

## SKT 491, SKT 551

$V_{RSM}$	$V_{RRM}$ $V_{DRM}$	$(dv/dt)_{cr}$	$I_{TRMS}$ (maximum values for continuous operation)	
			1000 A	1200 A
V	V	V/ $\mu$ s	$I_{TAV}$ (sin. 180; $T_{case} = \dots$ ; DSC)	
			640 A (58 °C)	765 A (61 °C)
500	400	1000	<b>SKT 491/04 E</b>	–
900	800	1000	<b>SKT 491/08 E</b>	<b>SKT 551/08 E</b>
1300	1200	1000	<b>SKT 491/12 E</b>	<b>SKT 551/12 E</b>
1500	1400	1000	<b>SKT 491/14 E</b>	<b>SKT 551/14 E</b>
1700	1600	1000	<b>SKT 491/16 E</b>	<b>SKT 551/16 E</b>
1900	1800	1000	<b>SKT 491/18 E</b>	<b>SKT 551/18 E</b>

## Thyristors

### SKT 491 SKT 551



Symbol	Conditions	SKT 491	SKT 551	Units
$I_{TAV}$	sin. 180; ( $T_{case} = \dots$ ); DSC	490 (80)	550 (85)	A °C
$I_{TSM}$	$T_{vj} = 25\text{ °C}$	8 000	9 000	A
$i^2t$	$T_{vj} = 125\text{ °C}$	7 000	8 000	A
	$T_{vj} = 25\text{ °C}$	320 000	405 000	A <sup>2</sup> s
$t_{gd}$	$T_{vj} = 25\text{ °C}$ $I_G = 1\text{ A}$ $di_G/dt = 1\text{ A}/\mu\text{s}$	typ. 1		$\mu\text{s}$
		typ. 1		$\mu\text{s}$
$t_{gr}$	$V_D = 0,67 \cdot V_{DRM}$	125		A/ $\mu\text{s}$
$(di/dt)_{cr}$	f = 50 ... 60 Hz	150 / 500		mA
$I_H$	$T_{vj} = 25\text{ °C}$ ; typ./max.	0,5 / 2		A
$I_L$	$T_{vj} = 25\text{ °C}$ ; $R_G = 33\ \Omega$ ; typ./max.	50 ... 150		$\mu\text{s}$
$t_q$	$T_{vj} = 125\text{ °C}$ ; typ.			
$V_T$	$T_{vj} = 25\text{ °C}$ ; $I_T = 1500\text{ A}$ ; max.	2,1	1,65	V
$V_{T(TO)}$	$T_{vj} = 125\text{ °C}$	1,1	0,925	V
$r_T$	$T_{vj} = 125\text{ °C}$	0,7	0,45	m $\Omega$
$I_{DD}$ ; $I_{RD}$	$T_{vj} = 125\text{ °C}$ ; $V_{RD} = V_{RRM}$ $V_{DD} = V_{DRM}$	50		mA
$V_{GT}$	$T_{vj} = 25\text{ °C}$	3		V
$I_{GT}$	$T_{vj} = 25\text{ °C}$	250		mA
$V_{GD}$	$T_{vj} = 125\text{ °C}$	0,25		V
$I_{GD}$	$T_{vj} = 125\text{ °C}$	10		mA
$R_{thjc}$	cont.;	0,045		°C/W
	sin. 180; DSC/SSC	0,047 / 0,100		°C/W
	rec. 120; DSC/SSC	0,054 / 0,113		°C/W
	DSC/SSC	0,012 / 0,024		°C/W
$R_{thch}$		– 40 ... + 125		°C
$T_{vj}$		– 40 ... + 130		°C
$T_{stg}$				
F	SI units	5,2 ... 8		kN
	US units	1200 ... 1800		lbs.
w		105		g
Case	→ page B 3 – 32	B 11		

