

Thyristors

SKT 1400 SKT 2000



V _{RSM}	V _{RRM} V _{DRM}	$\left(\frac{dv}{dt}\right)_{cr}$	I _{TRMS} (maximum values for continuous operation)	
			3000 A	5000 A
V	V	V/μs	I _{TAV} (sin. 180; T _{case} = ... ; DSC)	
			1500 A (55 °C)	2450 A (55 °C)
2300	2200	1000	–	SKT 2000/22 E
2700	2600	1000	SKT 1400/26 E	SKT 2000/26 E
2900	2800	1000	SKT 1400/28 E	SKT 2000/28 E
3300	3200	1000	SKT 1400/32 E	–
3700	3600	1000	SKT 1400/36 E	–

Symbol	Conditions	SKT 1400	SKT 2000
I _{TAV}	sin. 180; (T _{case} = ...); DSC	1400 A (62 °C)	2000 A (72 °C)
I _{TSM}	T _{vj} = 25 °C T _{vj} = 125 °C	29 000 A 25 000 A	45 000 A 39 000 A
i ² t	T _{vj} = 25 °C T _{vj} = 125 °C	4 200 000 A ² s 3 125 000 A ² s	10 125 000 A ² s 7 600 000 A ² s
t _{gd} t _{gr} (di/dt) _{cr} I _H I _L t _q	T _{vj} = 25 °C; I _G = 1 A; di _G /dt = 1 A/μs V _D = 0,67 · V _{DRM} f = 50 ... 60 Hz T _{vj} = 25 °C; typ./max. T _{vj} = 25 °C; typ./max. T _{vj} = 125 °C; typ.	typ. 1 μs typ. 2 μs 150 A/μs 500 mA/1 A 2 A/5 A 200 ... 300 μs	
V _T V _{T(TO)} r _T I _{DD} , I _{RD}	T _{vj} = 25 °C; I _T = 3000 A; max. T _{vj} = 125 °C T _{vj} = 125 °C T _{vj} = 125 °C; V _{DD} = V _{DRM} ; V _{RD} = V _{RRM}	2,1 V 1,04 V 0,35 mΩ 100 mA	1,8 V 1,09 V 0,236 mΩ 100 mA
V _{GT} I _{GT} V _{GD} I _{GD}	T _{vj} = 25 °C T _{vj} = 25 °C T _{vj} = 125 °C T _{vj} = 125 °C	3 V 300 mA 0,25 V 10 mA	
R _{thjc} R _{thch} T _{vj} T _{stg}	cont. DSC sin. 180; DSC/SSC rec. 120; DSC/SSC DCS/SSC	} °C/W 0,018 0,0185/0,039 0,020/0,041 0,003/0,006 – 40 ... +125 °C – 40 ... +130 °C	
F w	SI units US units	27 ... 34 kN 6000 ... 7600 lbs.	37 ... 47 kN 8000 ... 10000 lbs.
Case		B 19	B 20

Features

- Hermetic metal cases with ceramic insulators
- Amplifying gates
- Capsule packages for double sided cooling
- Shallow design with single sided cooling
- Off-state and reverse voltages up to 3600 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)
- Soft starters for AC motors

