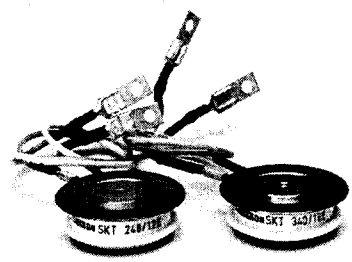
SEMIKRON

Thyristors

SKT 240
SKT 340



V_{RSM}	V_{RRM} V_{DRM}	$\left(\frac{dv}{dt}\right)_{cr}$	I_{TRMS} (maximum values for continuous operation) 600 A	700 A
			I_{TAV} (sin. 180; T_{case} = . . .; DSC)	
V	V	V/µs	380 A (60 °C)	450 A (57 °C)
500	400	500	**SKT 240/04 D**	**SKT 340/04 D**
900	800	500	**SKT 240/08 D**	**SKT 340/08 D**
1300	1200	500	**SKT 240/12 D**	**SKT 340/12 D**
		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***

Symbol	Conditions	SKT 240	SKT 340
I_{TAV}	sin. 180; (T_{case} = . . .), DSC	240 A (92 °C)	340 A (82 °C)
I_{TSM}	T_{vj} = 25 °C	5000 A	5700 A
	T_{vj} = 125 °C	4500 A	5200 A
i^2t	T_{vj} = 25 °C	125 000 A^2s	162 000 A^2s
	T_{vj} = 125 °C	101 000 A^2s	135 000 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	125 A/ µs	
I_H	T_{vj} = 25 °C; typ./max.	150 mA/400 mA	
I_L	T_{vj} = 25 °C; typ./max.	300 mA/1 A	
t_q	T_{vj} = 125 °C; typ.	50 ... 150 µs	
V_T	T_{vj} = 25 °C; I_T = 1000 A; max.	2,3 V	1,9 V
$V_{T(TO)}$	T_{vj} = 125 °C	1,0 V	1,0 V
r_T	T_{vj} = 125 °C	1,4 mΩ	0,9 mΩ
I_{DD}, I_{RD}	T_{vj} = 125 °C; V_{DD} = V_{DRM}; V_{RD} = V_{RRM}	40 mA	40 mA
V_{GT}	T_{vj} = 25 °C	2 V	
I_{GT}	T_{vj} = 25 °C	200 mA	
V_{GD}	T_{vj} = 125 °C	0,25 V	
I_{GD}	T_{vj} = 125 °C	10 mA	
R_{thjc}	cont.; DSC	0,070 °C/W	
	sin. 180; DSC/SSC	0,072/0,151 °C/W	
	rec. 120; DSC/SSC	0,080/0,168 °C/W	
R_{thch}	DSC/SSC	0,020/0,040 °C/W	
T_{vj}		− 40 ... + 125 °C	
T_{stg}		− 40 ... + 130 °C	
F	SI units	4 ... 5 kN	
	US units	900 ... 1100 lbs.	
w		61 g	
Case		B 8	B 8

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)