### Features

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

### Typical Applications

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

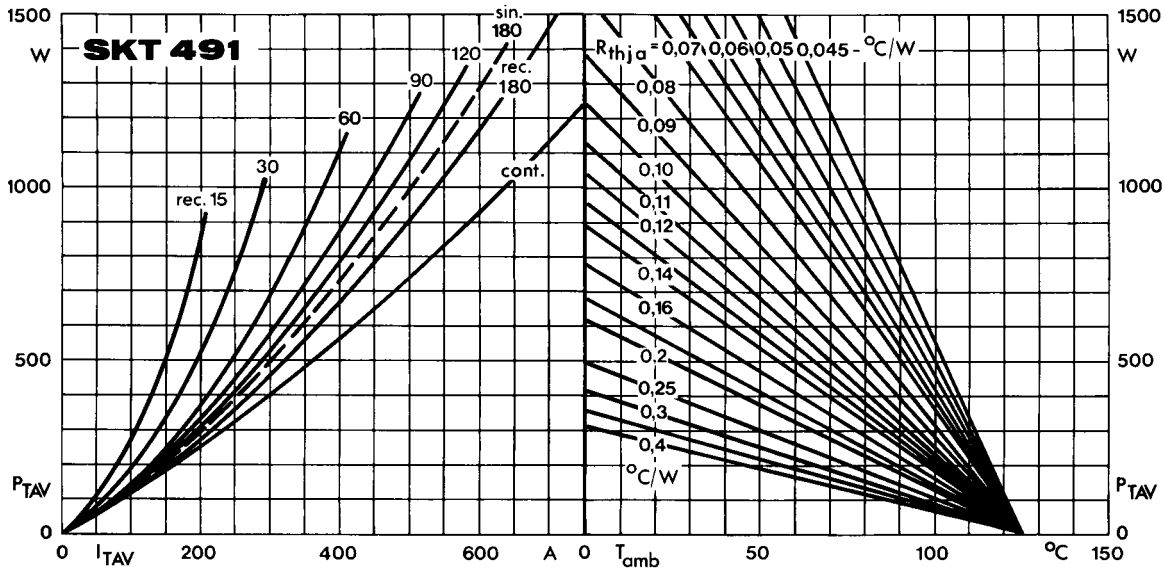


Fig. 1 a Power dissipation vs. on-state current and ambient temperature

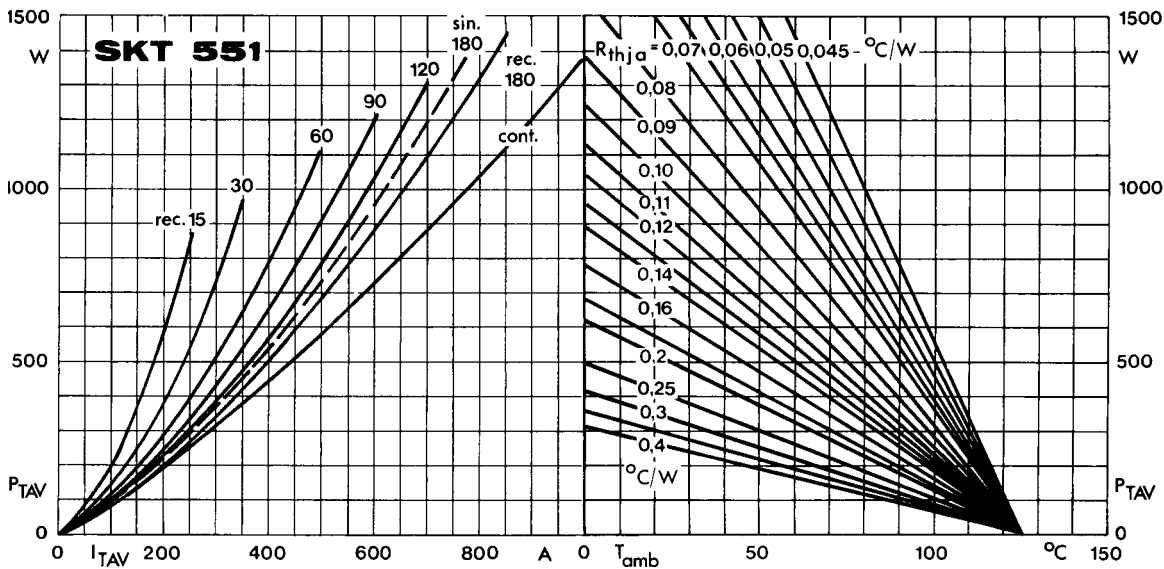