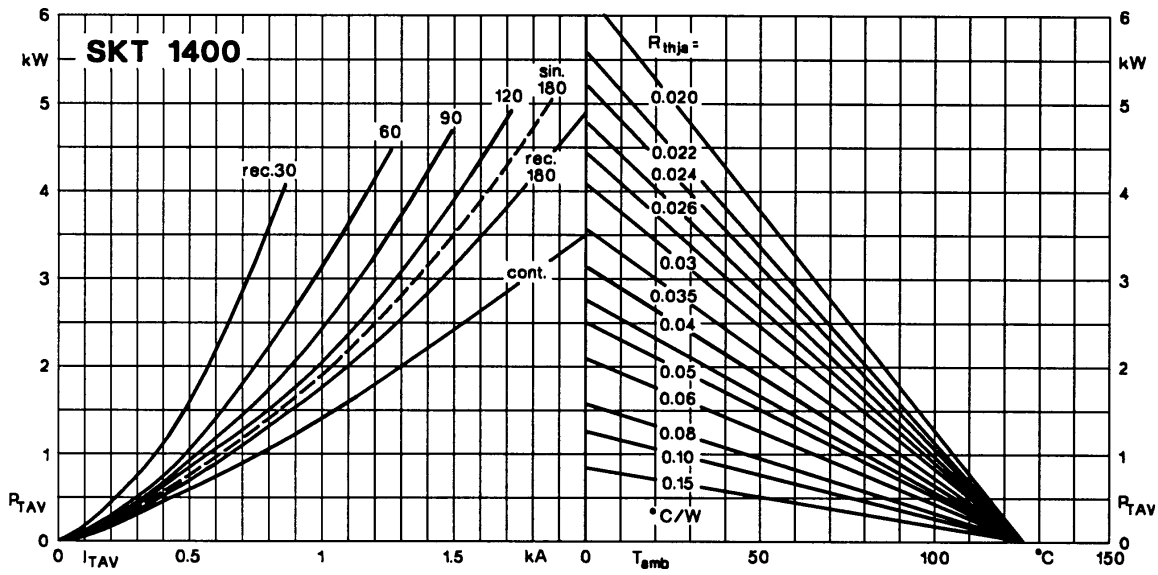


Fig. 1 a Power dissipation vs. on-state current and ambient temperature

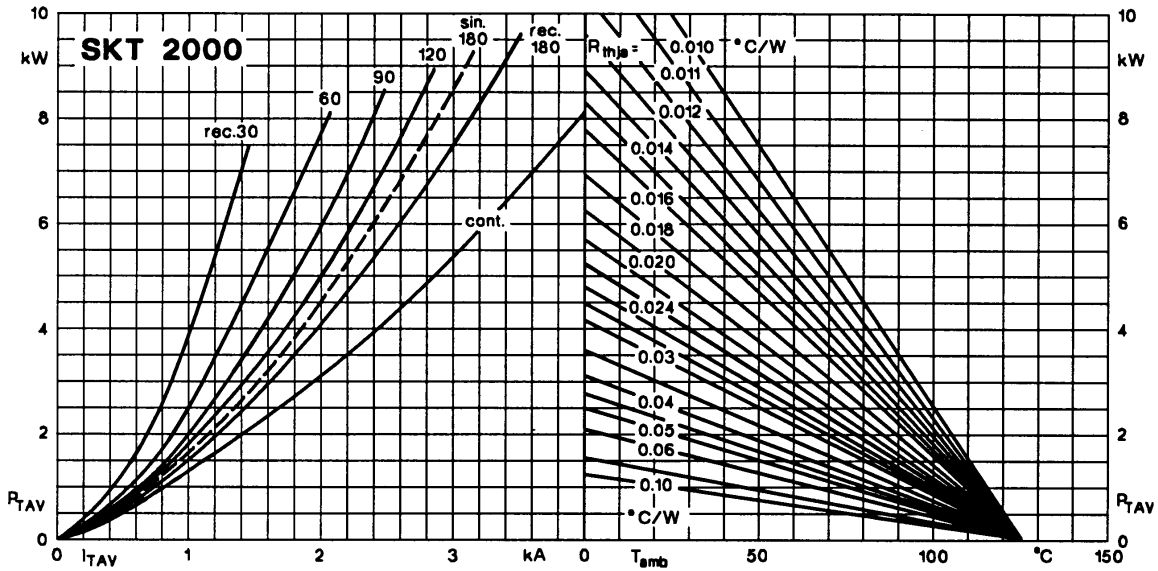


Fig. 1 b Power dissipation vs. on-state current and ambient temperature

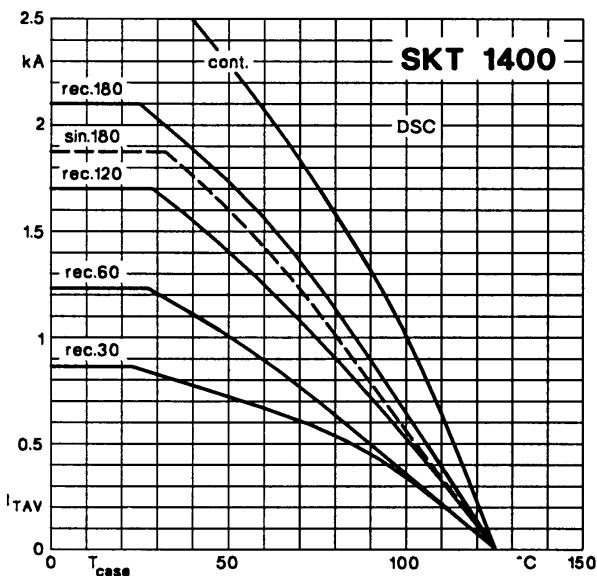


