

| $V_{RSM}$ | $V_{RRM}$<br>$V_{DRM}$ | $(\frac{dv}{dt})_{cr}$ | $I_{TRMS}$ (maximum values for continuous operation)           |                      |                       |
|-----------|------------------------|------------------------|----------------------------------------------------------------|----------------------|-----------------------|
|           |                        |                        | 110 A                                                          | 135 A                | 175 A                 |
| V         | V                      | V/ $\mu$ s             | $I_{TAV}$ (sin. 180; $T_{case} = 80\text{ }^{\circ}\text{C}$ ) |                      |                       |
|           |                        |                        | 70 A                                                           | 86 A                 | 110 A                 |
| 500       | 400                    | 500                    | SKT 55/04 D                                                    | –                    | SKT 100/04 D          |
| 700       | 600                    | 500                    | SKT 55/06 D                                                    | SKT 80/06 D*         | SKT 100/06 D*         |
| 900       | 800                    | 500                    | SKT 55/08 D                                                    | SKT 80/08 D          | SKT 100/08 D          |
| 1300      | 1200                   | 1000                   | SKT 55/12 E                                                    | SKT 80/12 E*         | SKT 100/12 E*         |
| 1500      | 1400                   | 1000                   | SKT 55/14 E                                                    | SKT 80/14 E          | SKT 100/14 E*         |
| 1700      | 1600                   | 1000                   | SKT 55/16 E                                                    | SKT 80/16 E*         | SKT 100/16 E*         |
| 1900      | 1800                   | 1000                   | SKT 55/18 E $\nabla$                                           | SKT 80/18 E $\nabla$ | SKT 100/18 E $\nabla$ |

## Thyristors

**SKT 55**  
**SKT 80**  
**SKT 100**



### Features

- Hermetic metal cases with ceramic insulators
- Threaded studs ISO M12 or UNF 1/2-20
- Interchangeable with international standard cases

### Typical Applications

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

| Symbol                            | Conditions                                                                                         | SKT 55             | SKT 80        | SKT 100       | Units            |
|-----------------------------------|----------------------------------------------------------------------------------------------------|--------------------|---------------|---------------|------------------|
| I <sub>TAV</sub>                  | sin. 180; (T <sub>case</sub> = . . . °C)                                                           | 55<br>(92)         | 80<br>(85)    | 100<br>(85)   | A<br>°C          |
| I <sub>TSM</sub>                  | T <sub>vj</sub> = 25 °C; 10 ms                                                                     | 1300               | 1700          | 2000          | A                |
|                                   | T <sub>vj</sub> = 130 °C; 10 ms                                                                    | 1100               | 1500          | 1750          | A                |
| i <sup>2</sup> t                  | T <sub>vj</sub> = 25 °C; 8,35 ... 10 ms                                                            | 8 500              | 14 500        | 20 000        | A <sup>2</sup> s |
|                                   | T <sub>vj</sub> = 130 °C; 8,35 ... 10 ms                                                           | 6 000              | 11 000        | 15 000        | A <sup>2</sup> s |
| t <sub>gd</sub>                   | T <sub>vj</sub> = 25 °C; I <sub>G</sub> = 1 A;<br>di <sub>G</sub> /dt = 1 A/μs                     | typ. 1             |               |               | μs               |
| t <sub>gr</sub>                   | V <sub>D</sub> = 0,67 · V <sub>DRM</sub>                                                           | typ. 2             |               |               | μs               |
| (di/dt) <sub>cr</sub>             | f = 50 ... 60 Hz                                                                                   | 50                 |               |               | A/μs             |
| I <sub>H</sub>                    | T <sub>vj</sub> = 25 °C                                                                            | typ. 150; max. 250 |               |               | mA               |
| I <sub>L</sub>                    | T <sub>vj</sub> = 25 °C                                                                            | typ. 300; max. 600 |               |               | mA               |
| t <sub>q</sub>                    | T <sub>vj</sub> = 130 °C; typ.                                                                     | 100                |               |               | μs               |
| V <sub>T</sub>                    | T <sub>vj</sub> = 25 °C; (I <sub>T</sub> = ...); max.                                              | 1,8<br>(200)       | 2,25<br>(300) | 1,75<br>(300) | V<br>A           |
| V <sub>T(TO)</sub>                | T <sub>vj</sub> = 130 °C                                                                           | 0,9                | 1,2           | 1,0           | V                |
| r <sub>T</sub>                    | T <sub>vj</sub> = 130 °C                                                                           | 4                  | 4             | 2,4           | mΩ               |
| I <sub>DD</sub> , I <sub>RD</sub> | T <sub>vj</sub> = 130 °C; V <sub>DD</sub> = V <sub>DRM</sub><br>V <sub>RD</sub> = V <sub>RRM</sub> | 25                 | 30            | 30            | mA               |
| V <sub>GT</sub>                   | T <sub>vj</sub> = 25 °C                                                                            | 3                  |               |               | V                |
| I <sub>GT</sub>                   | T <sub>vj</sub> = 25 °C                                                                            | 150                |               |               | mA               |
| V <sub>GD</sub>                   | T <sub>vj</sub> = 130 °C                                                                           | 0,25               |               |               | V                |
| I <sub>GD</sub>                   | T <sub>vj</sub> = 130 °C                                                                           | 10                 |               |               | mA               |
| R <sub>thjc</sub>                 | cont.                                                                                              | 0,40               | 0,25          |               | °C/W             |
|                                   | sin. 180/rec. 120                                                                                  | 0,47/0,53          | 0,28/0,31     |               | °C/W             |
| R <sub>thch</sub>                 |                                                                                                    | 0,08               |               |               | °C/W             |
| T <sub>vj</sub>                   |                                                                                                    | – 40 ... +130      |               |               | °C               |
| T <sub>stg</sub>                  |                                                                                                    | – 55 ... +150      |               |               | °C               |
| M                                 | SI units (US units)                                                                                | 10 (90 lb.in.)     |               |               | Nm               |
| a                                 |                                                                                                    | 5 · 9,81           |               |               | m/s <sup>2</sup> |
| w                                 |                                                                                                    | 65                 | 80            |               | g                |
| Case                              |                                                                                                    | B 5                |               |               |                  |