* Available in limited quantities

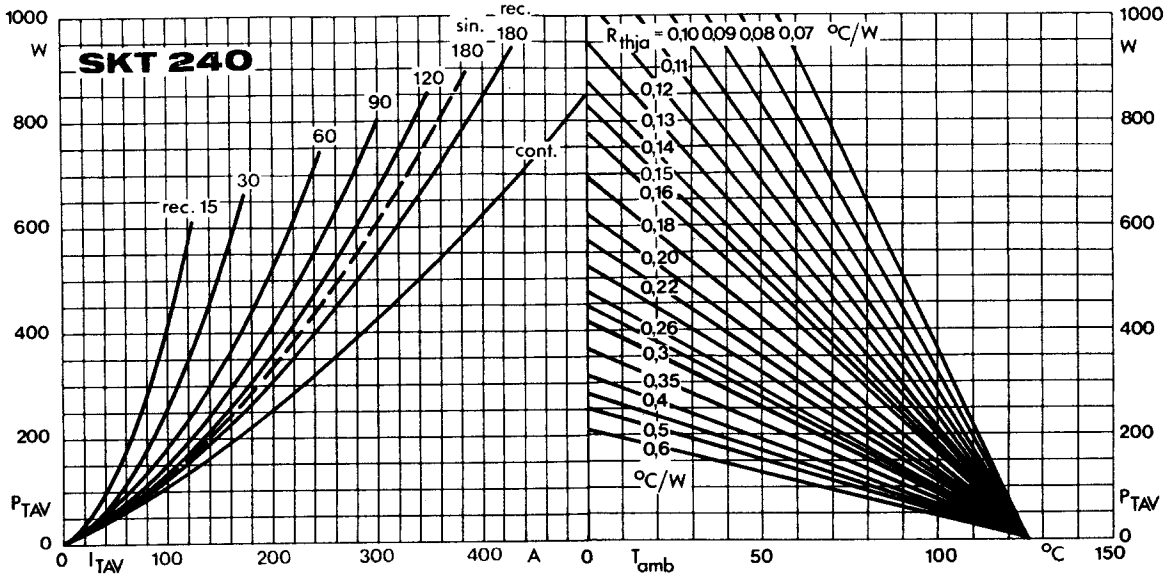


Fig. 1 a Power dissipation vs. on-state current and ambient temperature

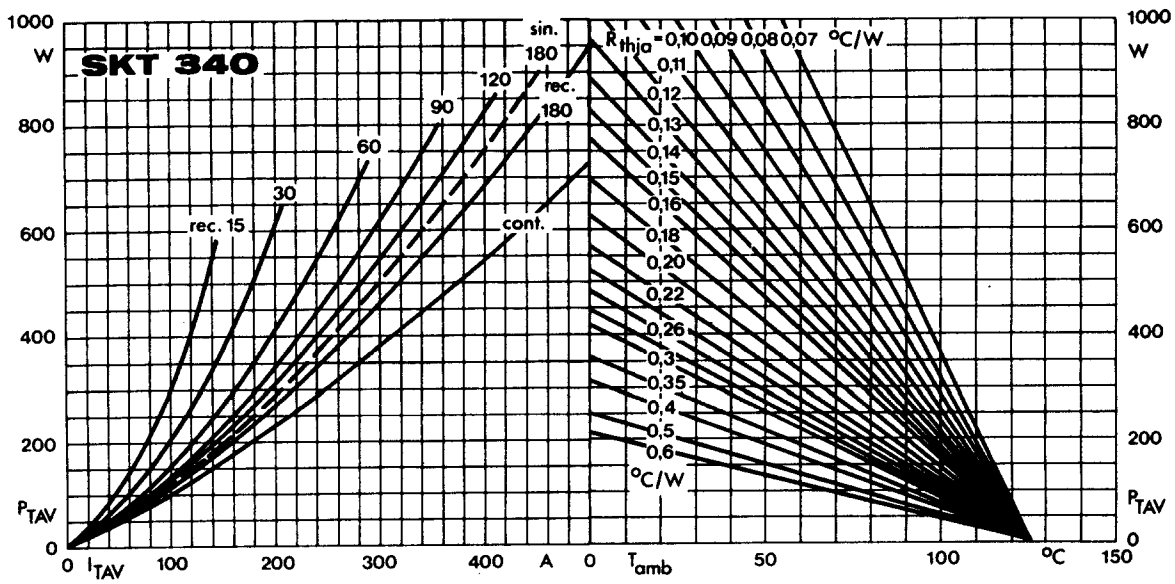


Fig. 1 b Power dissipation vs. on-state current and ambient temperature

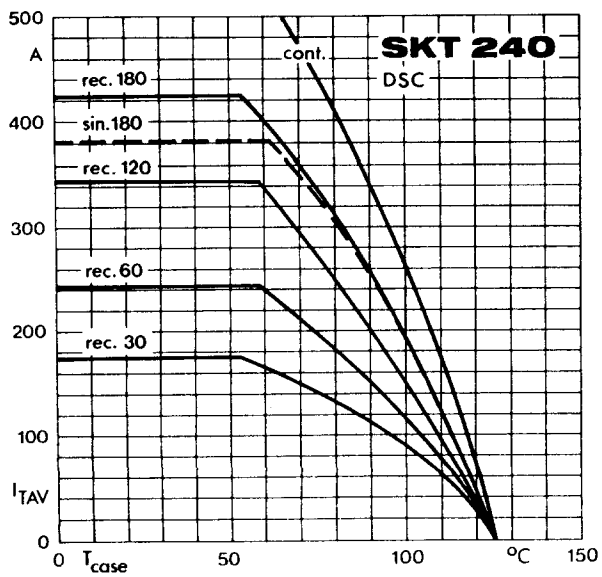


