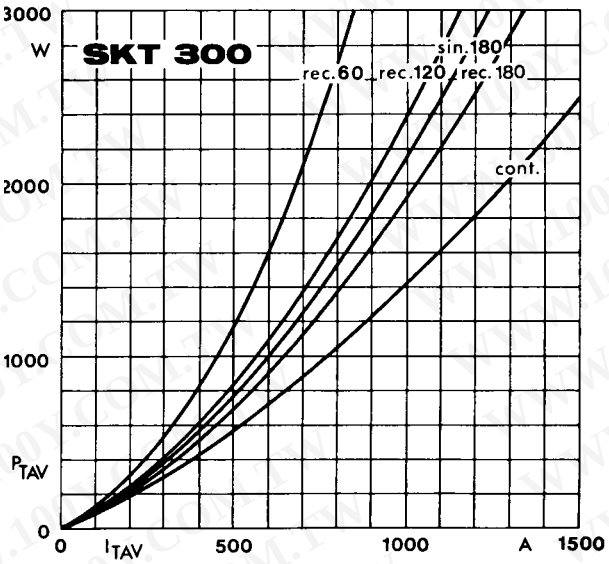


Fig. 7 b Power dissipation vs. on-state current

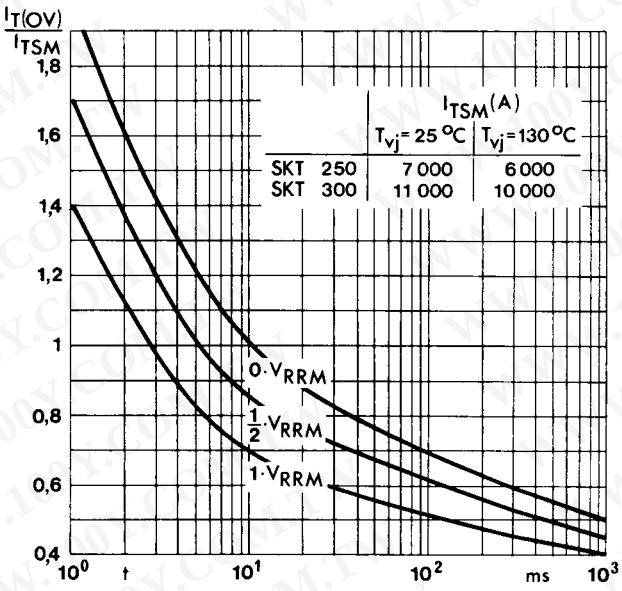


Fig. 8 Surge overload current vs. time

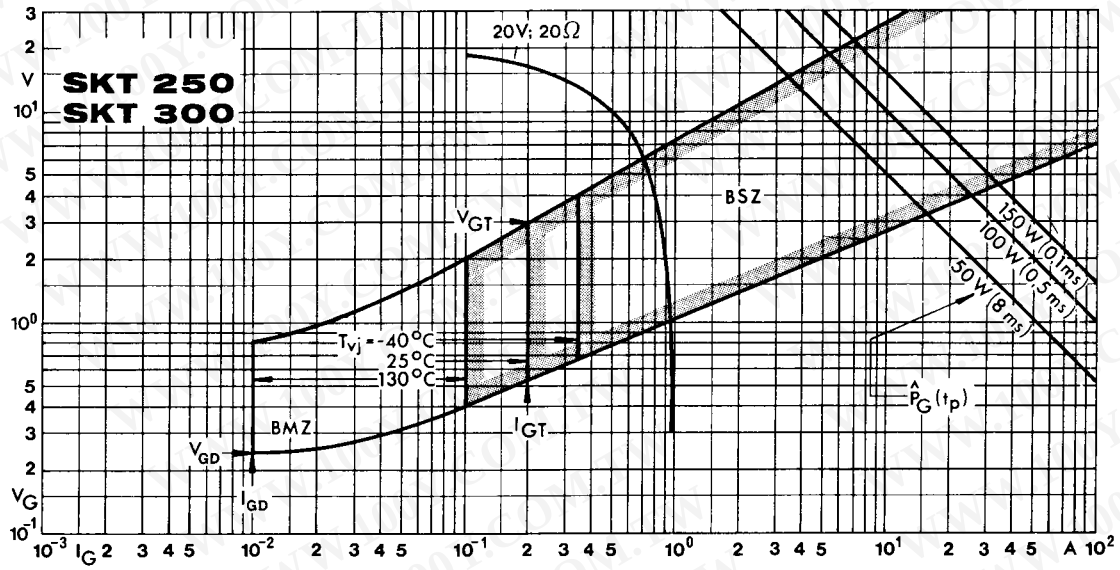
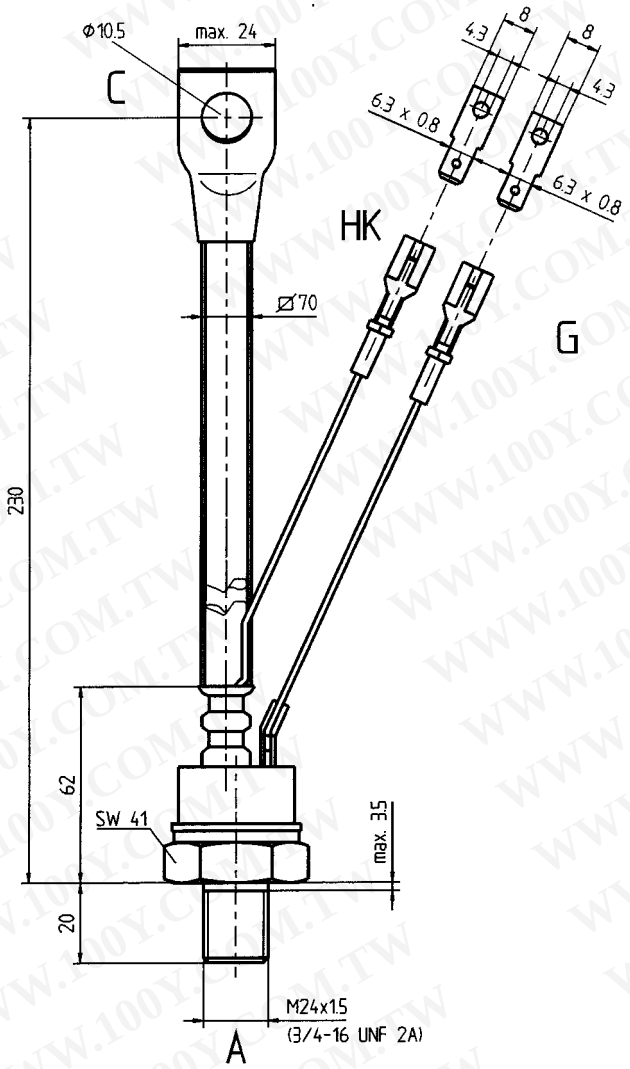


Fig. 9 Gate trigger characteristics

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)