

Thyristors

SKT 240 SKT 340



Features

- Hermetic metal cases with ceramic insulators
- Capsule packages for double sided cooling
- Shallow design with single sided cooling
- International standard cases
- Off-state and reverse voltages up to 1800 V

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}	$(dv/dt)_{cr}$	I_{TRMS} (maximum values for continuous operation)	
			600 A	700 A
V	V	V/ μ s	I_{TAV} (sin. 180; $T_{case} = \dots$; DSC)	
			380 A (60 °C)	450 A (57 °C)
500	400	500	SKT 240/04 D	SKT 340/04 D
900	800	1000	SKT 240/08 E	SKT 340/08 E
1300	1200	1000	SKT 240/12 E	SKT 340/12 E
1500	1400	1000	SKT 240/14 E	SKT 340/14 E
1700	1600	1000	SKT 240/16 E	SKT 340/16 E
1900	1800	1000	SKT 240/18 E	SKT 340/18 E
2100	2000	1000	SKT 240/20 E	–
2300	2200	1000	SKT 240/22 E	–

Symbol	Conditions	SKT 240	SKT 340	Units
I_{TAV}	sin. 180; ($T_{case} = \dots$); DSC	240 (92)	340 (82)	A °C
I_{TSM}	$T_{vj} = 25\text{ °C}$; 10 ms	5 000	5 700	A
i^2t	$T_{vj} = 125\text{ °C}$; 10 ms	4 500	5 200	A
	$T_{vj} = 25\text{ °C}$; 8,3 ... 10 ms	125 000	162 000	A ² s
	$T_{vj} = 125\text{ °C}$; 8,3 ... 10 ms	101 000	135 000	A ² s
t_{gd}	$T_{vj} = 25\text{ °C}$ $I_G = 1\text{ A}$ $di_G/dt = 1\text{ A}/\mu\text{s}$	typ. 1 typ. 2		μ s
t_{gr}	$V_D = 0,67 \cdot V_{DRM}$			μ s
$(di/dt)_{cr}$	$f = 50 \dots 60\text{ Hz}$	125		A/ μ s
I_H	$T_{vj} = 25\text{ °C}$; typ./max.	150 / 400		mA
I_L	$T_{vj} = 25\text{ °C}$; typ./max.	0,3 / 1		A
t_q	$T_{vj} = 125\text{ °C}$; typ.	50 ... 150		μ s
V_T	$T_{vj} = 25\text{ °C}$; $I_T = 1000\text{ A}$; max.	2,3	1,9	V
$V_{T(TO)}$	$T_{vj} = 125\text{ °C}$	1,0	1,0	V
r_T	$T_{vj} = 125\text{ °C}$	1,4	0,9	m Ω
I_{DD} ; I_{RD}	$T_{vj} = 125\text{ °C}$; $V_{RD} = V_{RRM}$ $V_{DD} = V_{DRM}$	40	40	mA
V_{GT}	$T_{vj} = 25\text{ °C}$	2		V
I_{GT}	$T_{vj} = 25\text{ °C}$	150		mA
V_{GD}	$T_{vj} = 125\text{ °C}$	0,25		V
I_{GD}	$T_{vj} = 125\text{ °C}$	10		mA
R_{thjc}	cont.; DSC	0,070		°C/W
R_{thch} T_{vj} T_{stg}	sin. 180; DSC/SSC	0,072 / 0,151		°C/W
	rec. 120; DSC/SSC	0,080 / 0,168		°C/W
	DSC/SSC	0,020 / 0,040		°C/W
		– 40 ... + 125		°C
		– 40 ... + 130		°C
F	SI units	4 ... 5		kN
w	US units	900 ... 1100		lbs.
		61		g
Case	→ page B 3 – 32	B 8		