Fig. 2 a Rated on-state current vs. case temperature

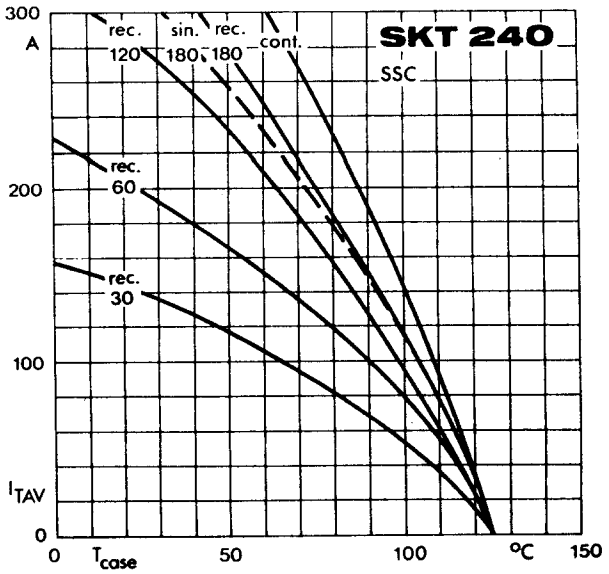


Fig. 2 b Rated on-state current vs. case temperature

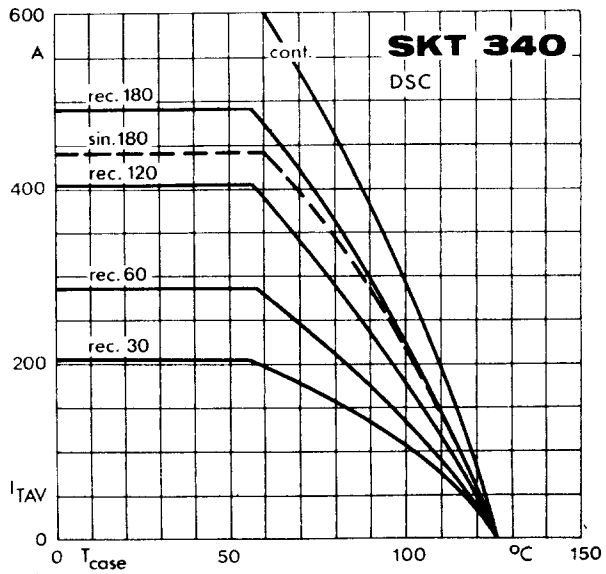


Fig. 2 c Rated on-state current vs. case temperature

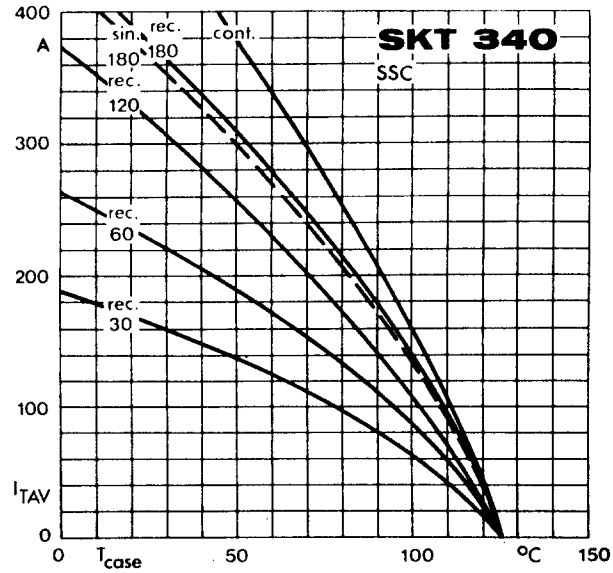


Fig. 2 d Rated on-state current vs. case temperature