\* Available with UNF thread 1/2-20 UNF2A; e.g. SKT 80/06 D UNF

♦ available in limited quantities

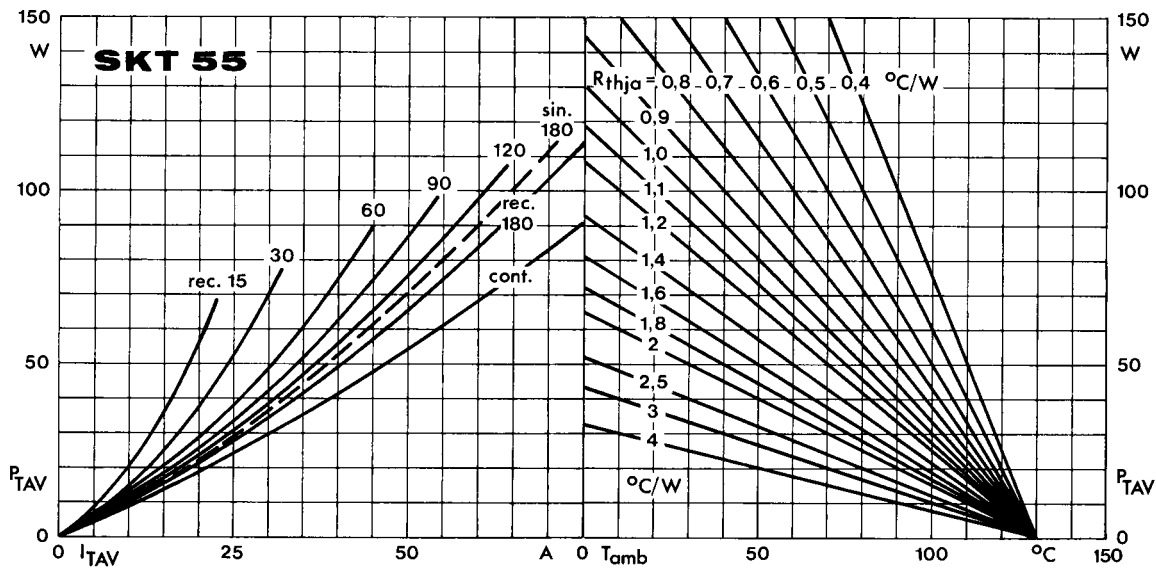


Fig. 1 a Power dissipation vs. on-state current and ambient temperature

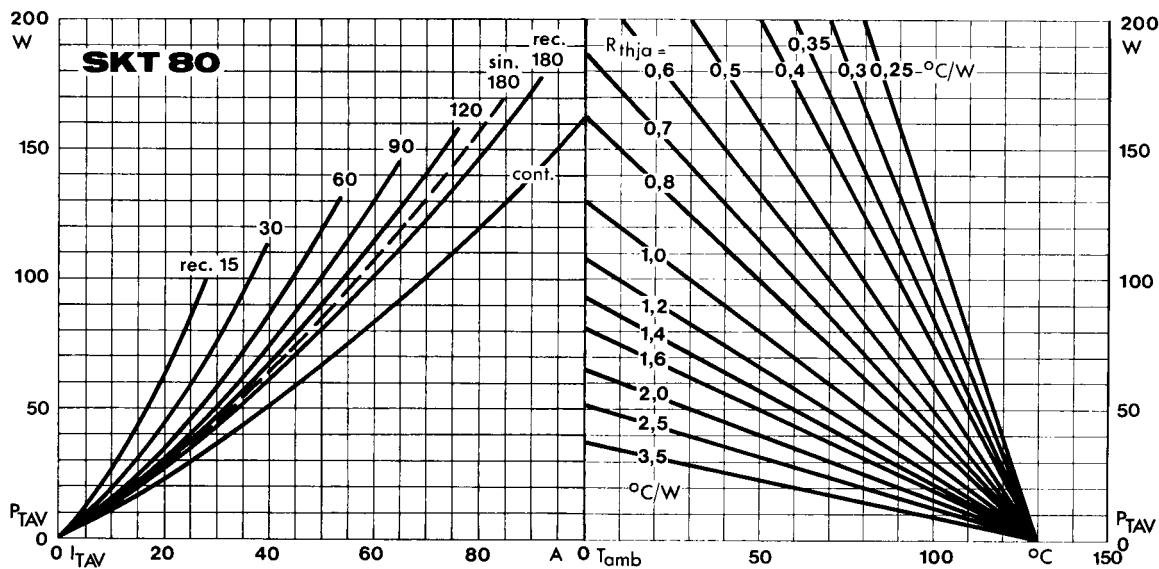


Fig. 1 b Power dissipation vs. on-state current and ambient temperature

