

Thyristors

SKT 600 SKT 760



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
- 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)

| V_{RSM} | V_{RRM} V_{DRM} | $(dv/dt)_{cr}$ | I_{TRMS} (maximum values for continuous operation) | |
|-----------|------------------------|----------------|--|---------------------|
| | | | 1400 A | 1600 A |
| V | V | V/ μ s | I_{TAV} (sin. 180; $T_{case} = \dots$; DSC) | |
| | | | 890 A (57 °C) | 1020 A (56 °C) |
| 500 | 400 | 500 | SKT 600/04 D | SKT 760/04 D |
| 900 | 800 | 500 | SKT 600/08 D | SKT 760/08 D |
| 1300 | 1200 | 1000 | SKT 600/12 E | SKT 760/12 E |
| 1500 | 1400 | 1000 | SKT 600/14 E | SKT 760/14 E |
| 1700 | 1600 | 1000 | SKT 600/16 E | SKT 760/16 E |
| 1900 | 1800 | 1000 | SKT 600/18 E | SKT 760/18 E |

| Symbol | Conditions | SKT 600 | SKT 760 | Units |
|---|--|--|---------------------|--|
| I_{TAV} | sin. 180; ($T_{case} = \dots$); DSC | 600 (85) | 760 (80) | A °C |
| I_{TSM} | $T_{vj} = 25\text{ °C}; 10\text{ ms}$ $T_{vj} = 125\text{ °C}; 10\text{ ms}$ | 11 500 10 000 | 15 000 13 000 | A A |
| i^2t | $T_{vj} = 25\text{ °C}; 8,3 \dots 10\text{ ms}$ $T_{vj} = 125\text{ °C}; 8,3 \dots 10\text{ ms}$ | 660 500 | 1 125 845 | kA^2s kA^2s |
| t_{gd} t_{gr} $(di/dt)_{cr}$ I_H I_L t_q | $T_{vj} = 25\text{ °C}$ $I_G = 1\text{ A}$ $di_G/dt = 1\text{ A}/\mu s$ $V_D = 0,67 \cdot V_{DRM}$ $f = 50 \dots 60\text{ Hz}$ $T_{vj} = 25\text{ °C}; \text{typ./max.}$ $T_{vj} = 25\text{ °C}; \text{typ./max.}$ $T_{vj} = 125\text{ °C}; \text{typ.}$ | typ. 1 typ. 2 125 150 / 500 0,5 / 2 100 ... 200 | | μs μs A/ μs mA A μs |
| V_T $V_{T(TO)}$ r_T $I_{DD}; I_{RD}$ | $T_{vj} = 25\text{ °C}; I_T = 2400\text{ A}; \text{max.}$ $T_{vj} = 125\text{ °C}$ $T_{vj} = 125\text{ °C}$ $T_{vj} = 125\text{ °C}; V_{RD} = V_{RRM}$ $V_{DD} = V_{DRM}$ | 2,0 1,0 0,4 | 1,65 0,92 0,3 | V V m Ω mA |
| V_{GT} I_{GT} V_{GD} I_{GD} | $T_{vj} = 25\text{ °C}$ $T_{vj} = 25\text{ °C}$ $T_{vj} = 125\text{ °C}$ $T_{vj} = 125\text{ °C}$ | 3 200 0,25 10 | | V mA V mA |
| R_{thjc} R_{thch} T_{vj} T_{stg} | cont. DSC sin. 180; DSC/SSC rec. 120; DSC/SSC DSC/SSC | 0,038 0,040 / 0,082 0,045 / 0,093 0,007 / 0,014 - 40 ... + 125 - 40 ... + 130 | | °C/W °C/W °C/W °C/W °C °C |
| F w | SI units US units | 10 ... 13 2200 ... 2850 | | kN lbs. g |
| Case | | B 10 | | |