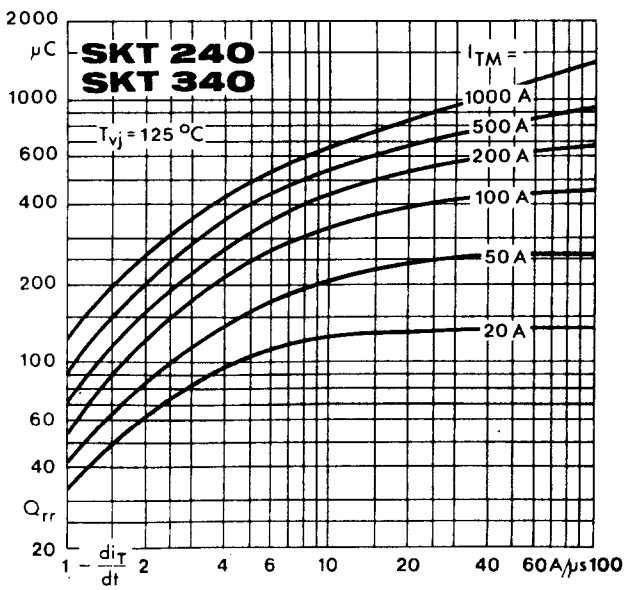
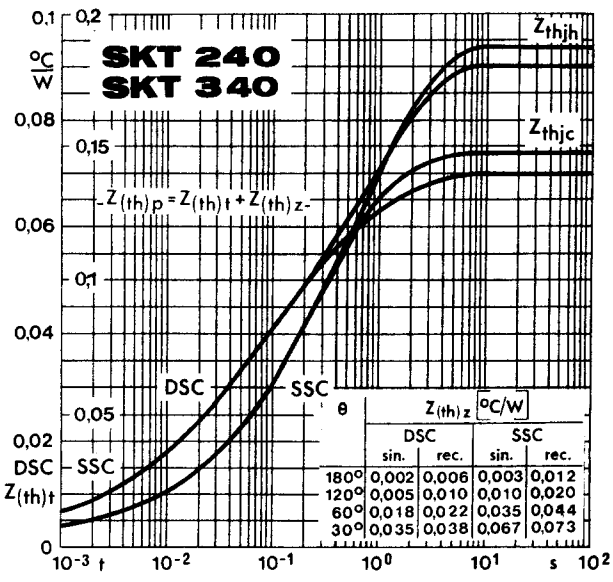


Fig. 3 Recovered charge vs. current decrease



θ	$Z_{(th)z}$ °C/W			
	DSC		SSC	
	sin.	rec.	sin.	rec.
180°	0,002	0,006	0,003	0,012
120°	0,005	0,010	0,010	0,020
60°	0,018	0,022	0,035	0,044
30°	0,035	0,038	0,067	0,073