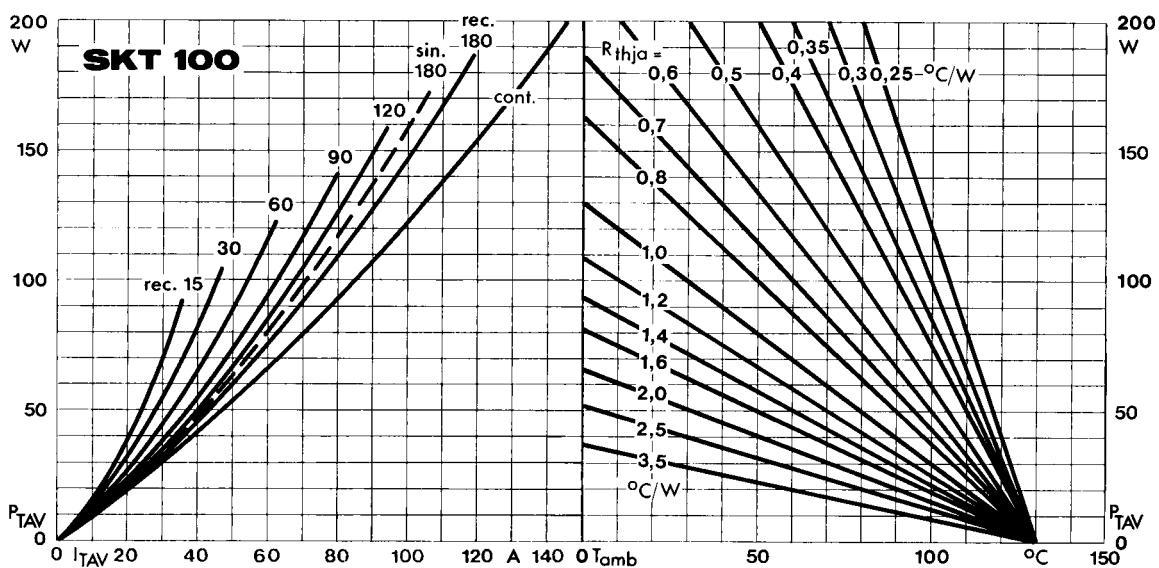


Fig. 1 c Power dissipation vs. on-state current and ambient temperature

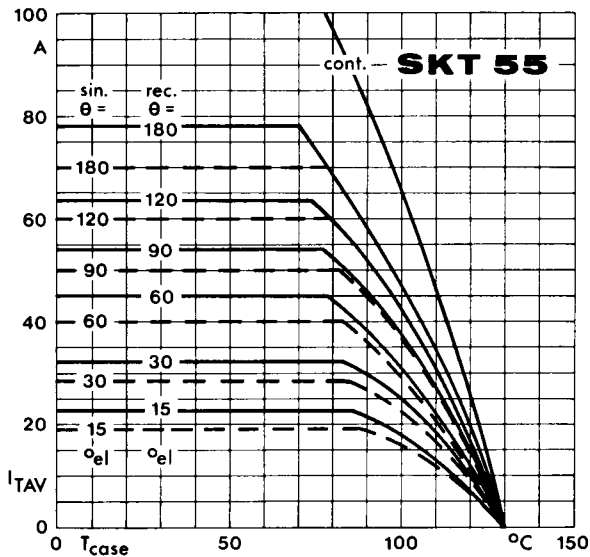


Fig. 2 a Rated on-state current vs. case temperature

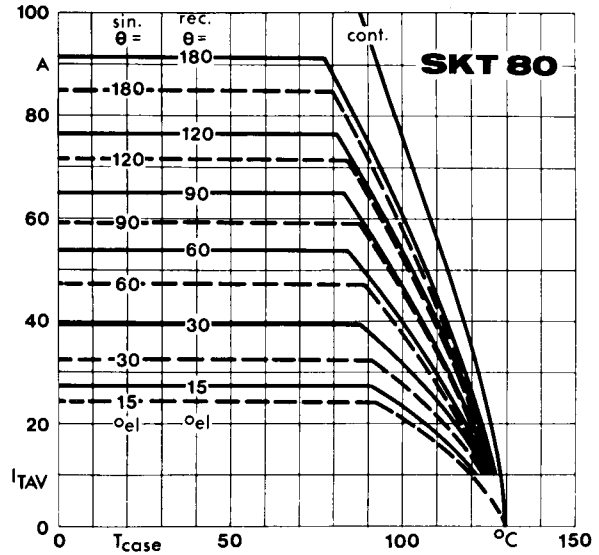


Fig. 2 b Rated on-state current vs. case temperature

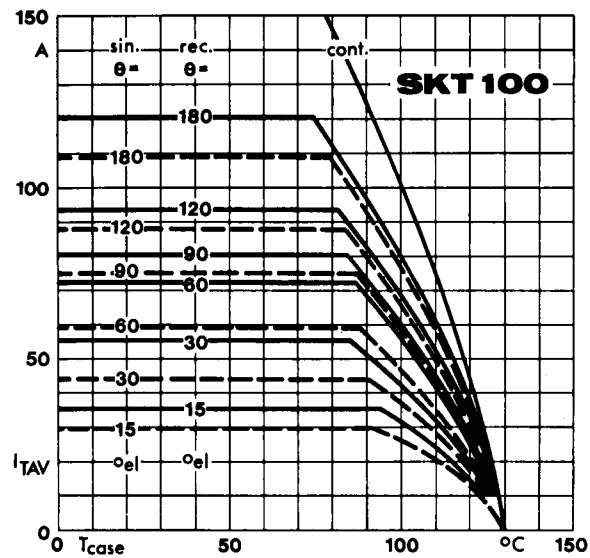