Fig. 2 a Rated on-state current vs. case temperature

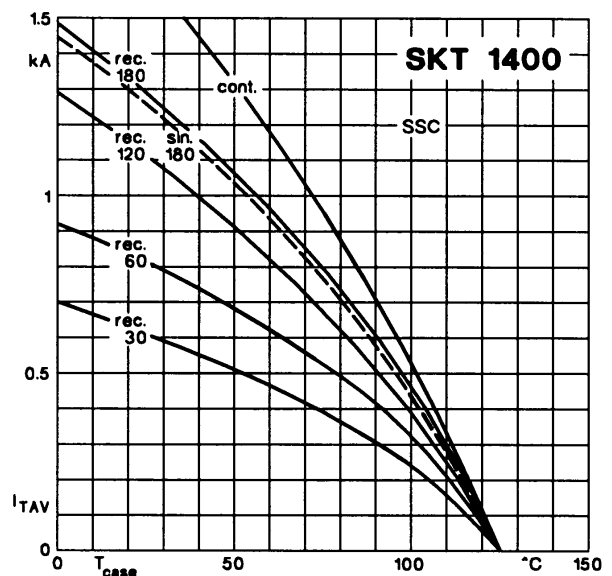


Fig. 2 b Rated on-state current vs. case temperature

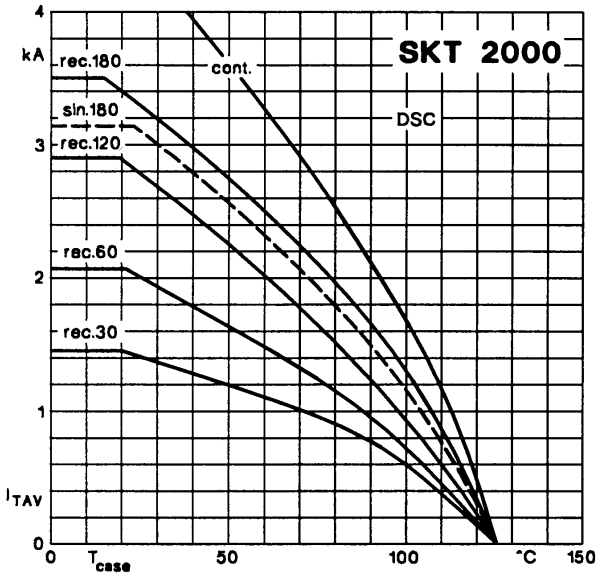


Fig. 2 c Rated on-state current vs. case temperature

