

# SKT 24



## Stud Thyristor

## Line Thyristor

### SKT 24

### Features

- Hermetic metal case with glass insulator
- Threaded stud ISO M6 or UNF 1/4-28
- International standard case

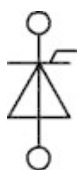
### Typical Applications\*

- DC motor control (e. g. for machine tools)
- Controlled rectifiers (e. g. for battery charging)
- AC controllers (e. g. for temperature control)
- Recommended snubber network e. g. for  $V_{VRMS} \leq 400$  V:  
 $R = 100 \Omega / 5$  W,  $C = 0,1 \mu F$

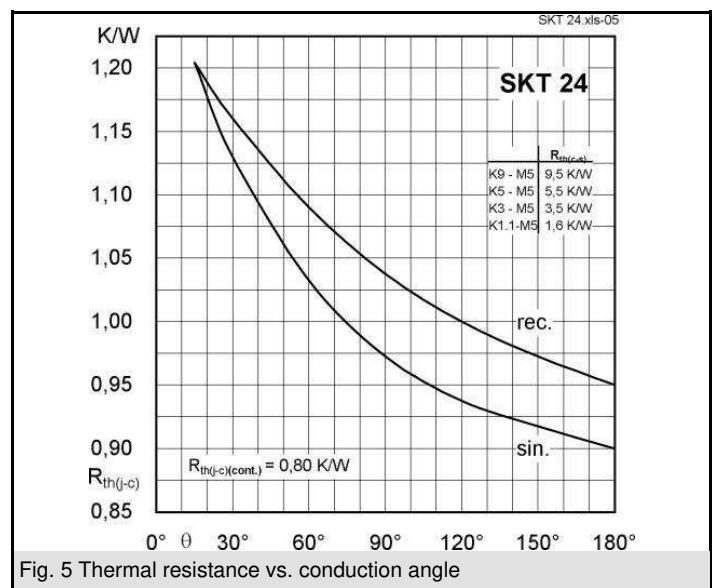
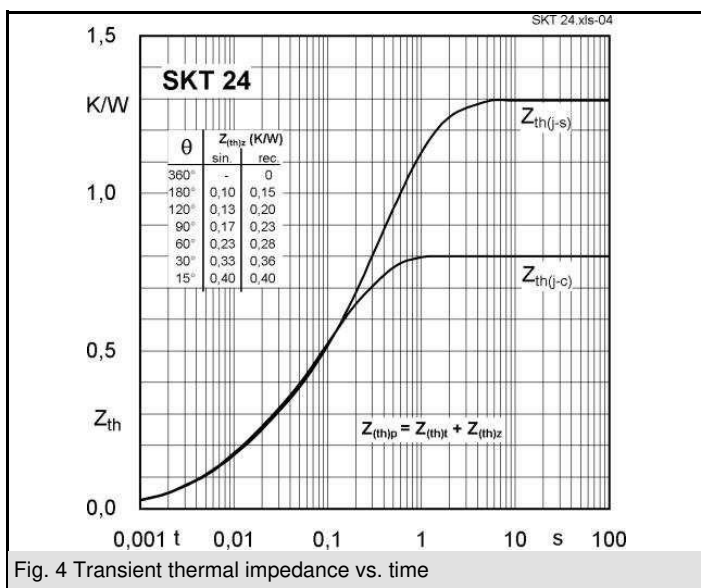
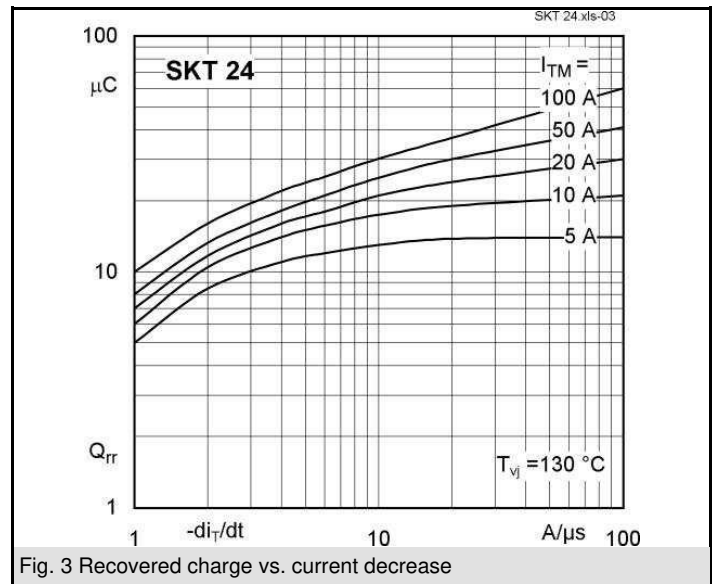
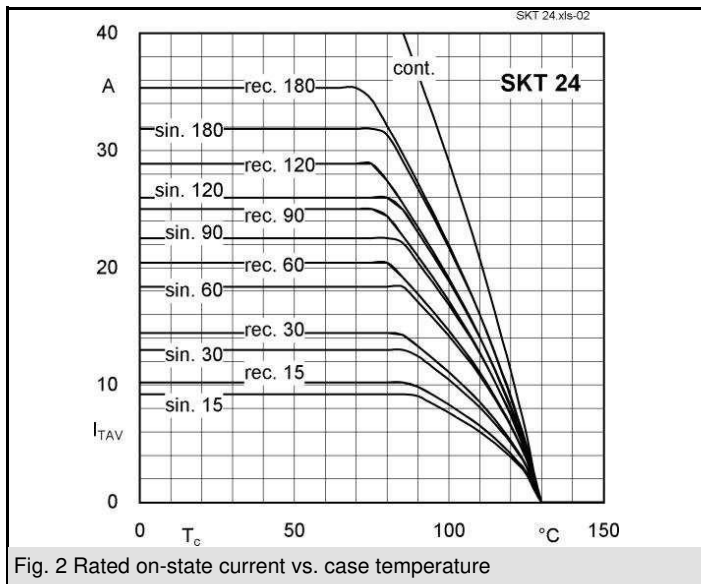
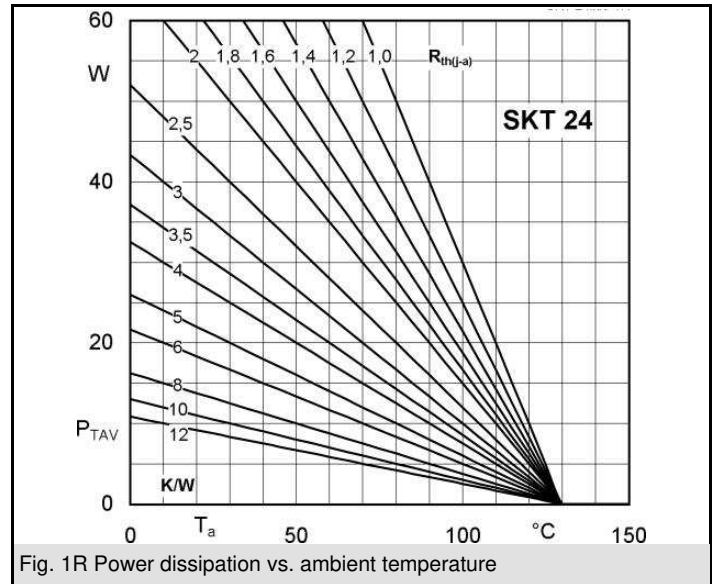
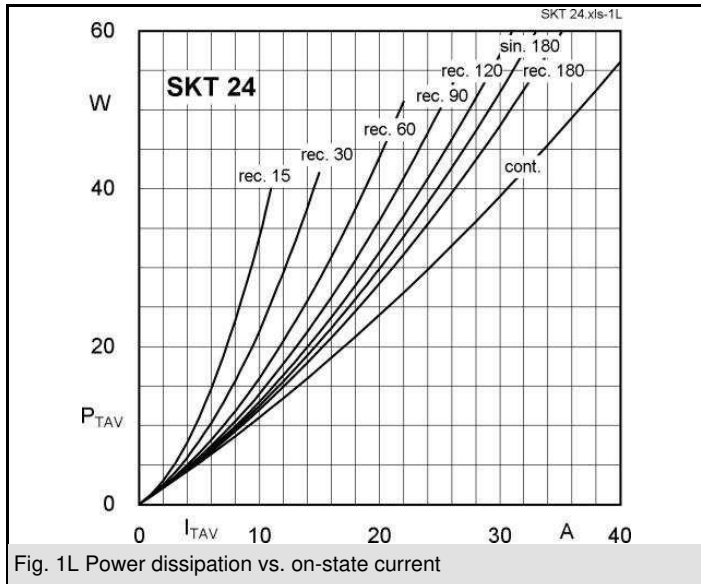
1) Available with UNF thread 1/4-28 UNF2A, e. g. SKT 24/12E UNF