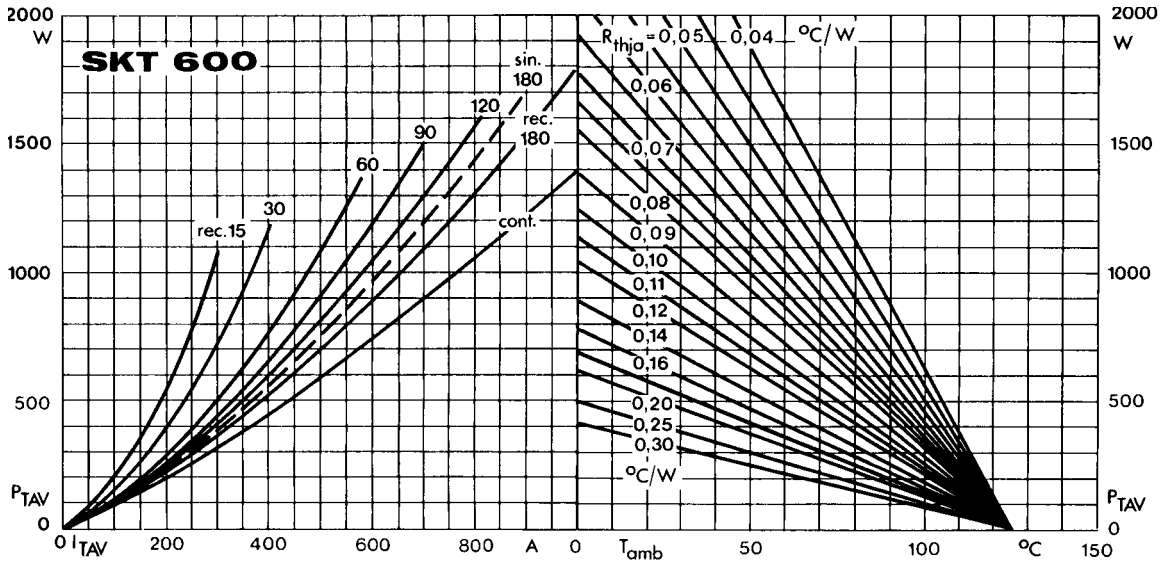


Fig. 1 a Power dissipation vs. on-state current and ambient temperature

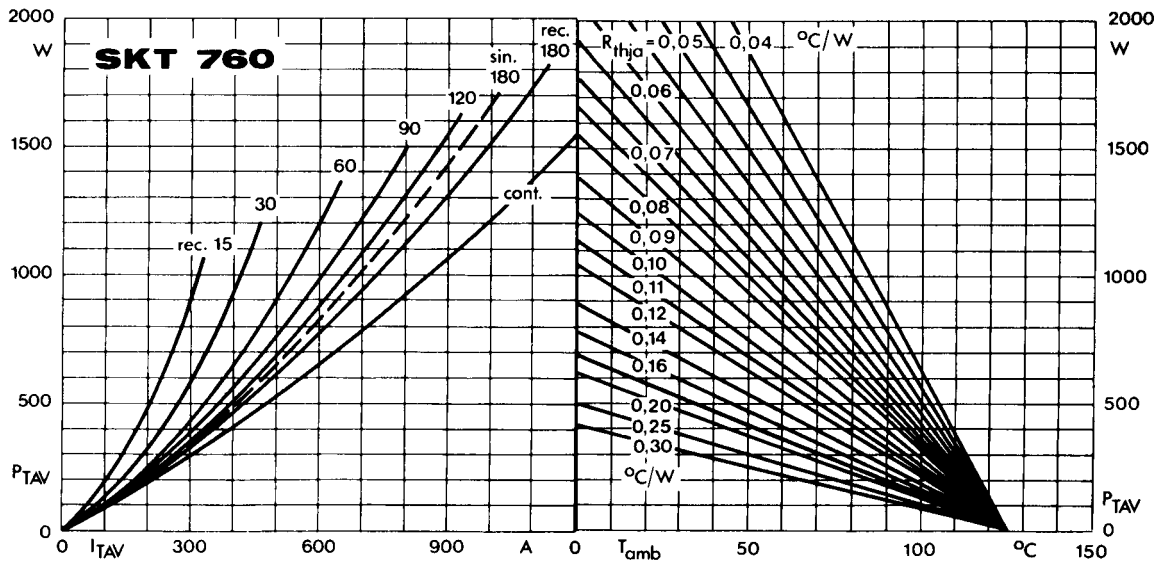


Fig. 1 b Power dissipation vs. on-state current and ambient temperature

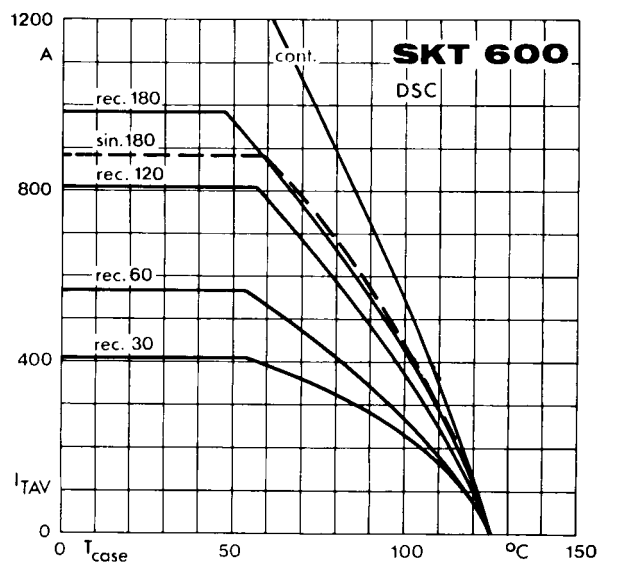