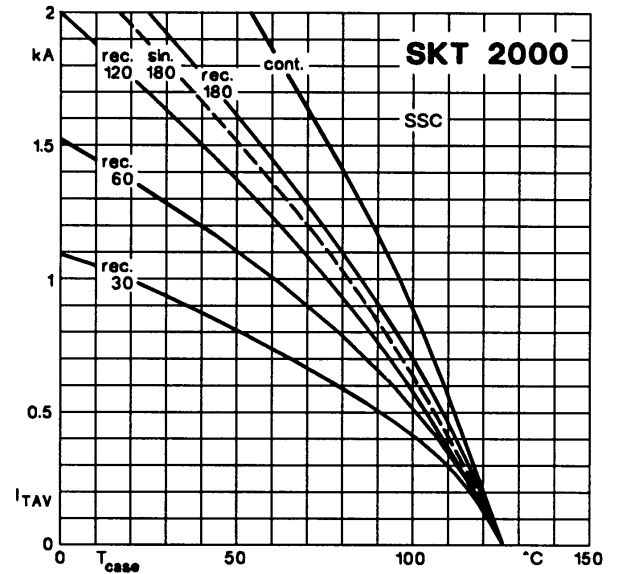


Fig. 2 d Rated on-state current vs. case temperature

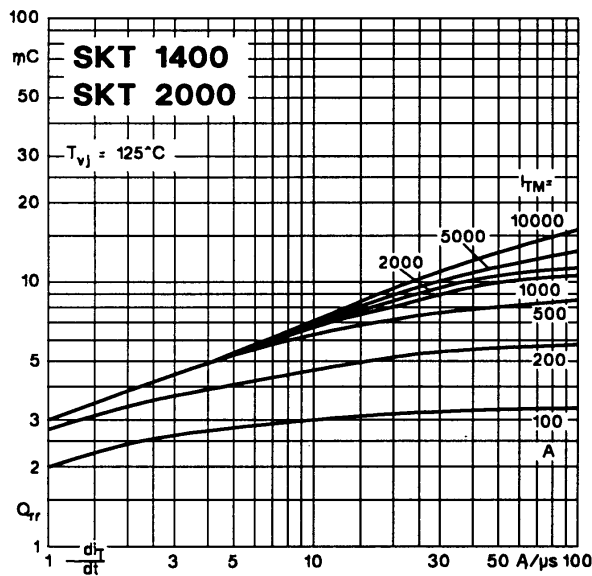


Fig. 3 Recovered charge vs. current decrease

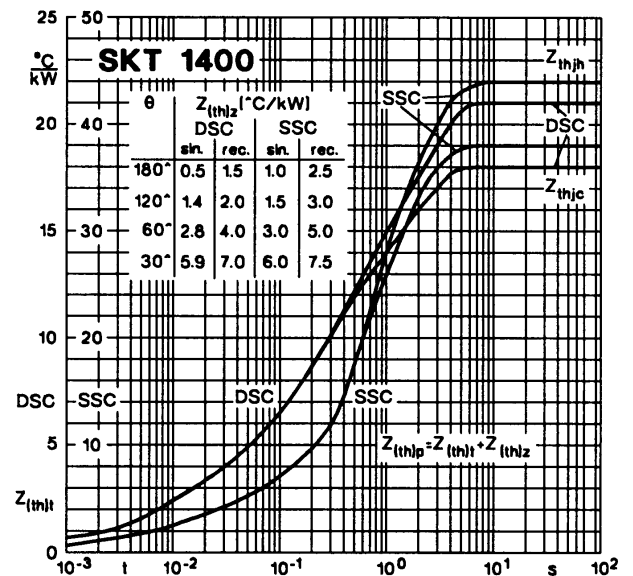


Fig. 4 a Transient thermal impedance vs. time