Fig. 2 c Rated on-state current vs. case temperature

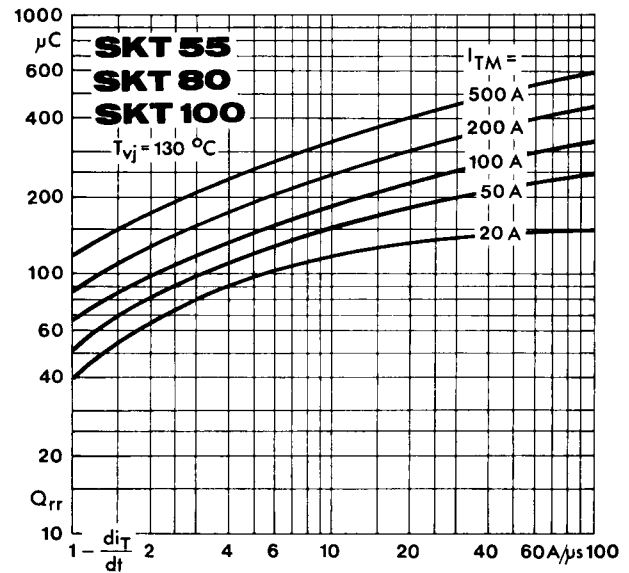


Fig. 3 Recovered charge vs. current decrease

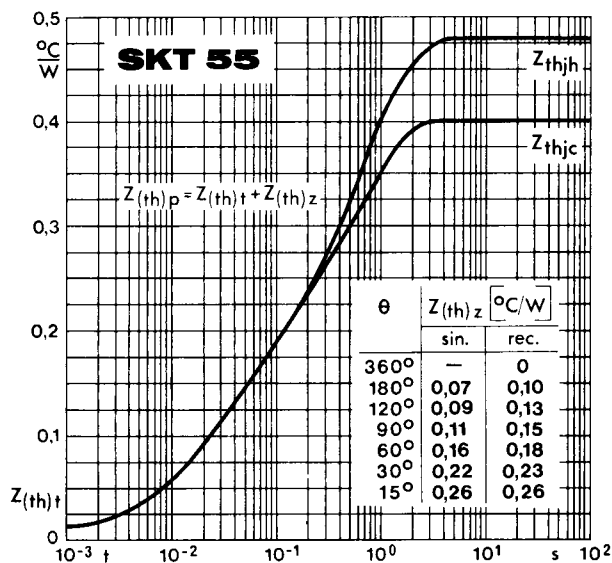


Fig. 4 a Transient thermal impedance vs. time

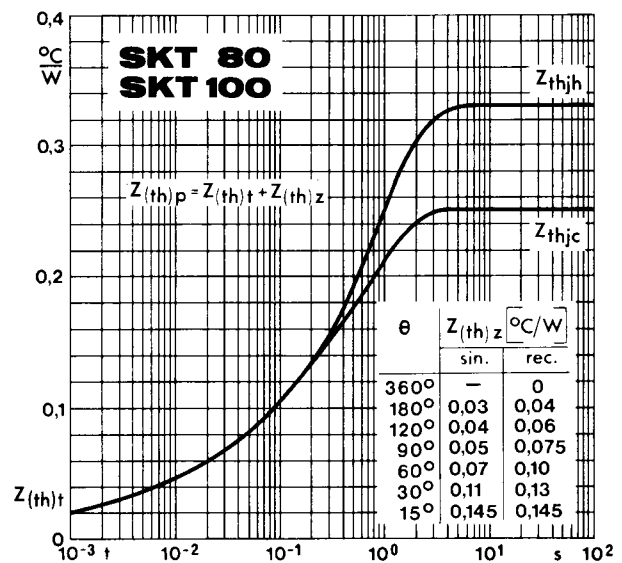


Fig. 4 b Transient thermal impedance vs. time

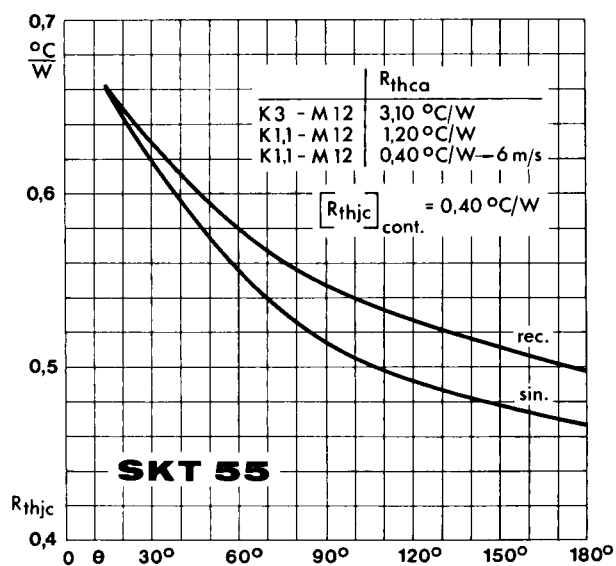