Fig. 2 a Rated on-state current vs. case temperature

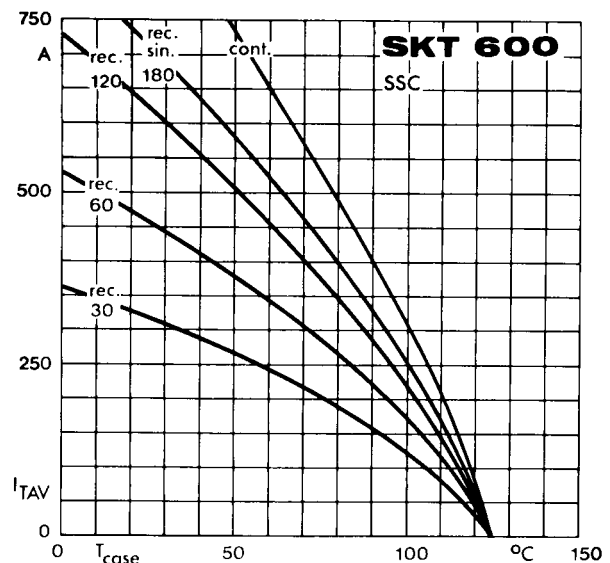


Fig. 2 b Rated on-state current vs. case temperature

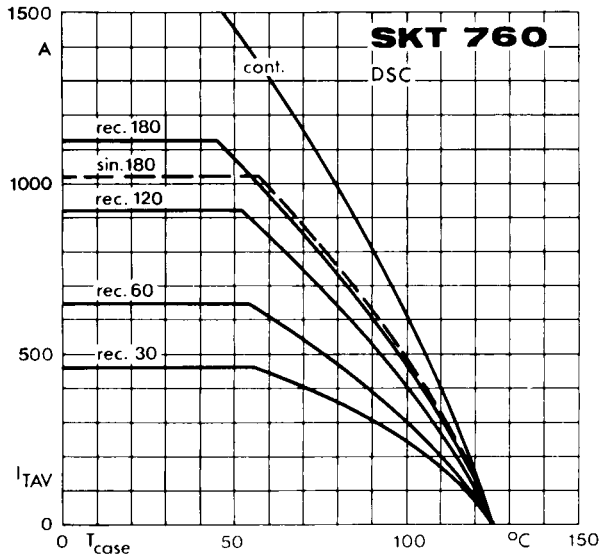


Fig. 2 c Rated on-state current vs. case temperature