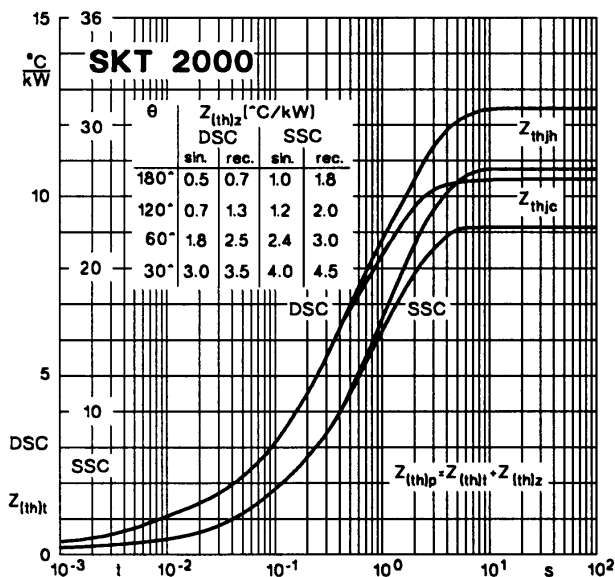


Fig. 4 b Transient thermal impedance vs. time

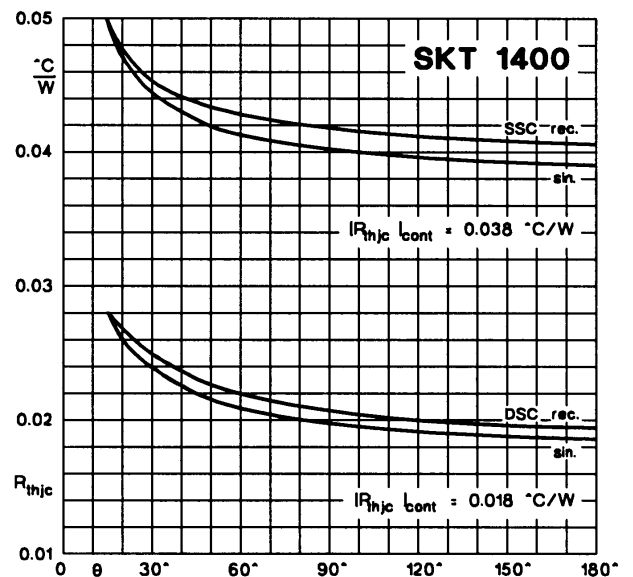


Fig. 5 a Thermal resistance vs. conduction angle

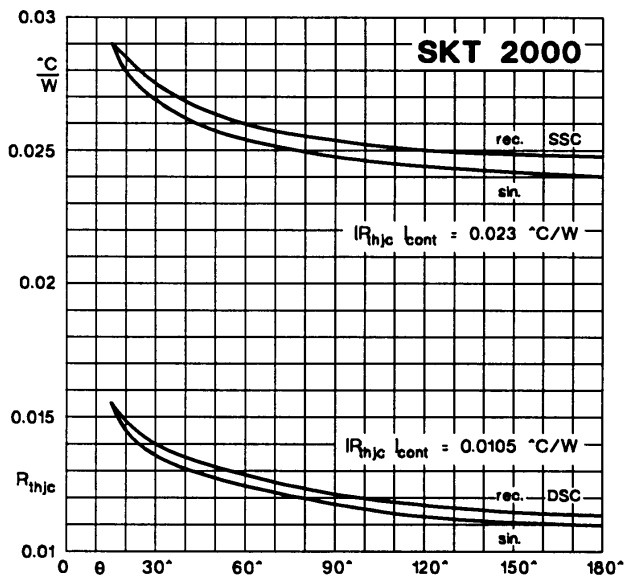


Fig. 5 b Thermal resistance vs. conduction angle