Fig. 4 Transient thermal impedance vs. time

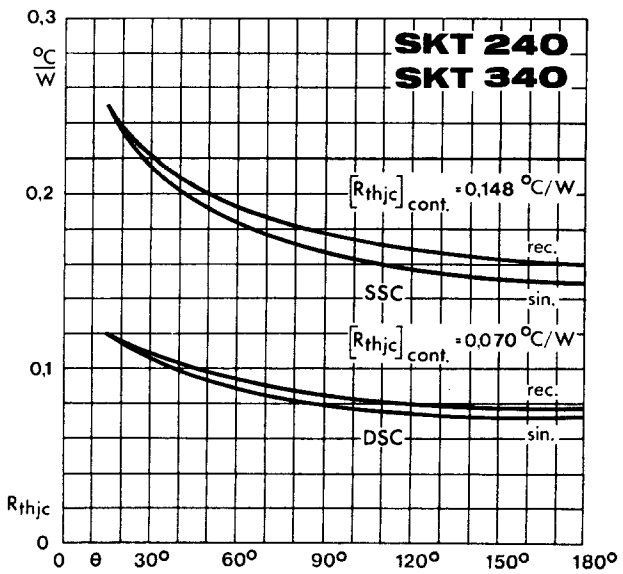


Fig. 5 Thermal resistance vs. conduction angle

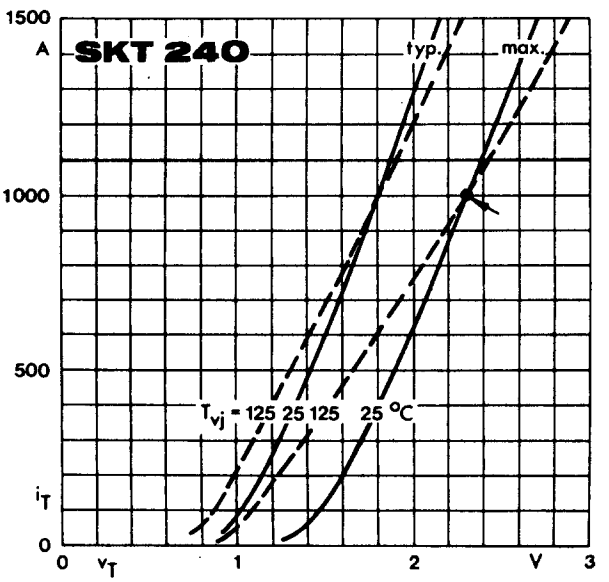


Fig. 6 a On-state characteristics

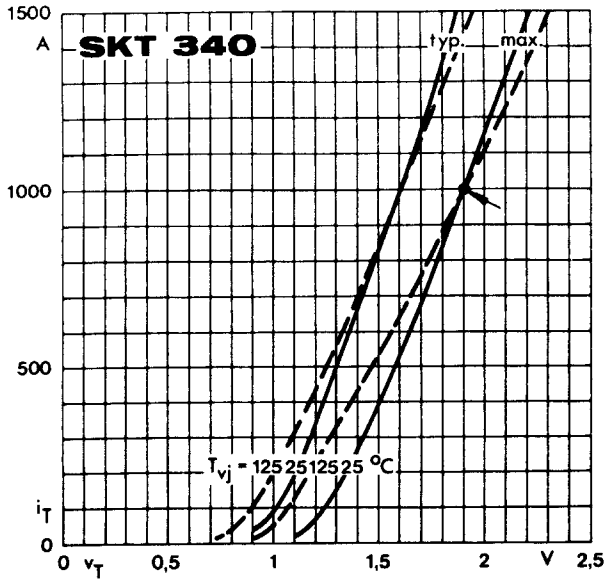


Fig. 6 b On-state characteristics

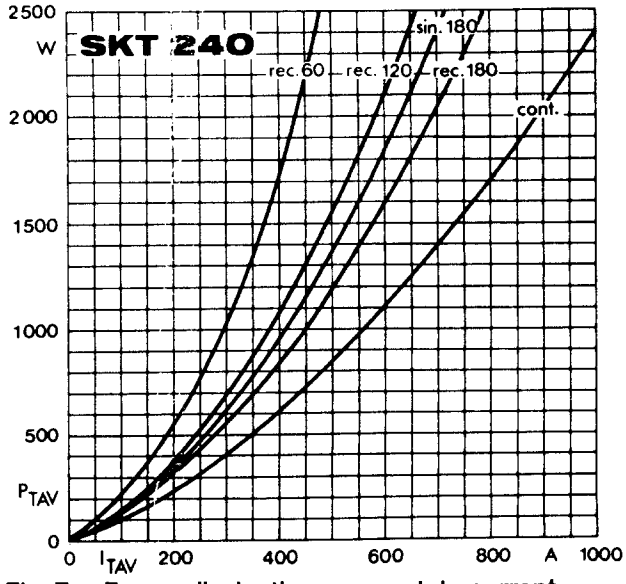