Fig. 5 a Thermal resistance vs. conduction angle

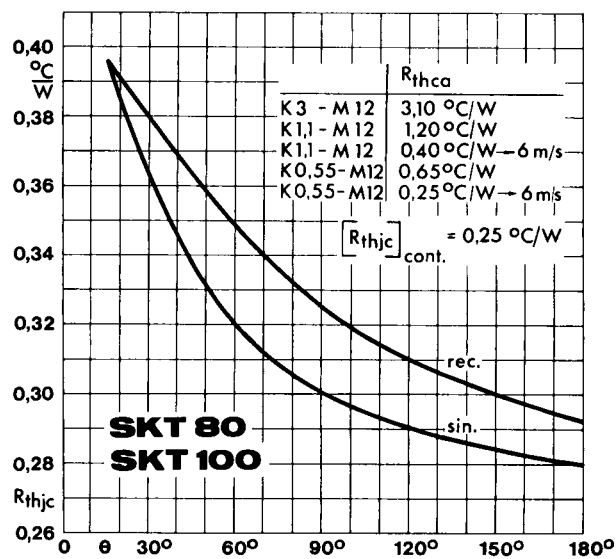


Fig. 5 b Thermal resistance vs. conduction angle

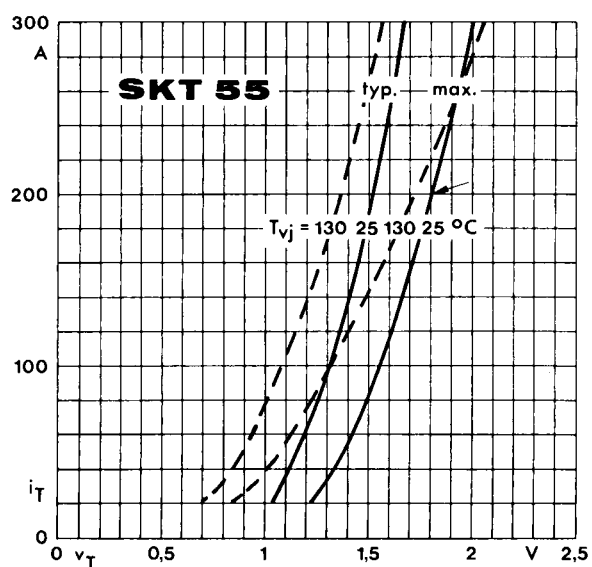


Fig. 6 a On-state characteristics

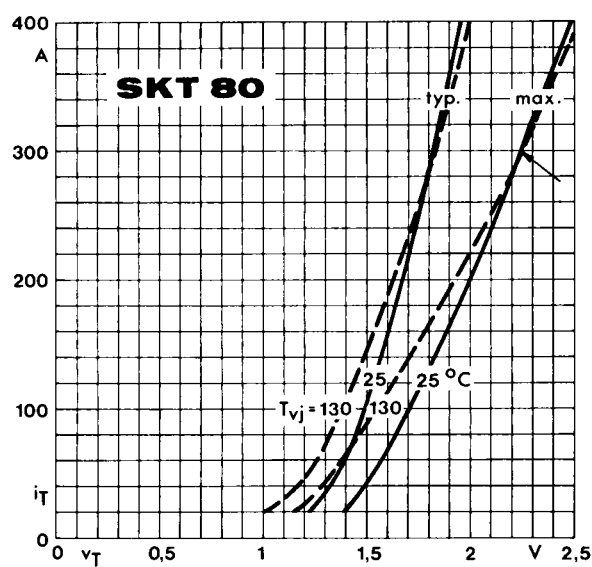


Fig. 6 b On-state characteristics

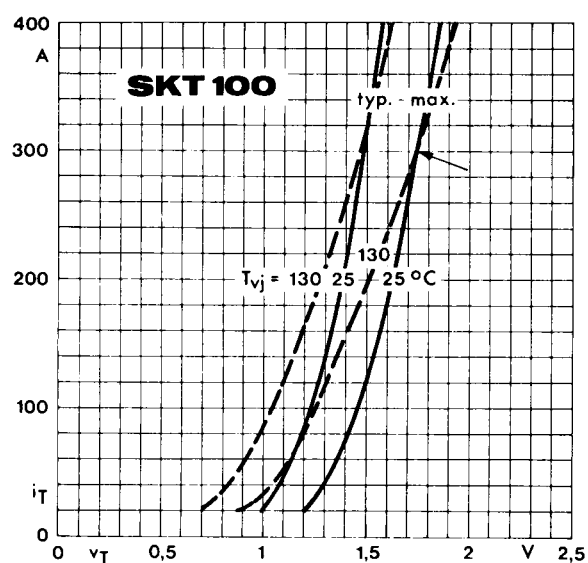