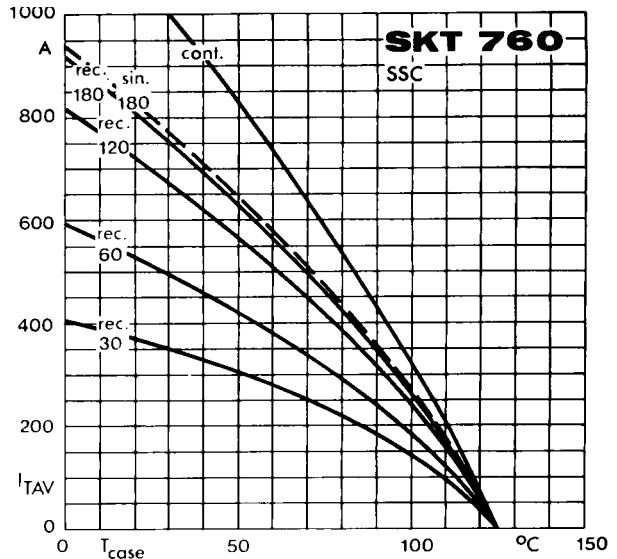


Fig. 2 d Rated on-state current vs. case temperature

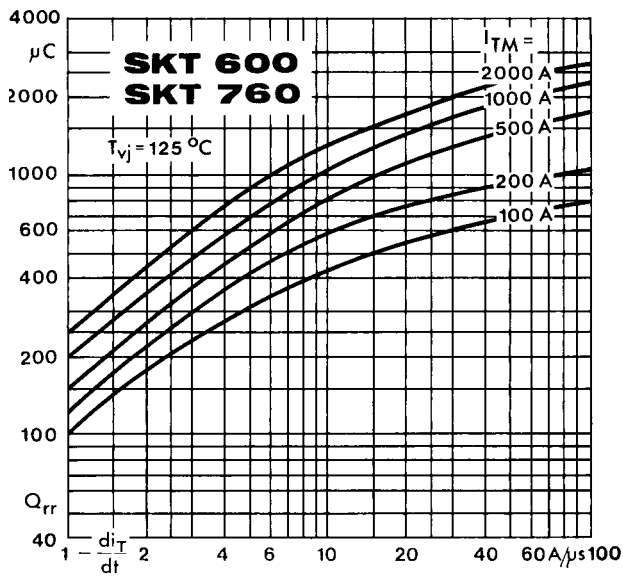


Fig. 3 Recovered charge vs. current decrease

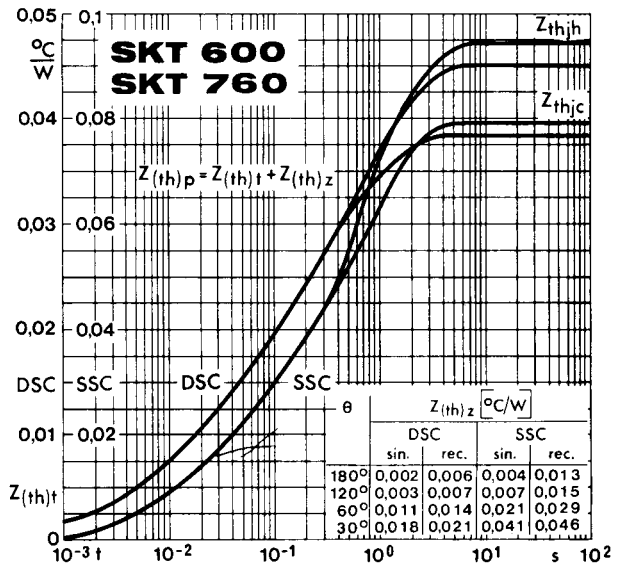


Fig. 4 Transient thermal impedance vs. time