Fig. 7 a Power dissipation vs. on-state current

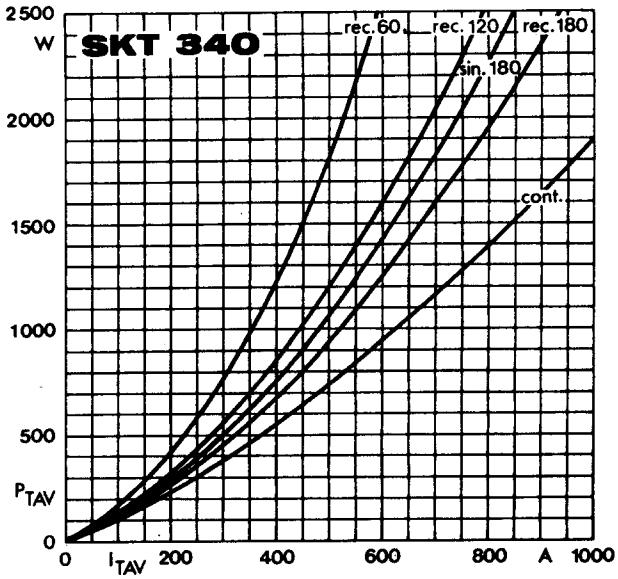


Fig. 7 b Power dissipation vs. on-state current

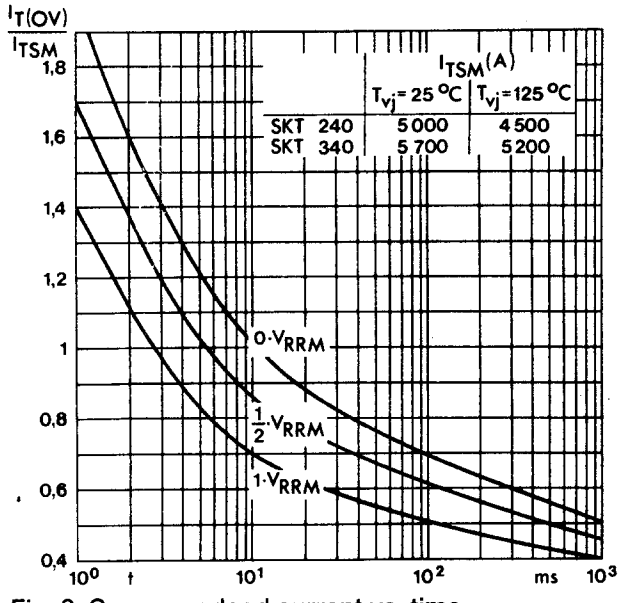


Fig. 8 Surge overload current vs. time

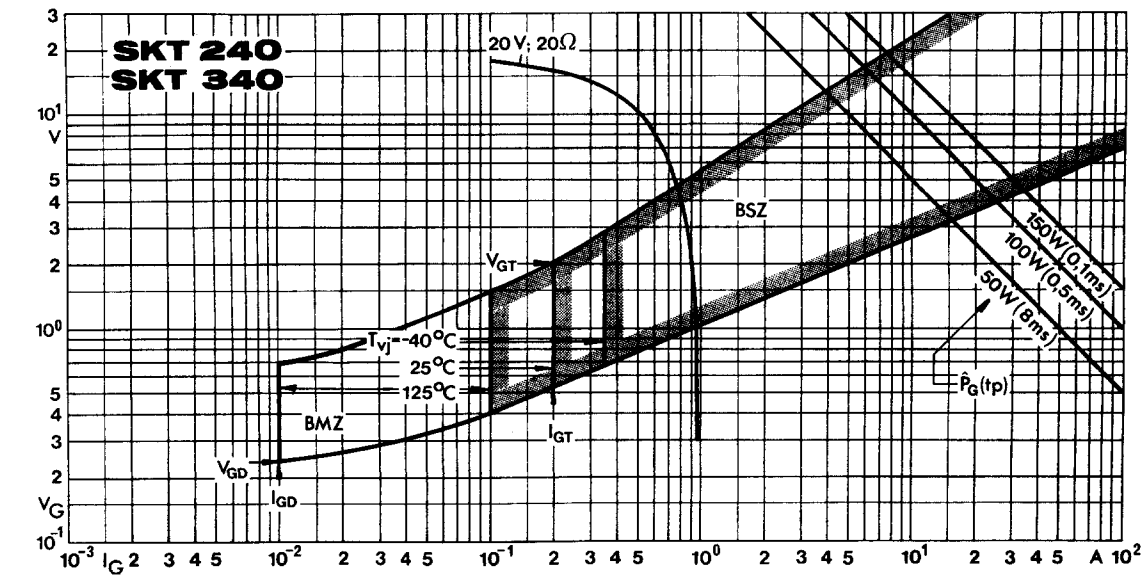
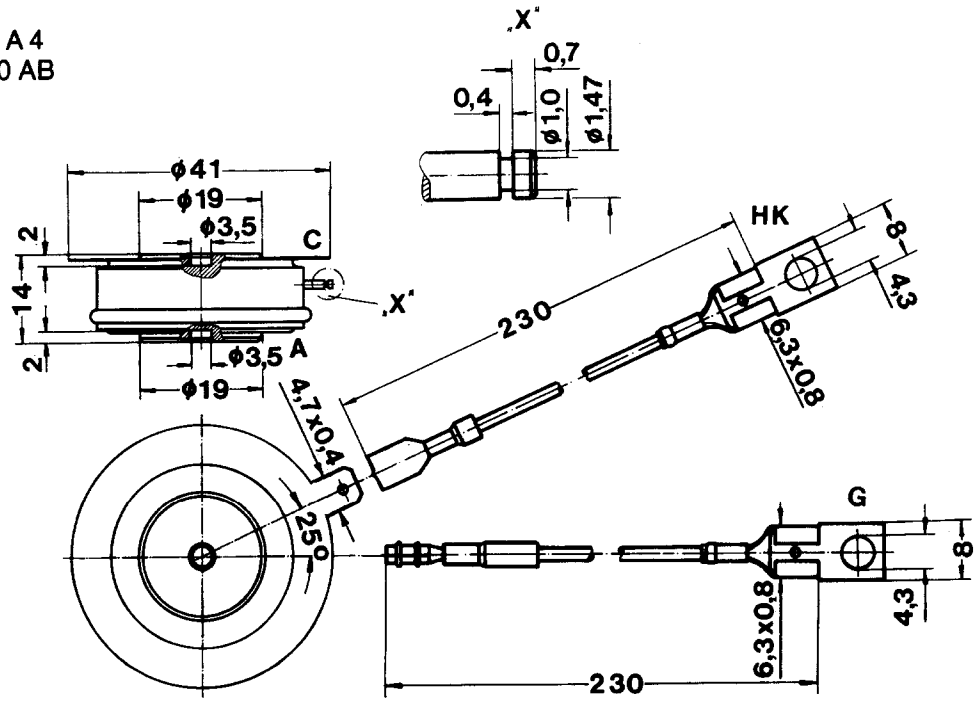