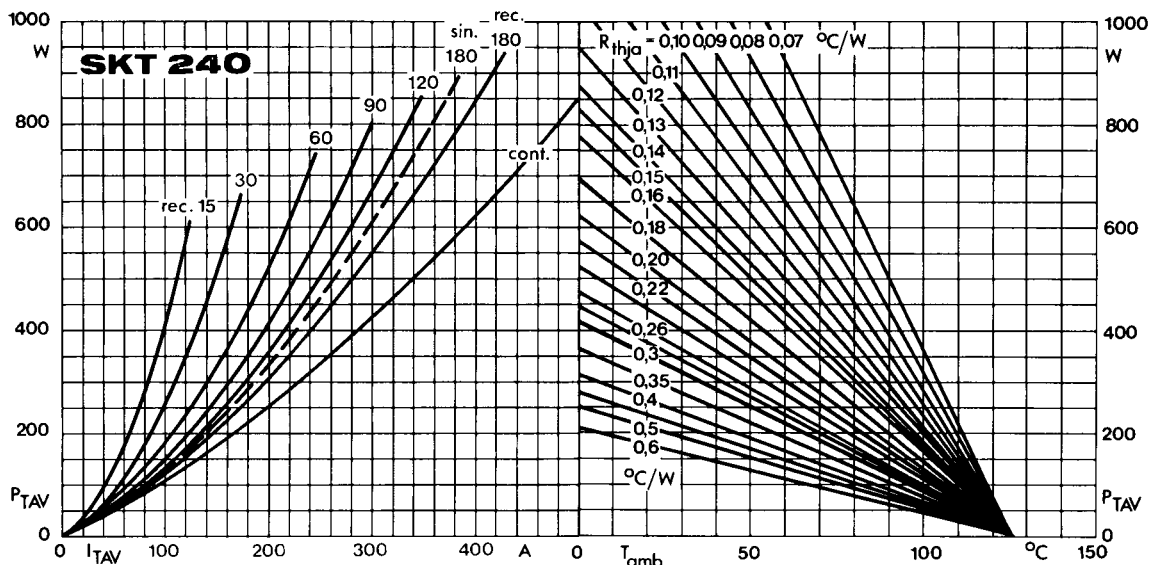


Fig. 1 a Power dissipation vs. on-state current and ambient temperature

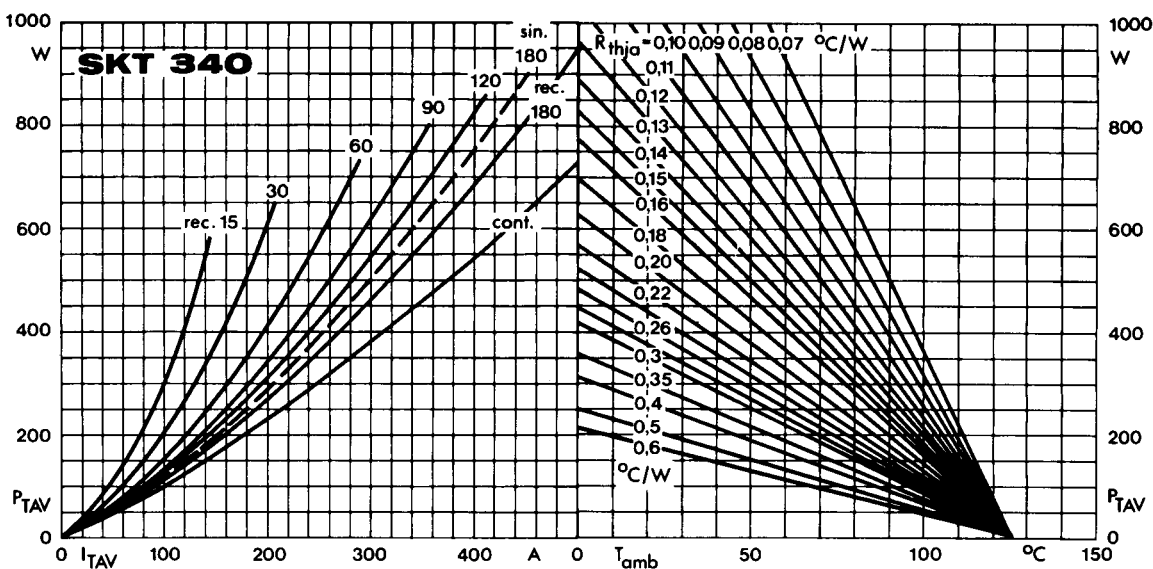


Fig. 1 b Power dissipation vs. on-state current and ambient temperature

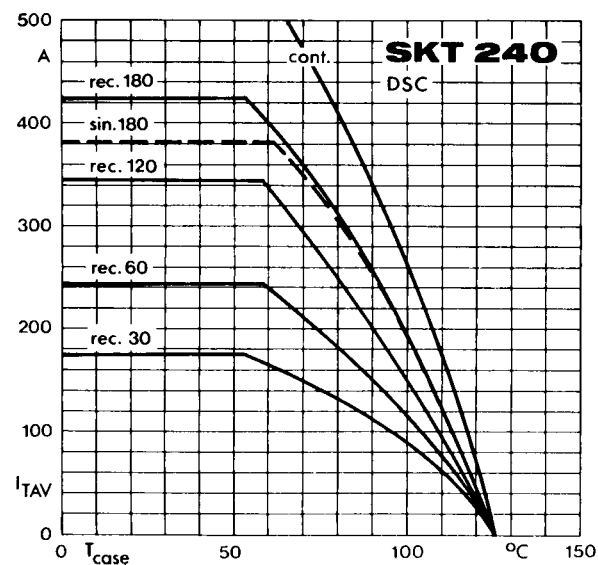