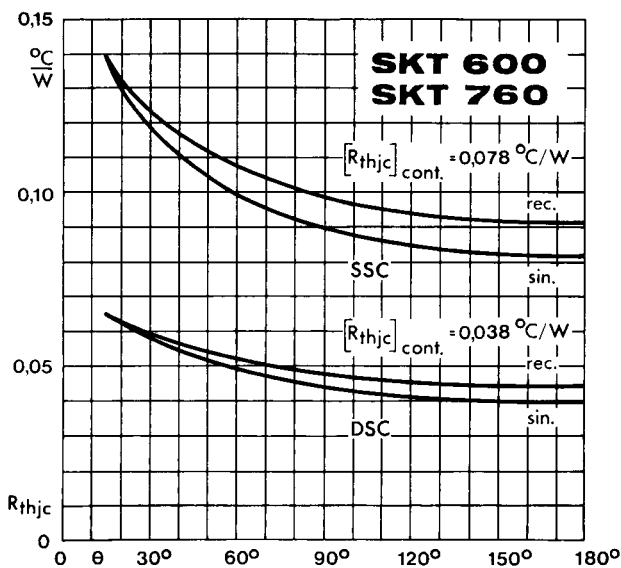


Fig. 5 Thermal resistance vs. conduction angle

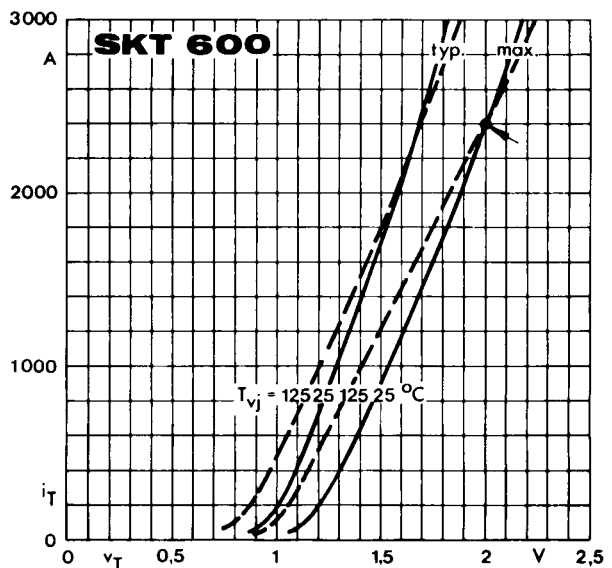


Fig. 6 a On-state characteristics

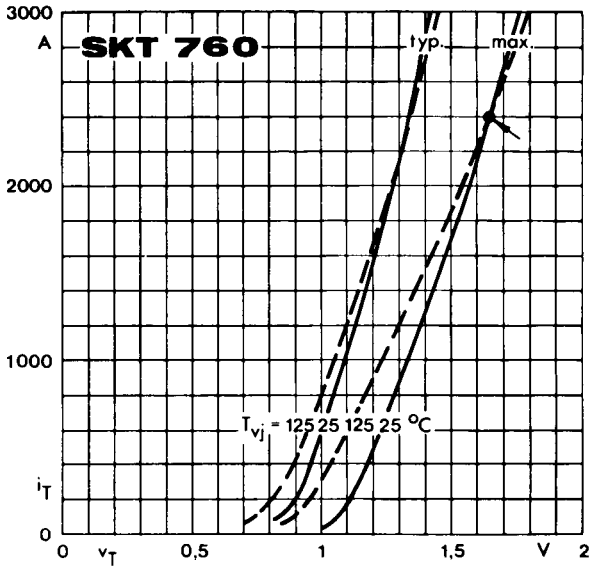


Fig. 6 b On-state characteristics

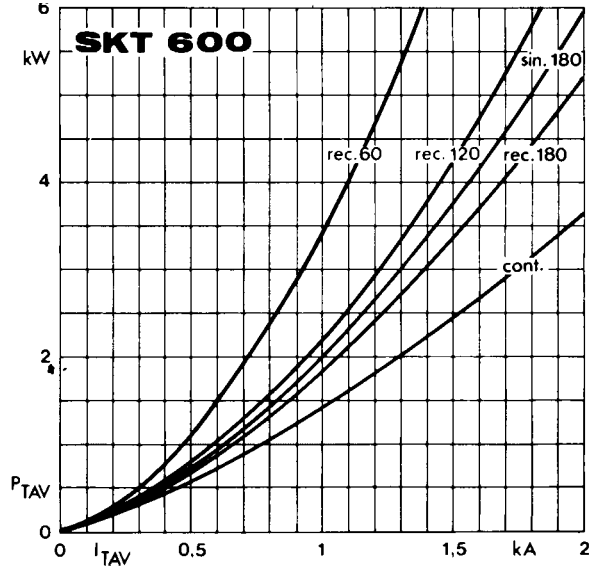