Fig. 1 b Power dissipation vs. on-state current and ambient temperature

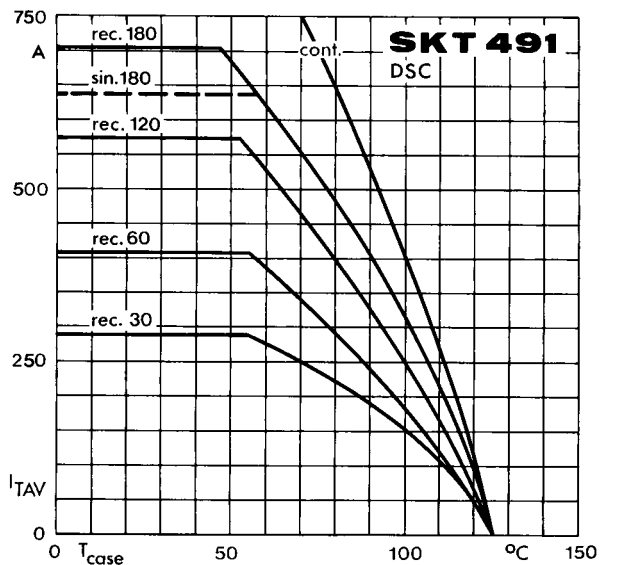


Fig. 2 a Rated on-state current vs. case temperature

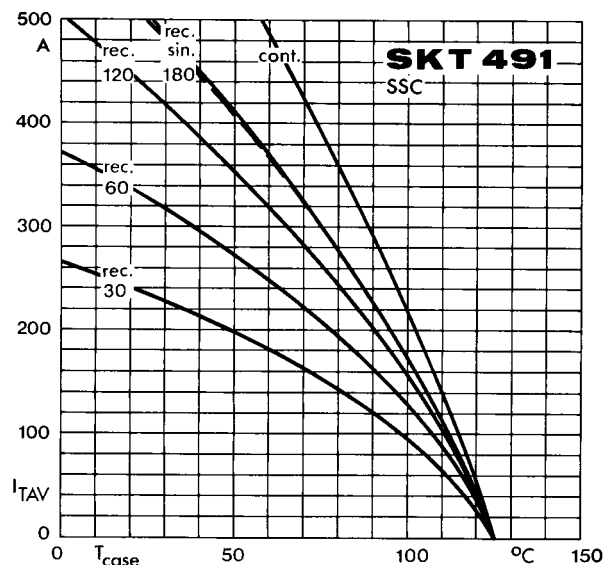


Fig. 2 b Rated on-state current vs. case temperature

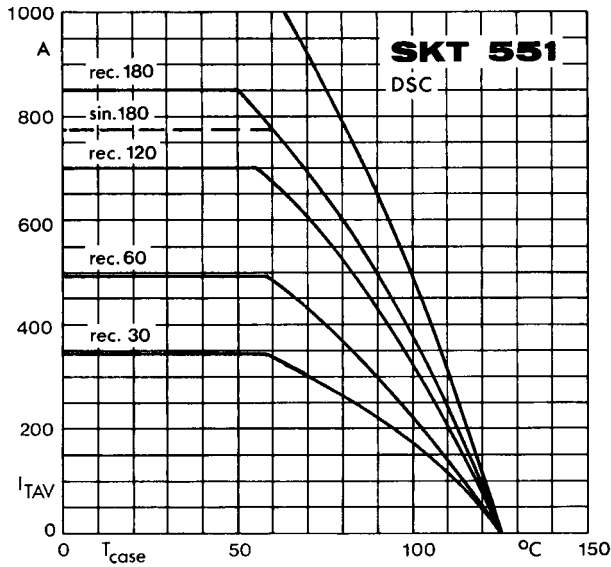