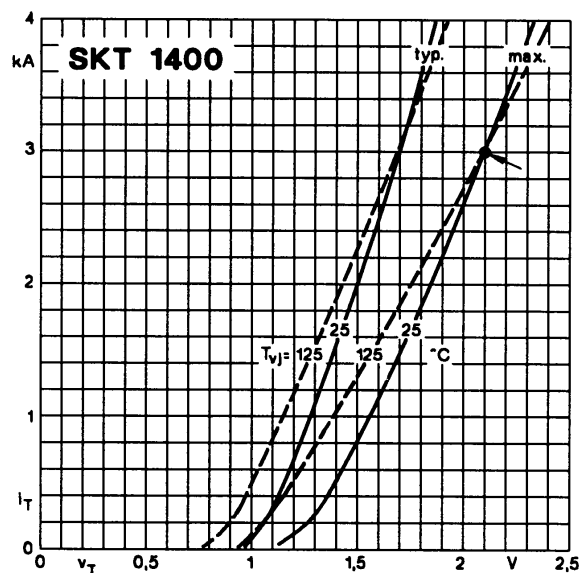


Fig. 6 a On-state characteristics

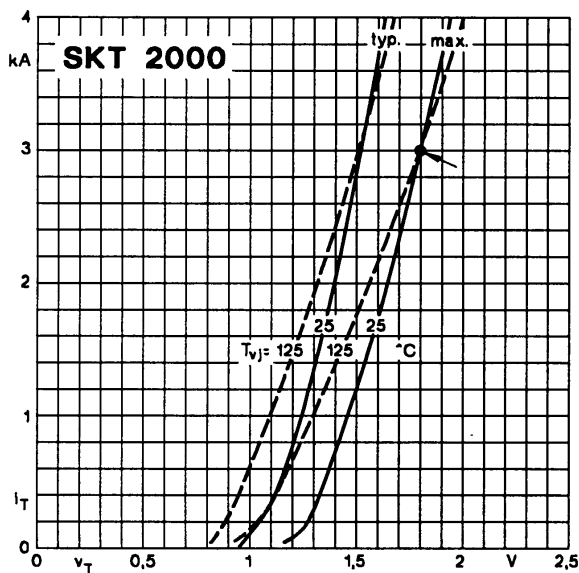


Fig. 6 b On-state characteristics

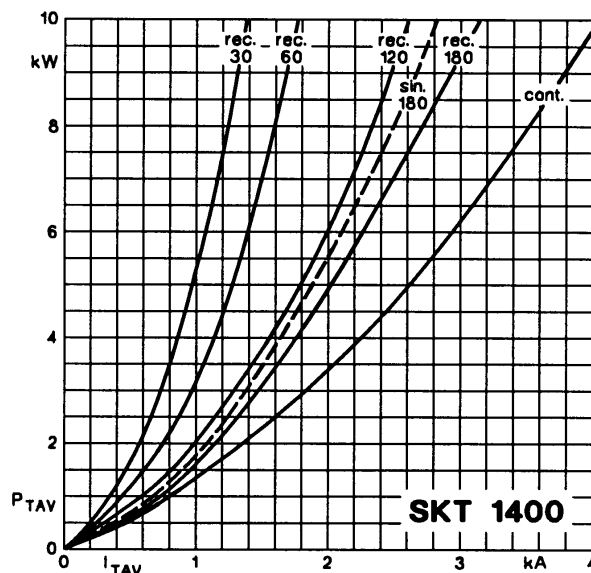


Fig. 7 a Power dissipation vs. on-state current