Fig. 7 a Power dissipation vs. on-state current

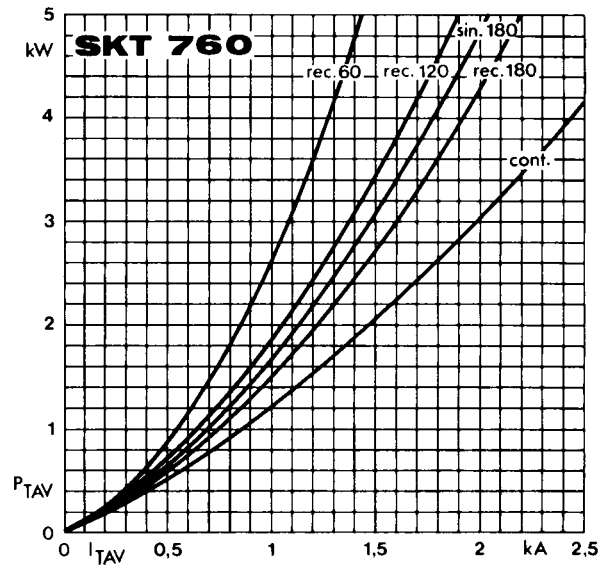


Fig. 7 b Power dissipation vs. on-state current

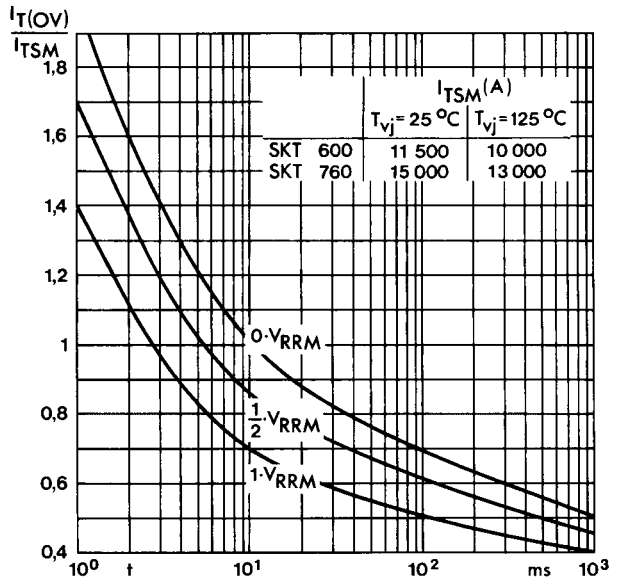


Fig. 8 Surge overload current vs. time

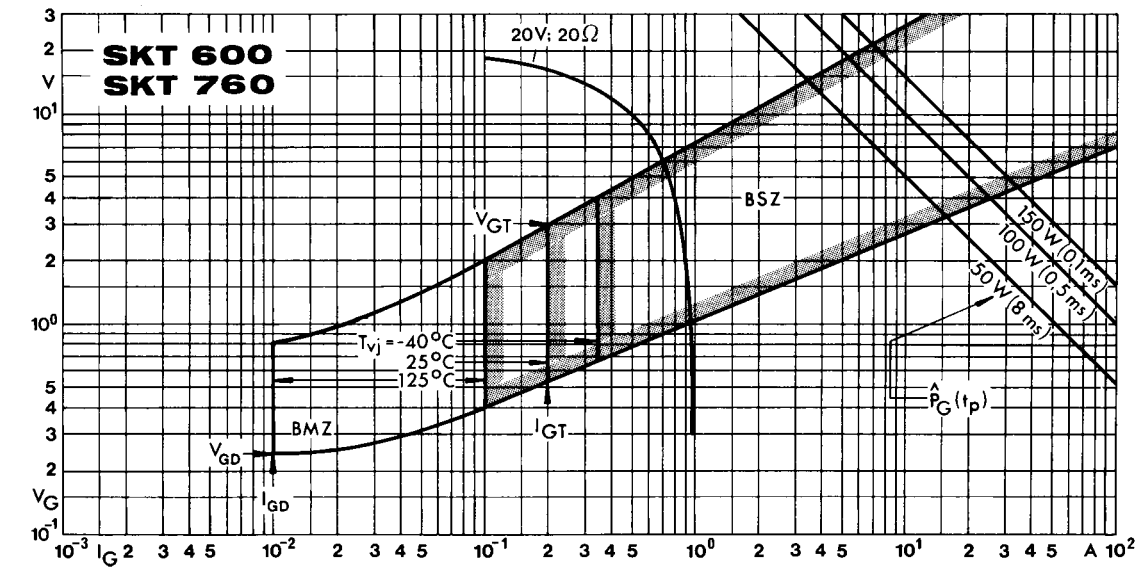