Fig. 2 c Rated on-state current vs. case temperature

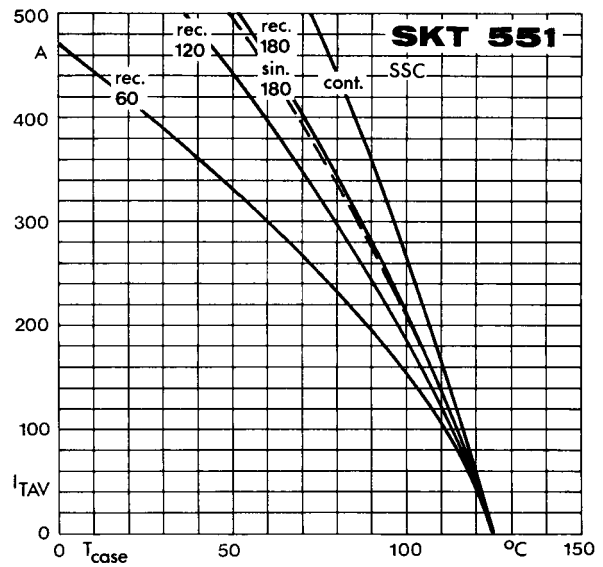


Fig. 2 d Rated on-state current vs. case temperature

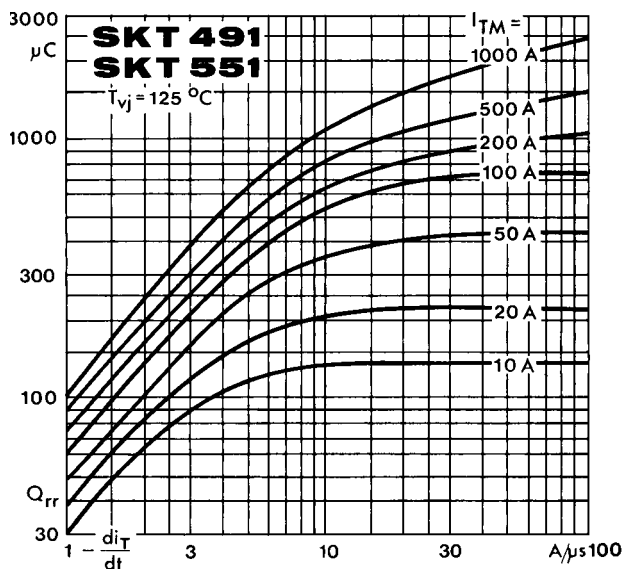


Fig. 3 Recovered charge vs. current decrease

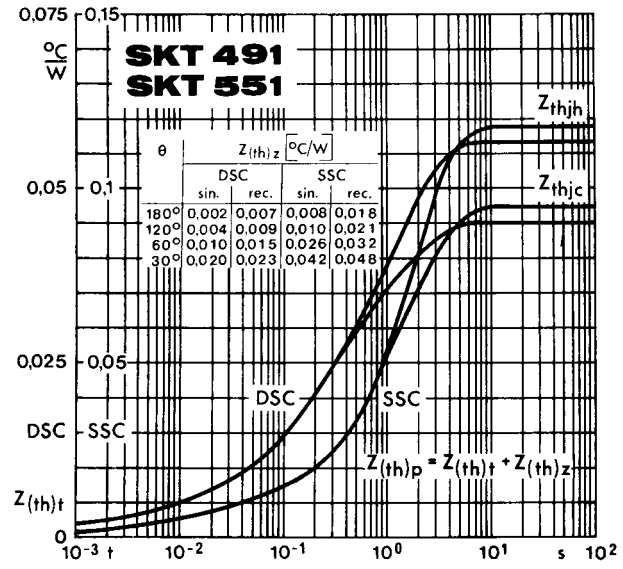


Fig. 4 Transient thermal impedance vs. time