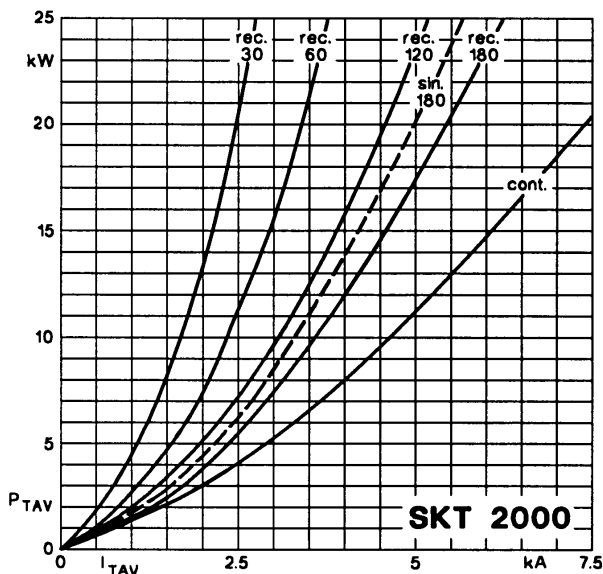


Fig. 7 b Power dissipation vs. on-state current

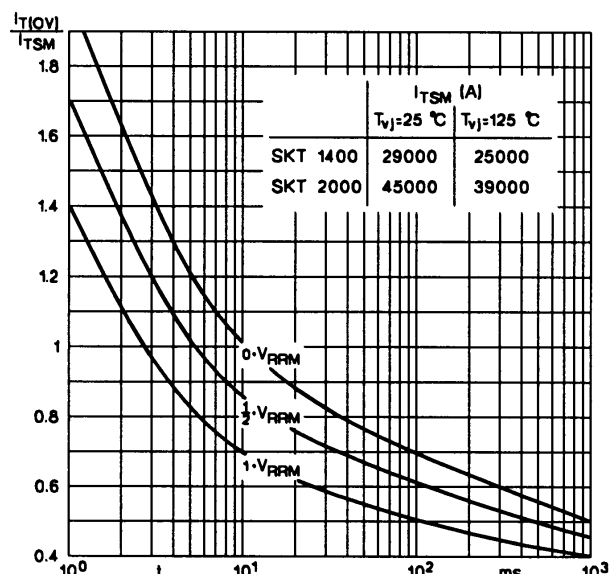


Fig. 8 Surge overload current vs. time

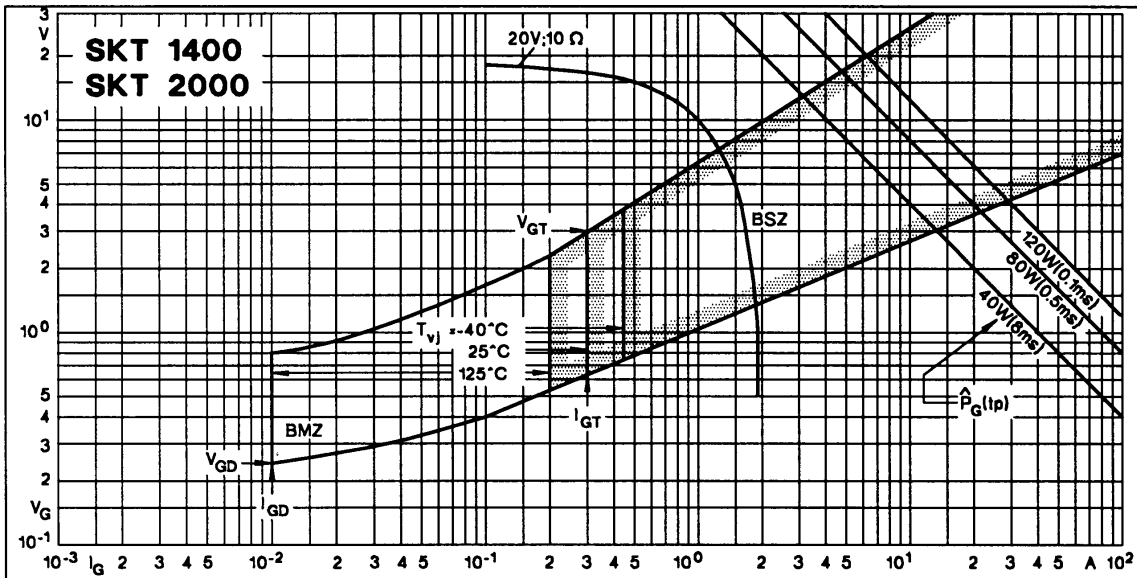
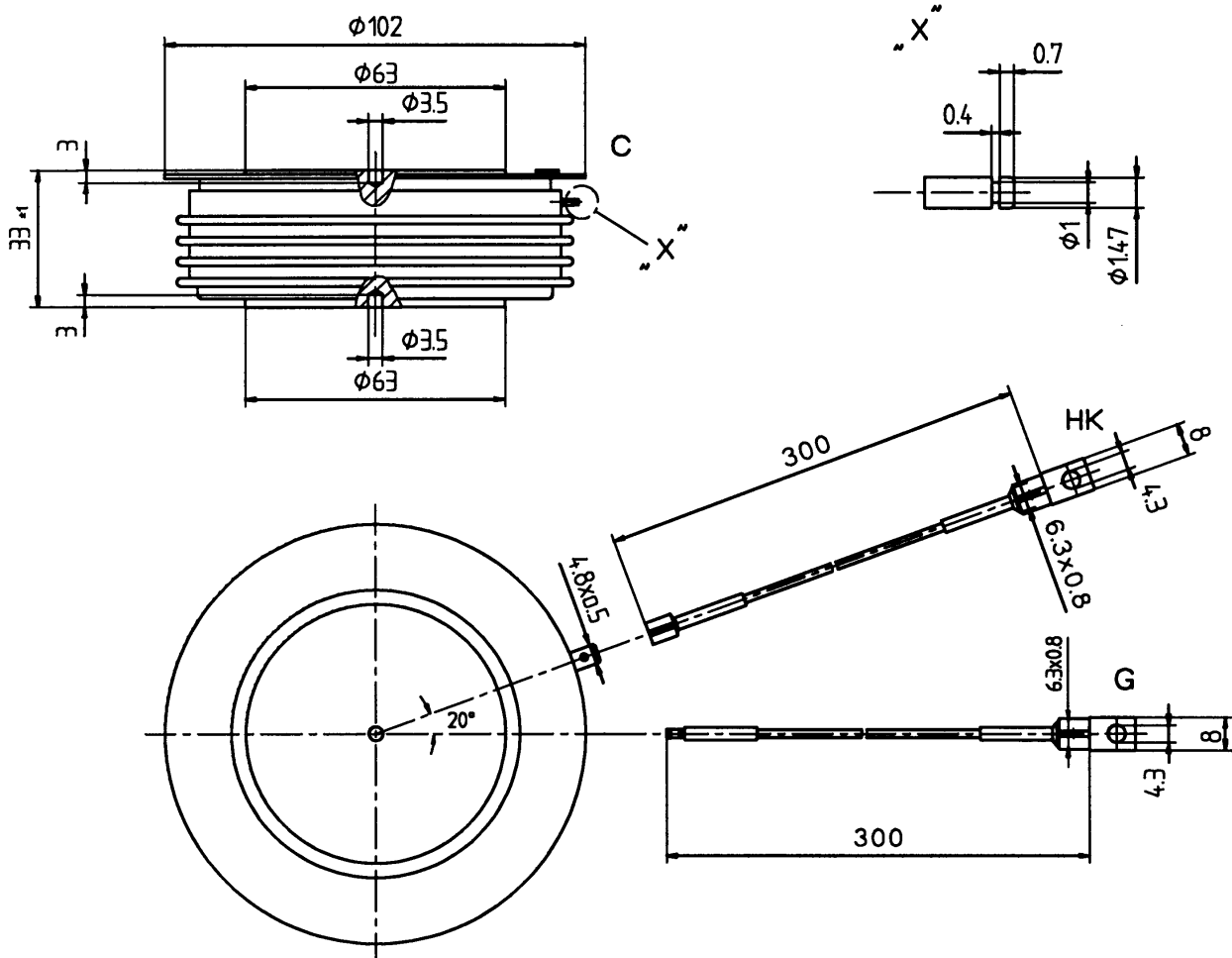