Fig. 2 a Rated on-state current vs. case temperature

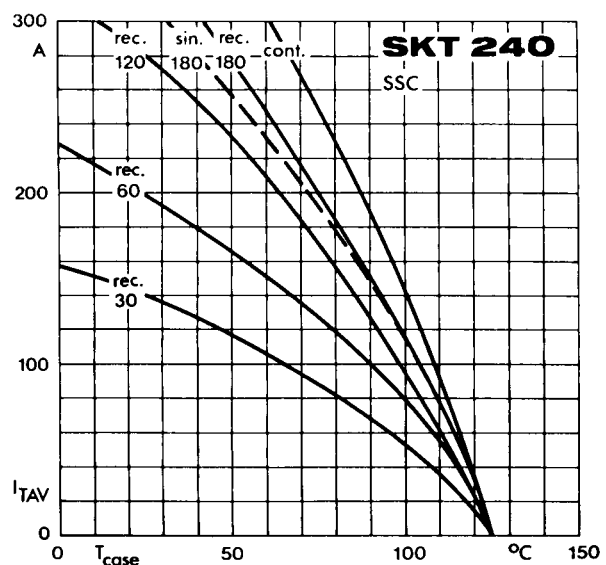


Fig. 2 b Rated on-state current vs. case temperature

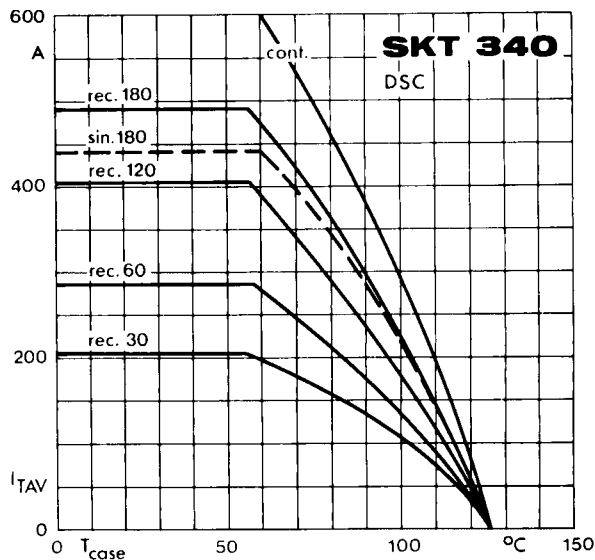


Fig. 2 c Rated on-state current vs. case temperature

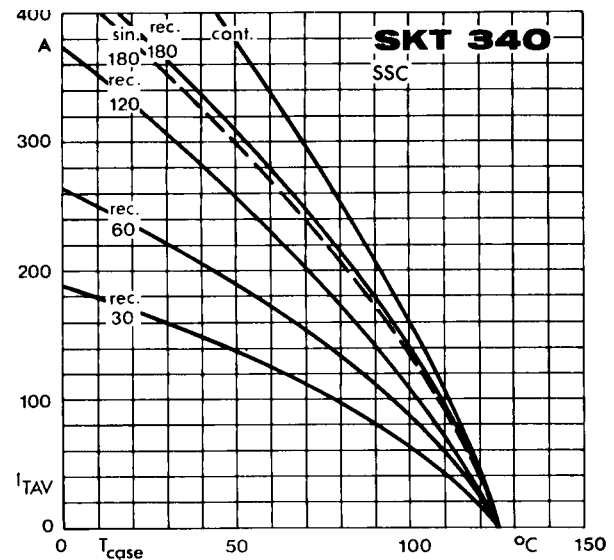