Fig. 6 c On-state characteristics

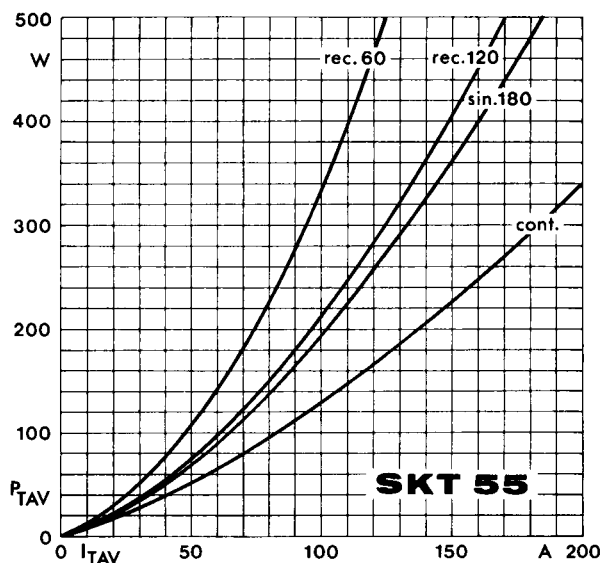


Fig. 7 a Power dissipation vs. on-state current

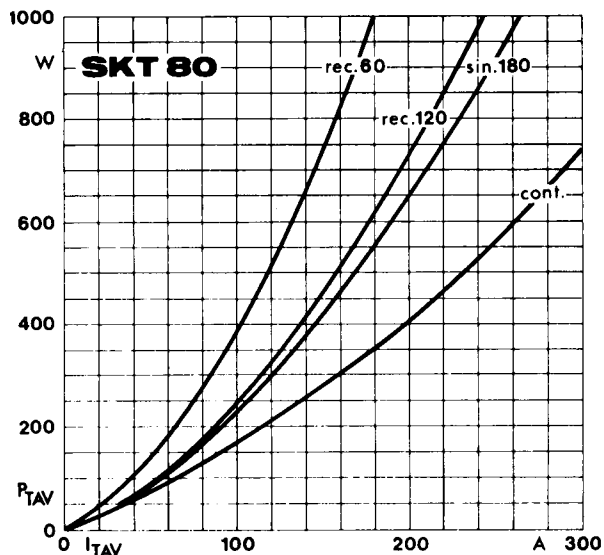


Fig. 7 b Power dissipation vs. on-state current

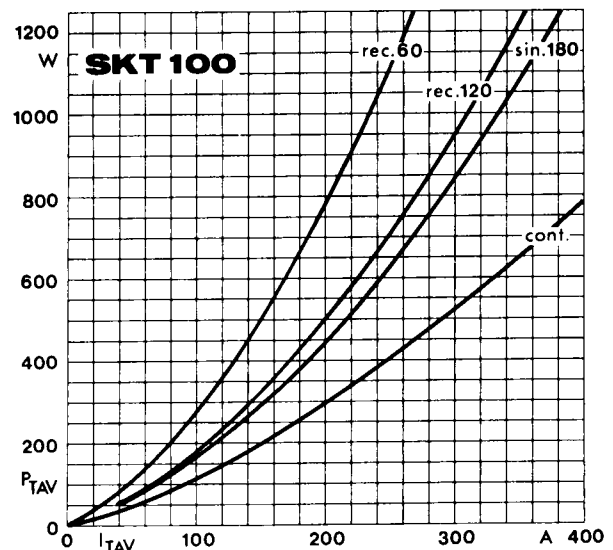


Fig. 7 c Power dissipation vs. on-state current

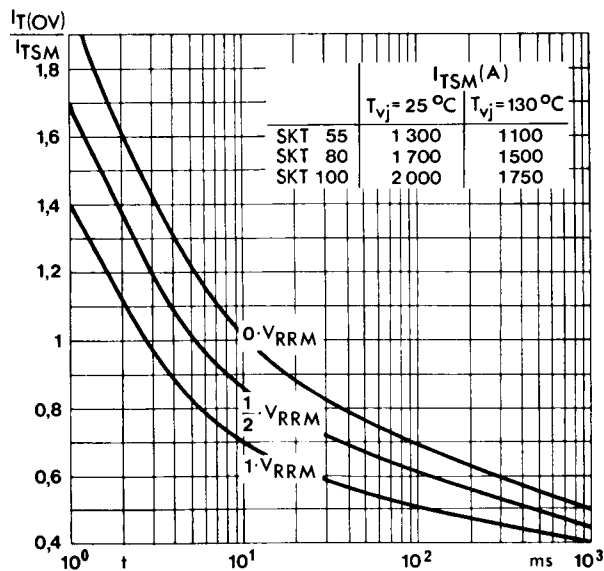