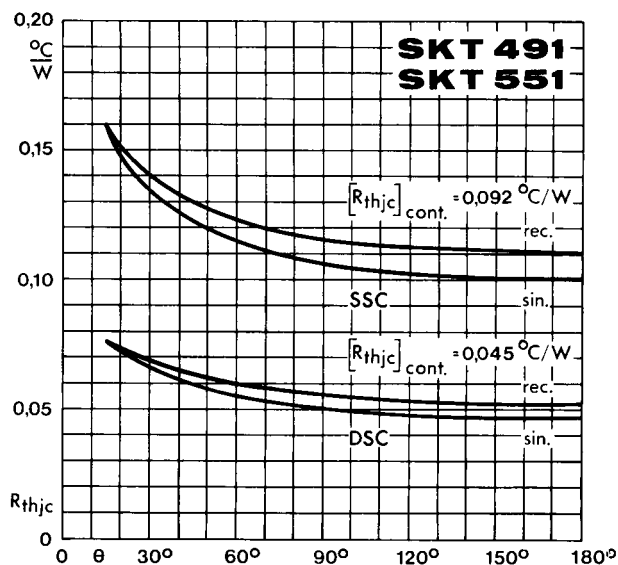


Fig. 5 Thermal resistance vs. conduction angle

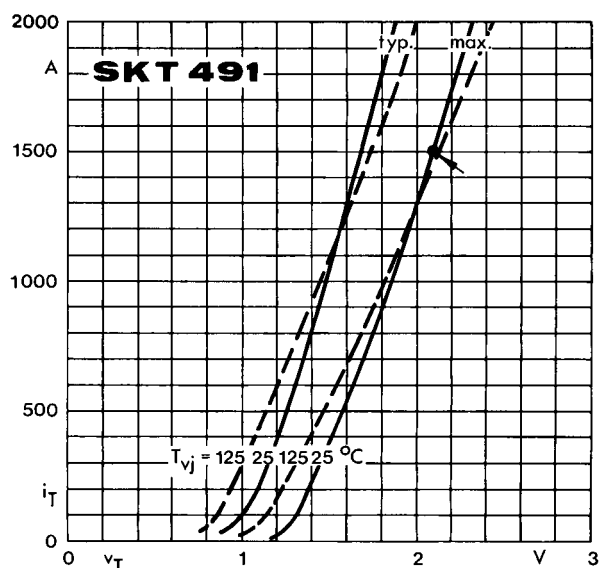


Fig. 6 a On-state characteristics

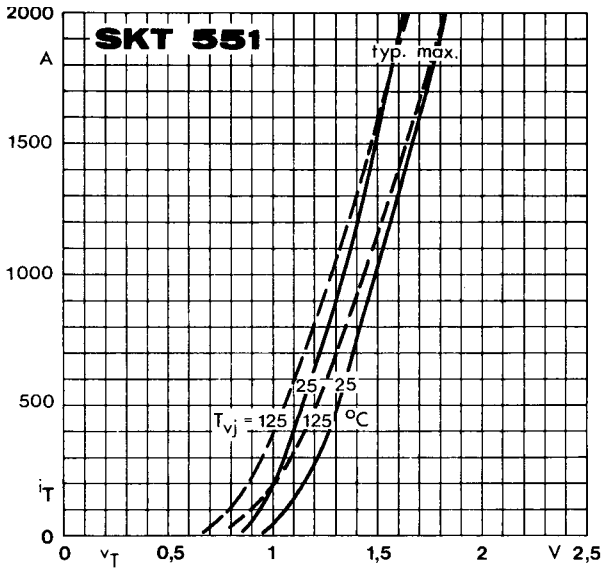


Fig. 6 b On-state characteristics

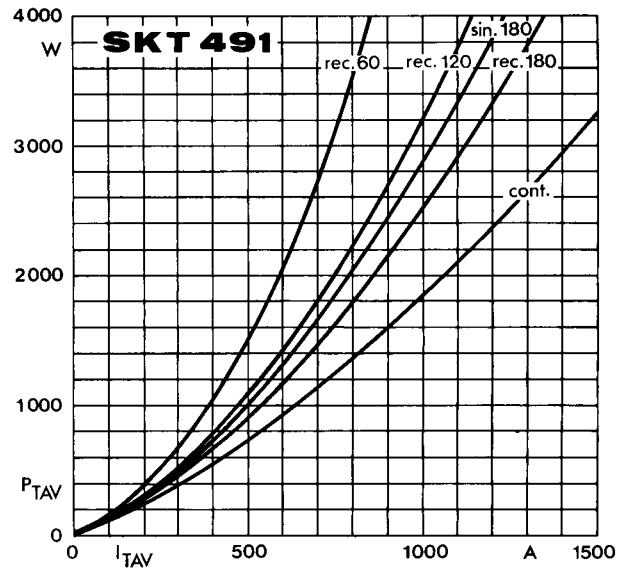