Fig. 2 d Rated on-state current vs. case temperature

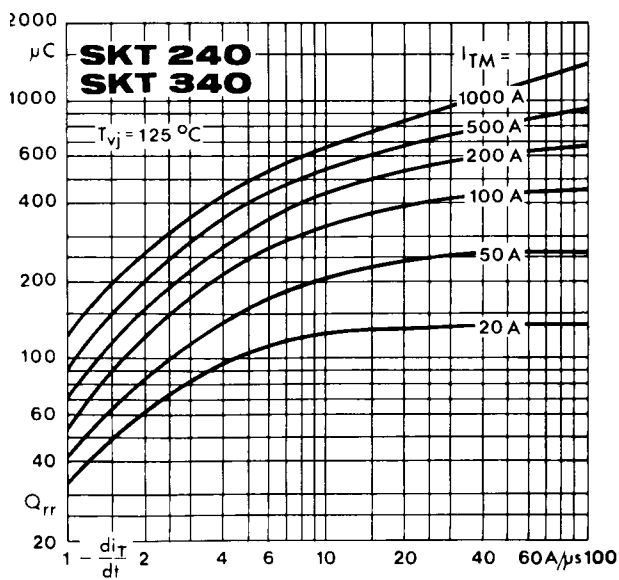


Fig. 3 Recovered charge vs. current decrease

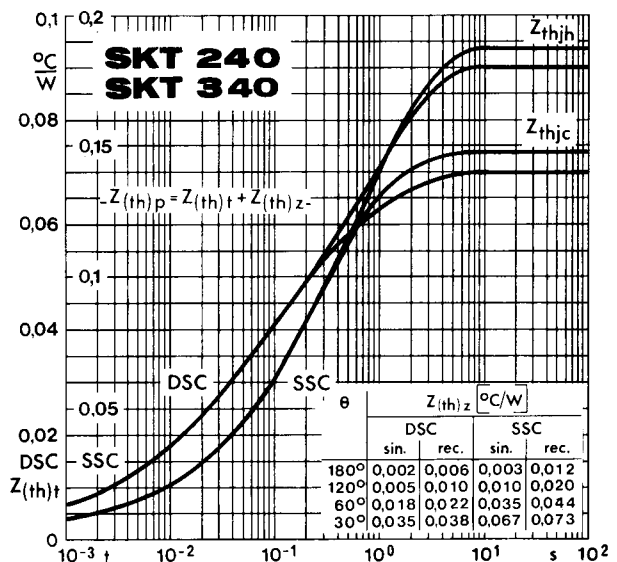


Fig. 4 Transient thermal impedance vs. time

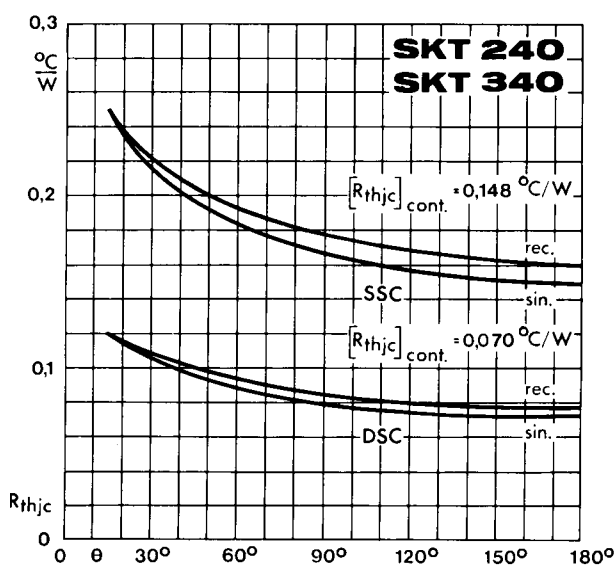