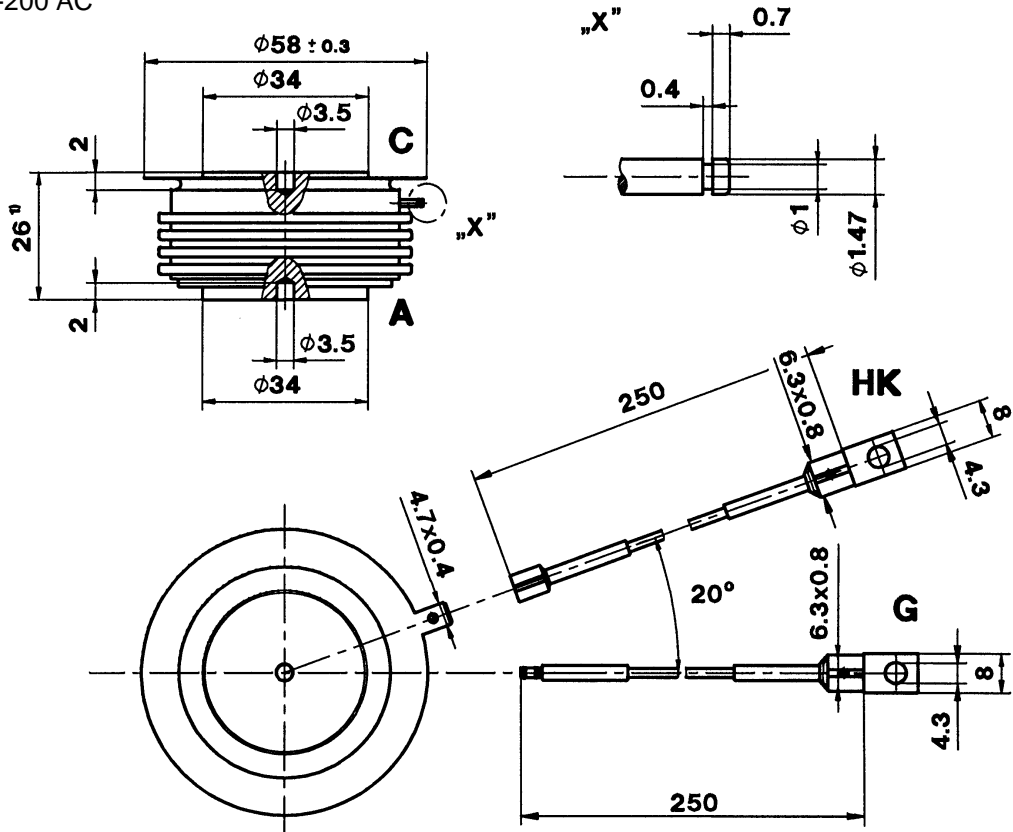
Fig. 9 Gate trigger characteristics

SKT 520
 SKT 600
 SKT 760

Case B 10

DIN 41814: 153 C 4

JEDEC: TO-200 AC



¹⁾ SKT 520/24 E } 27 mm
 SKT 520/28 E }

Dimensions in mm

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