Fig. 9 Gate trigger characteristics

SKT 240
SKT 340

Case B 8

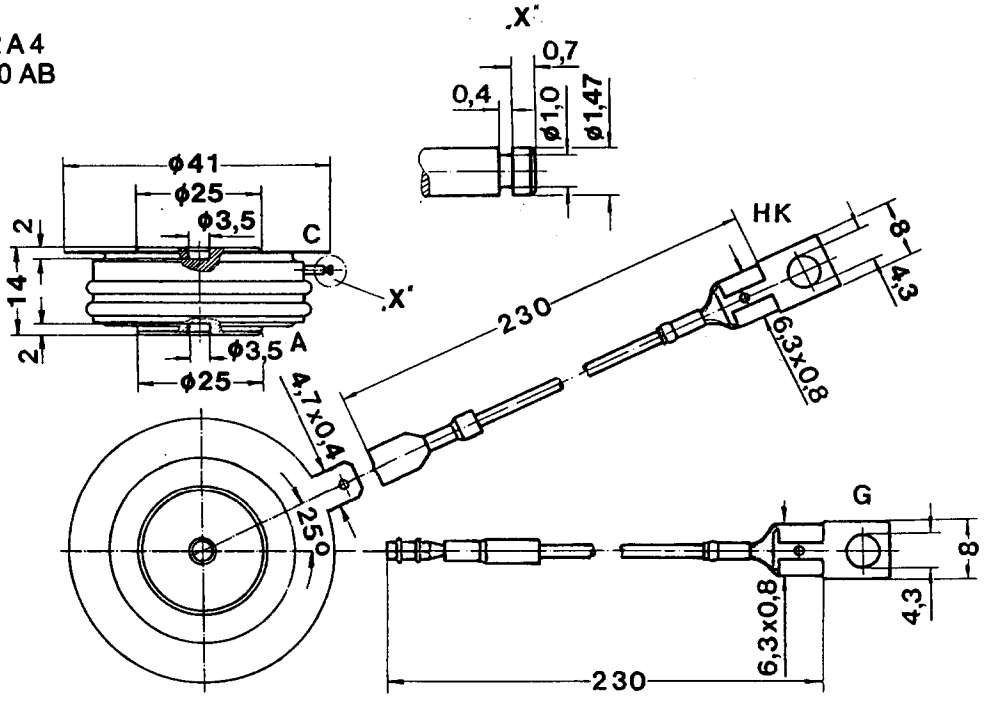
DIN 41814: 151 A 4
JEDEC: TO-200 AB



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