Fig. 5 Thermal resistance vs. conduction angle

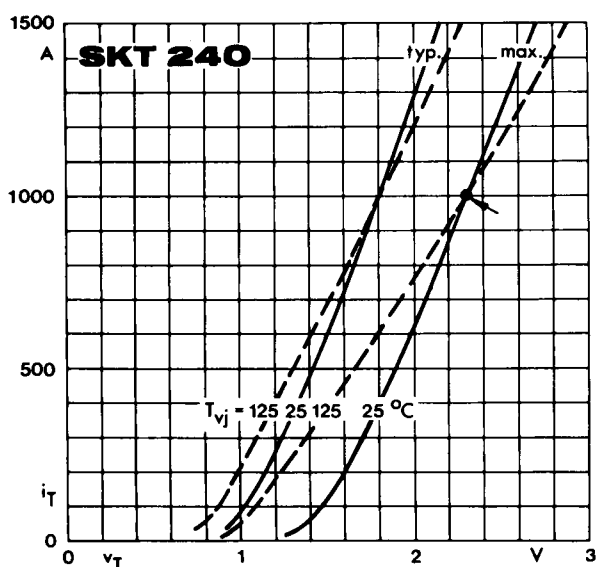


Fig. 6 a On-state characteristics

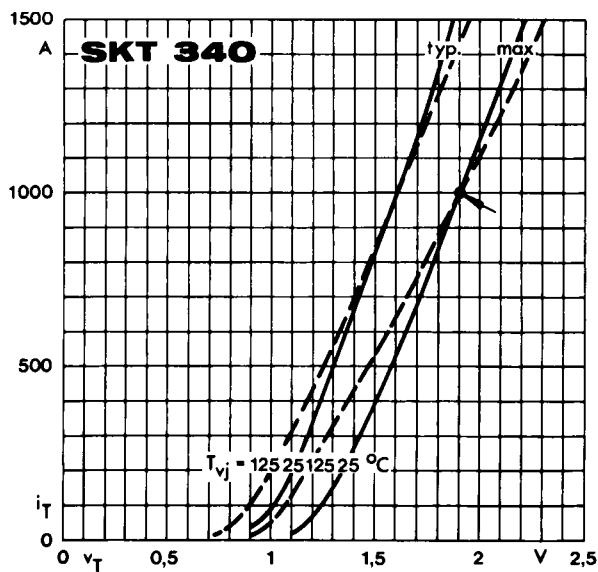


Fig. 6 b On-state characteristics

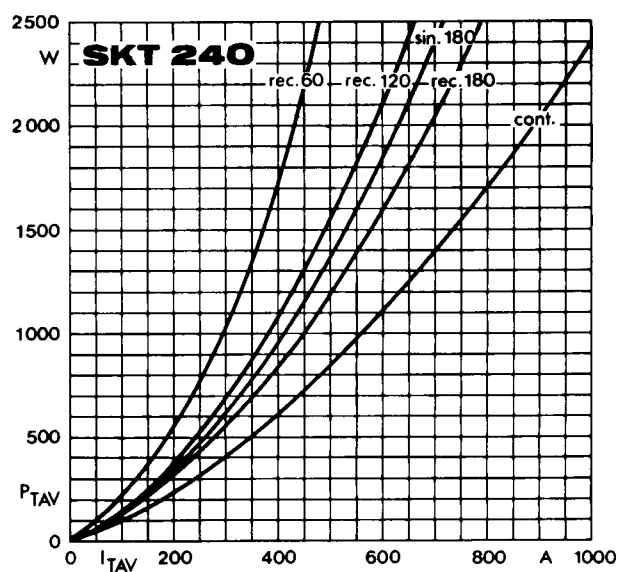


Fig. 7 a Power dissipation vs. on-state current