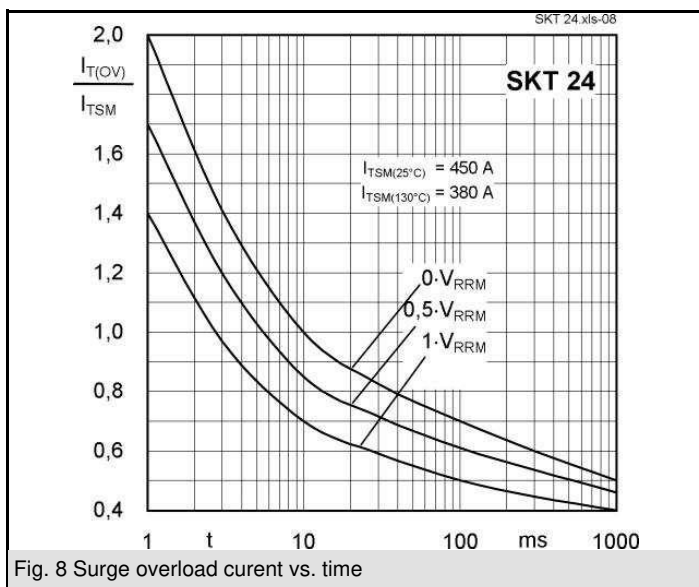
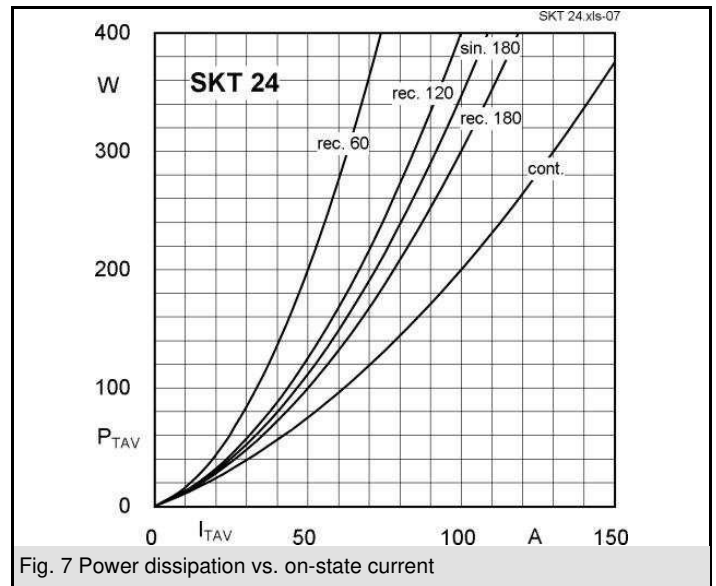
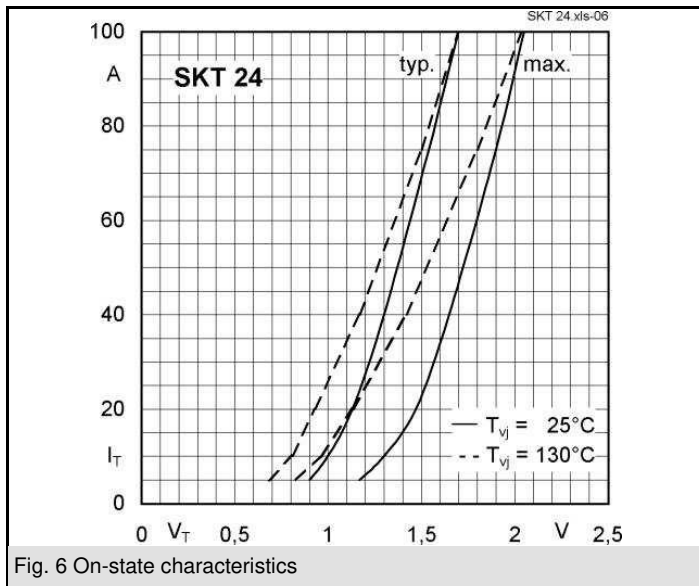
| $V_{RSM}$<br>V | $V_{RRM}, V_{DRM}$<br>V | $I_{TRMS} = 50$ A (maximum value for continuous operation)<br>$I_{TAV} = 24$ A (sin. 180; $T_c = 95$ °C) |  |
|----------------|-------------------------|--|--|
| 500            | 400                     | SKT 24/04D   |  |
| 900            | 800                     | SKT 24/08D   |  |
| 1300           | 1200                    | SKT 24/12E <sup>1)</sup>   |  |
| 1500           | 1400                    | SKT 24/14E   |  |
| 1700           | 1600                    | SKT 24/16E <sup>1)</sup>   |  |
| 1900           | 1800                    | SKT 24/18E   |  |