Fig. 9 Gate trigger characteristics

SKT 1400

Case B 19



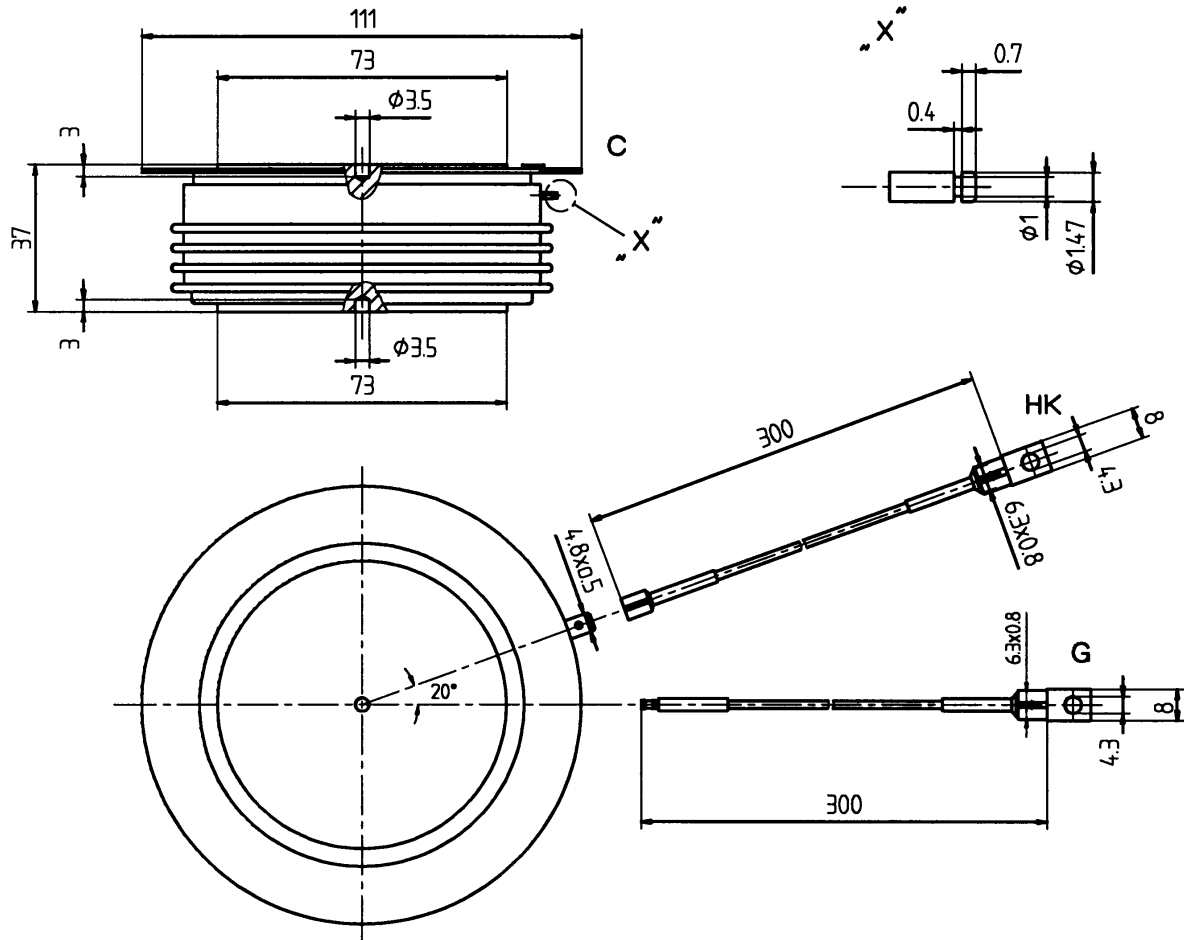
- C: Cathode terminal
- A: Anode terminal
- G: Gate terminal (yellow sleeve)
- HK: Auxiliary cathode terminal (red sleeve)

Dimensions in mm

SKT 2000

Case B 20

JEDEC: TO-200 AF



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

Dimensions in mm