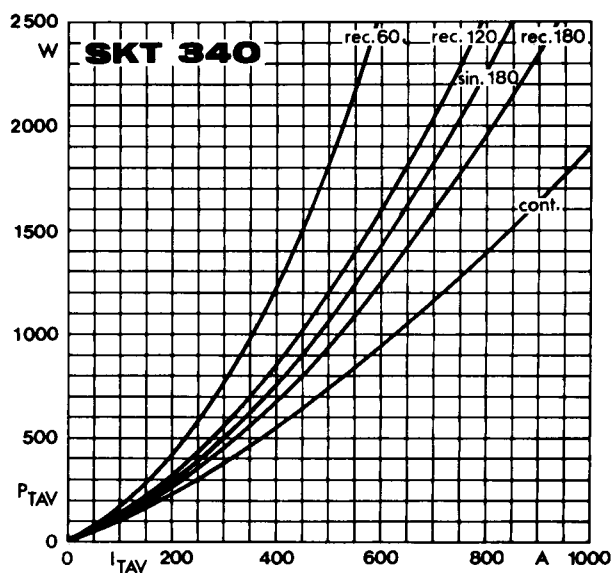


Fig. 7 b Power dissipation vs. on-state current

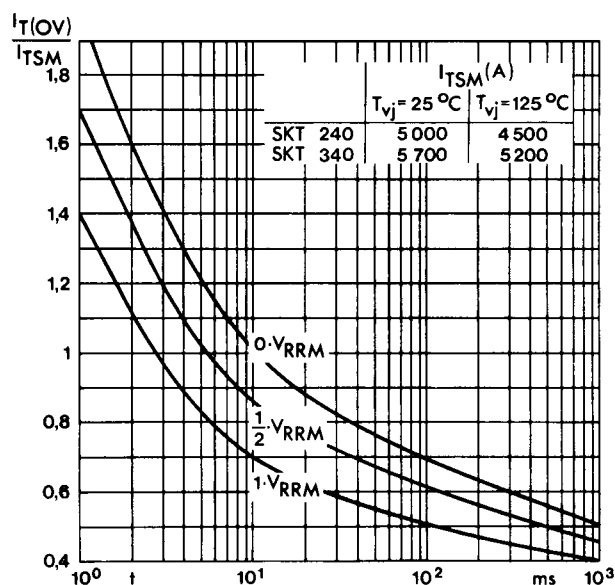


Fig. 8 Surge overload current vs. time

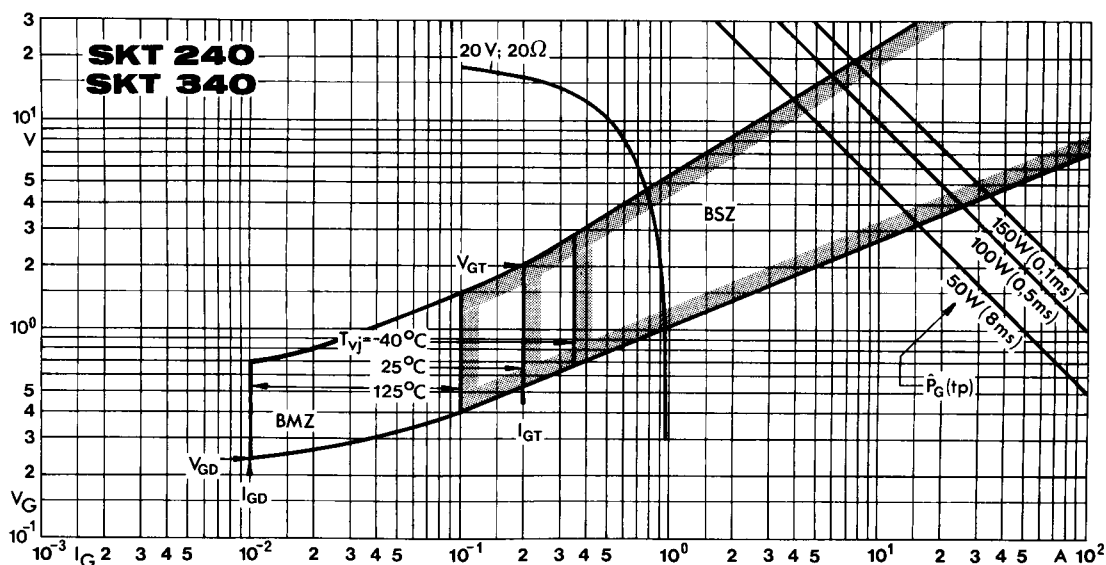
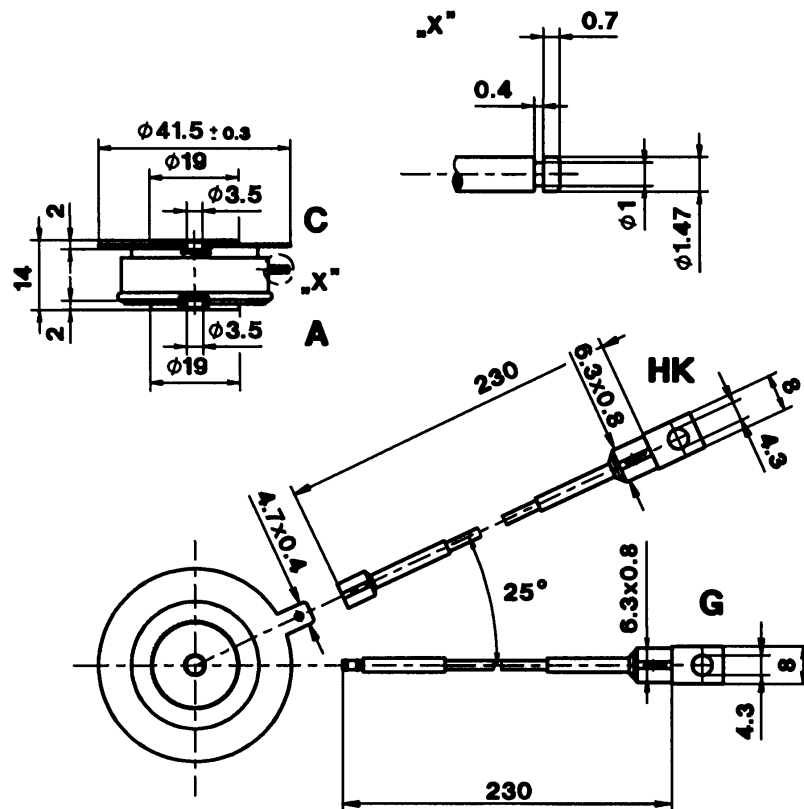