Fig. 8 Surge overload current vs. time

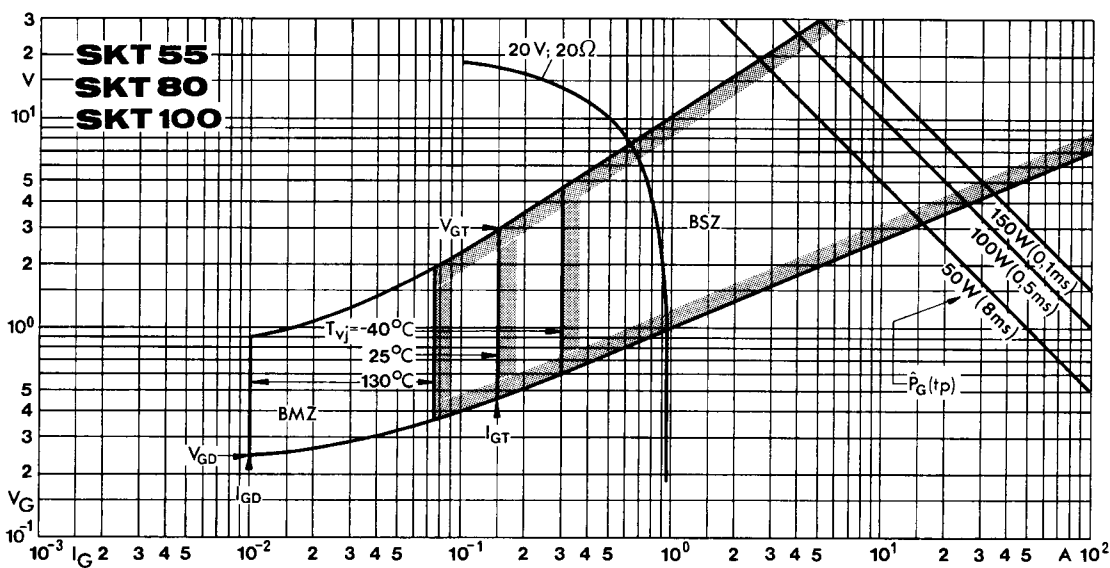


Fig. 9 Gate trigger characteristics

**SKT 55  
SKT 80  
SKT 100**

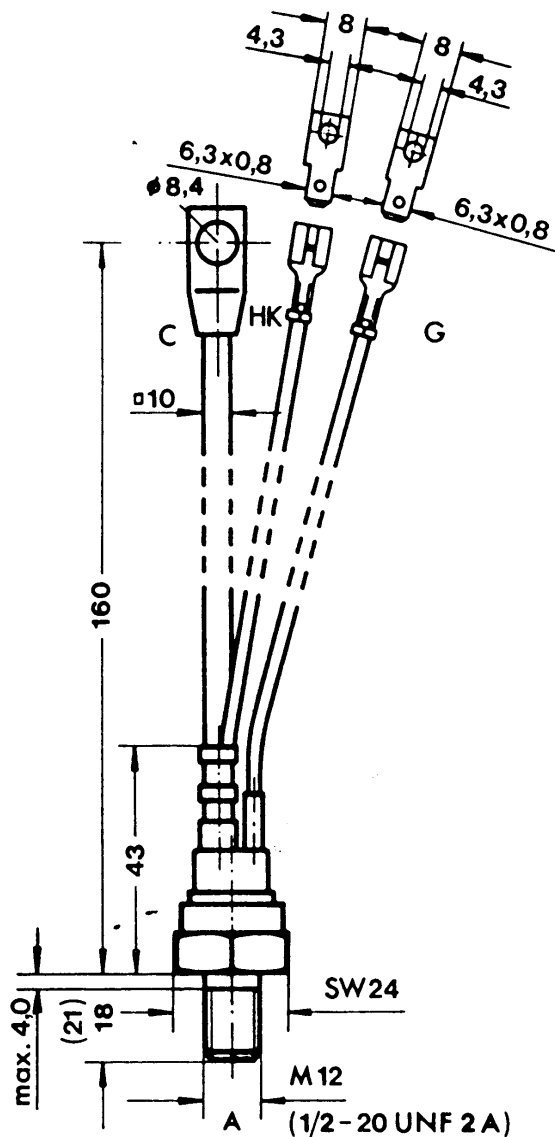
Case B 5

IEC-Publ. 191-2: (A 12 MA, A 12 U)

DIN 41892: (204 B 3)

BS 3934: SO – 30 C

JEDEC: TO – 209 (TO – 94)<sup>1)</sup>