Fig. 7 a Power dissipation vs. on-state current

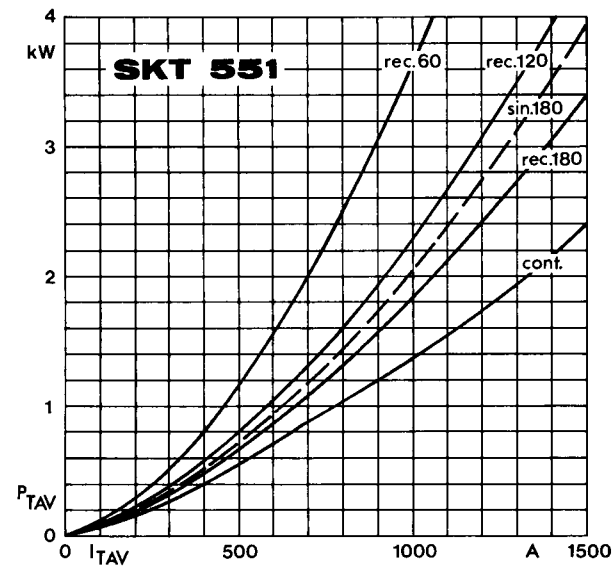


Fig. 7 b Power dissipation vs. on-state current

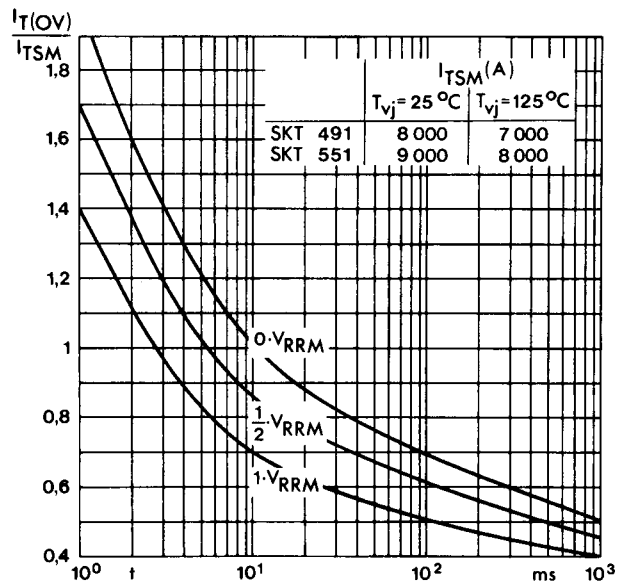


Fig. 8 Surge overload current vs. time

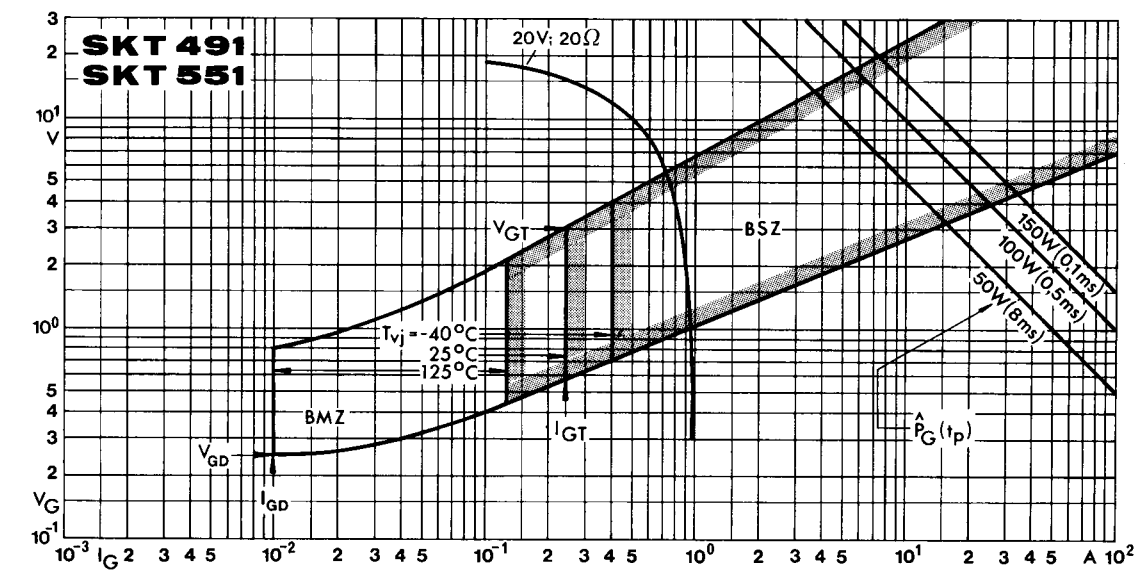
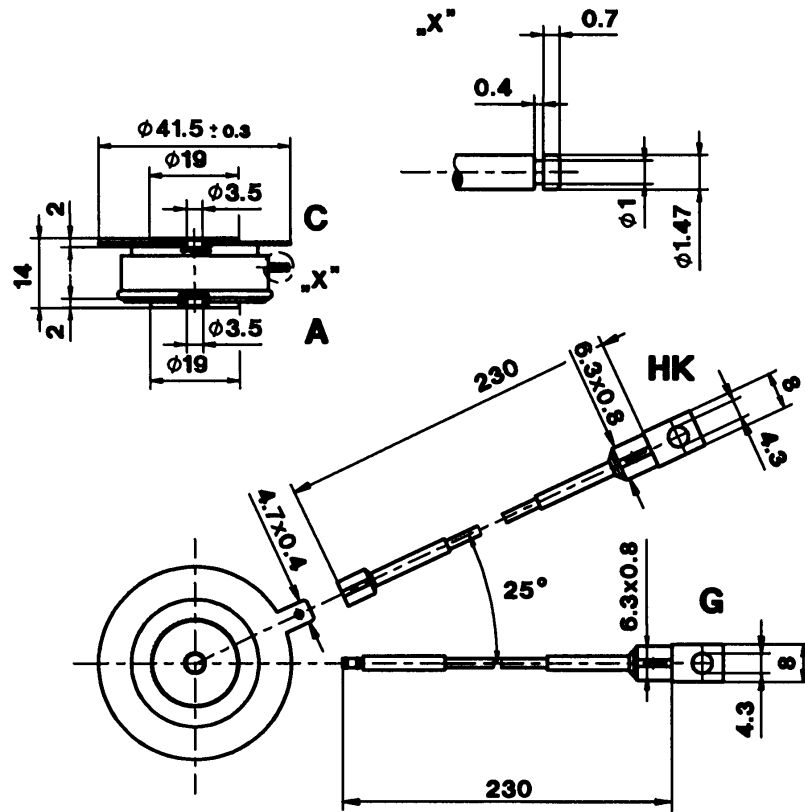