Fig. 9 Gate trigger characteristics

SKT 240
SKT 340

Case B 8

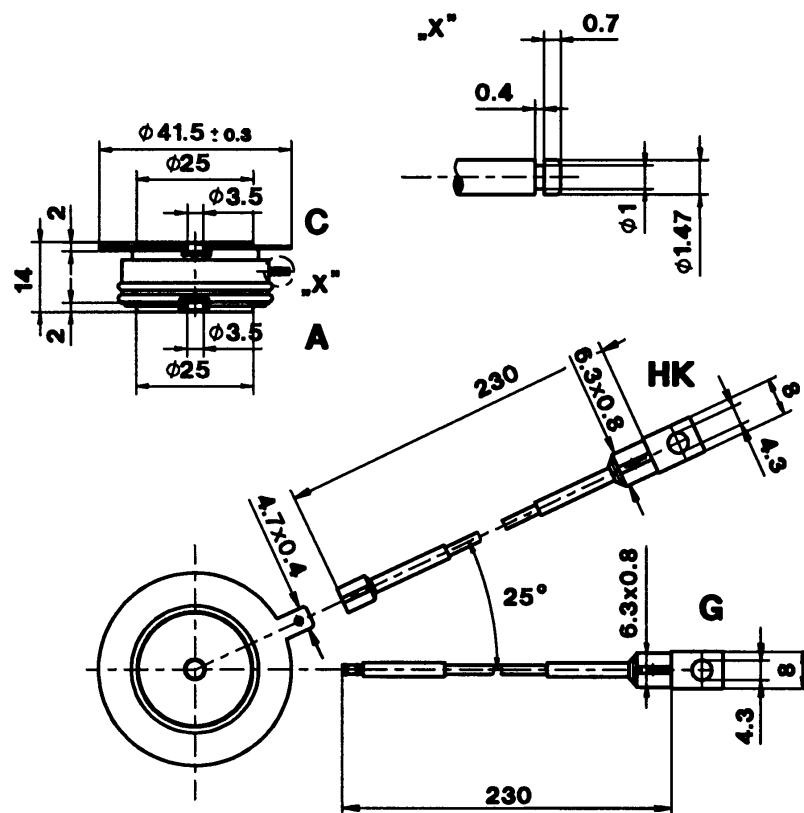
DIN 41814: 151 A 4
JEDEC: TO-200 AB



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