<sup>1)</sup> modified version. In the USA and Canada these types are available with the original TO-209 (TO-94) dimensions. TO-208 AD (TO-83) with flag terminals is also available.

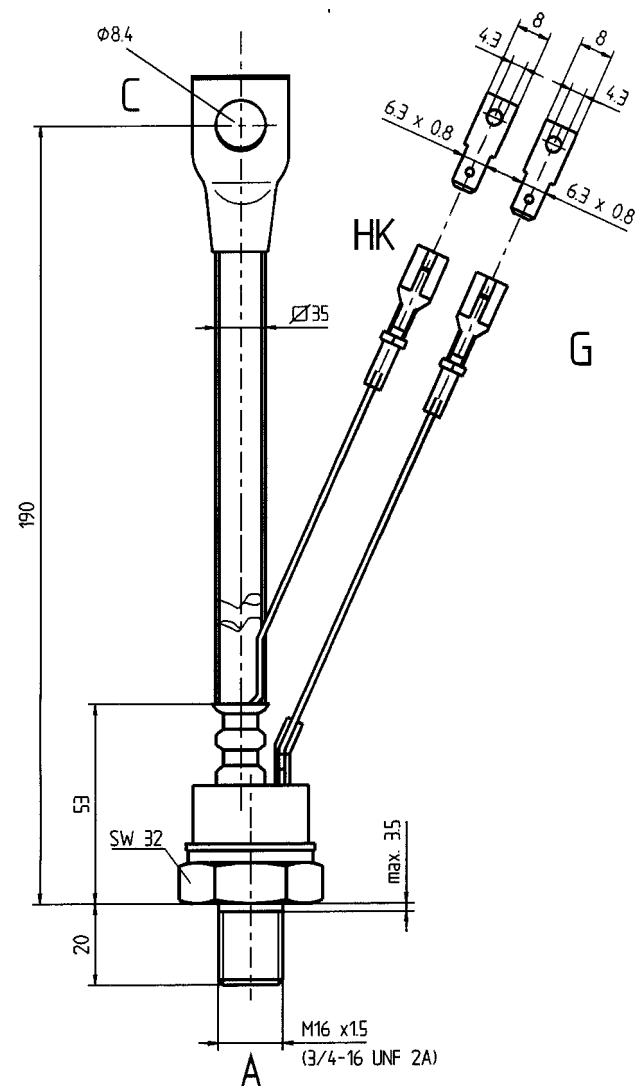
**SKT 130  
SKT 160**

Case B 6

IEC-Publ. 191-2: A 47 MC

DIN 41893: 205 B 4

JEDEC: TO-209 (TO-93)



Dimensions in mm

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