Fig. 9 Gate trigger characteristics

SKT 240  
SKT 340

Case B 8

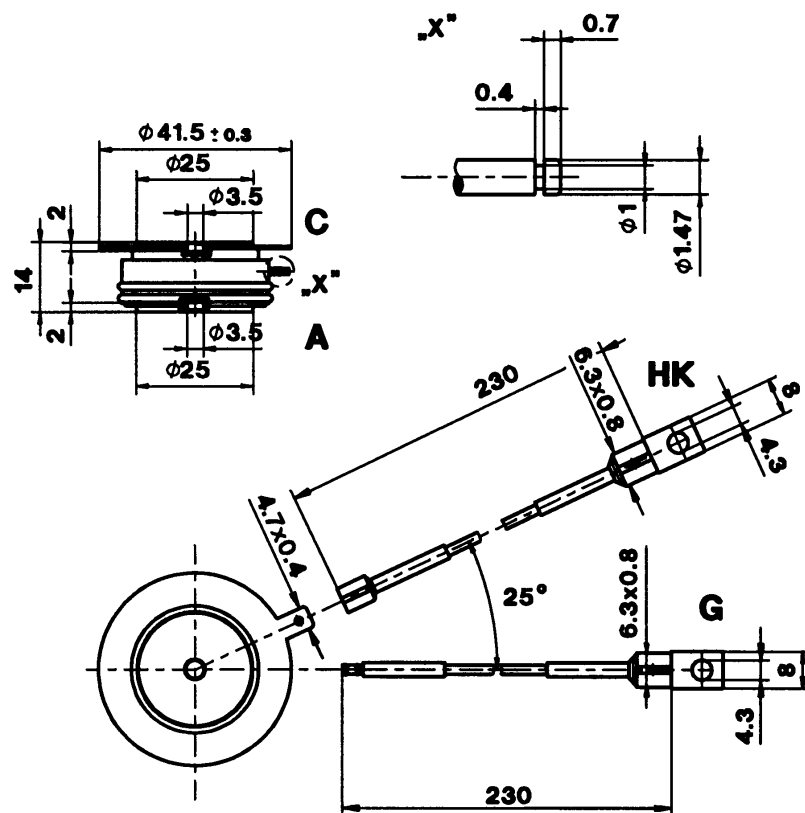
DIN 41814: 151 A 4  
JEDEC: TO-200 AB



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