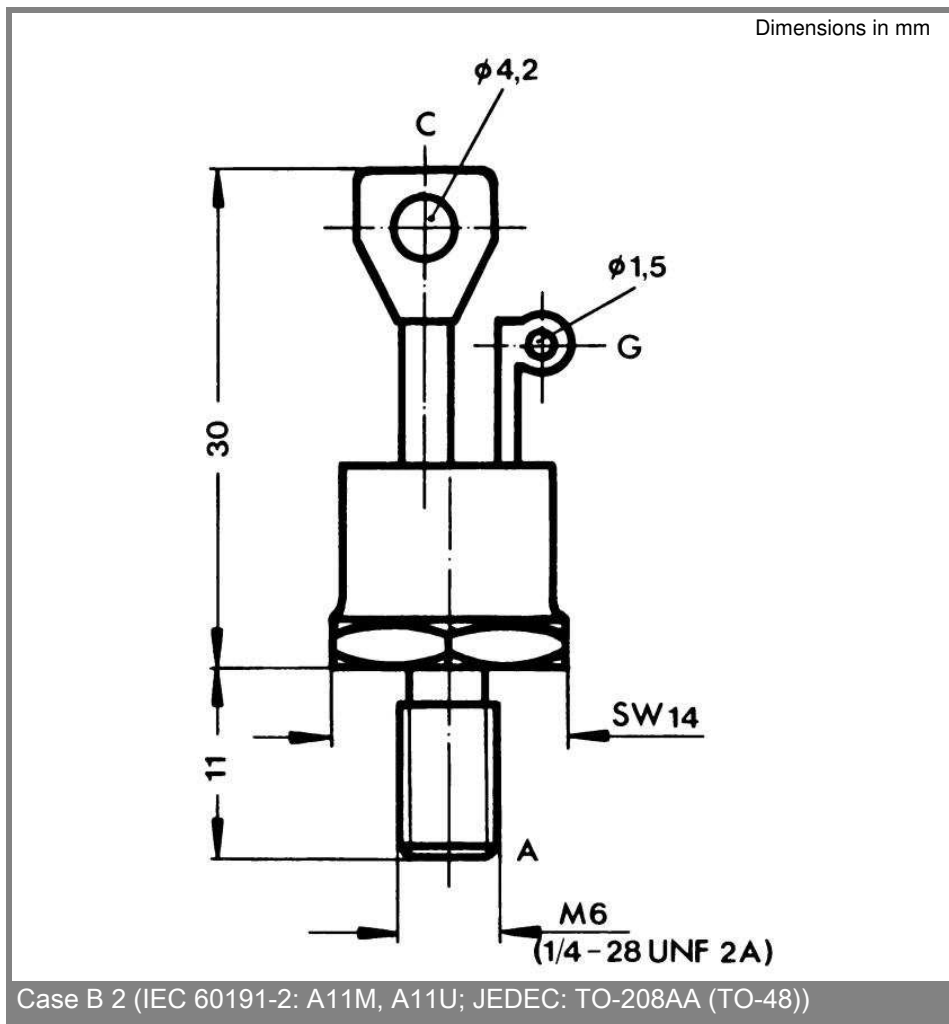
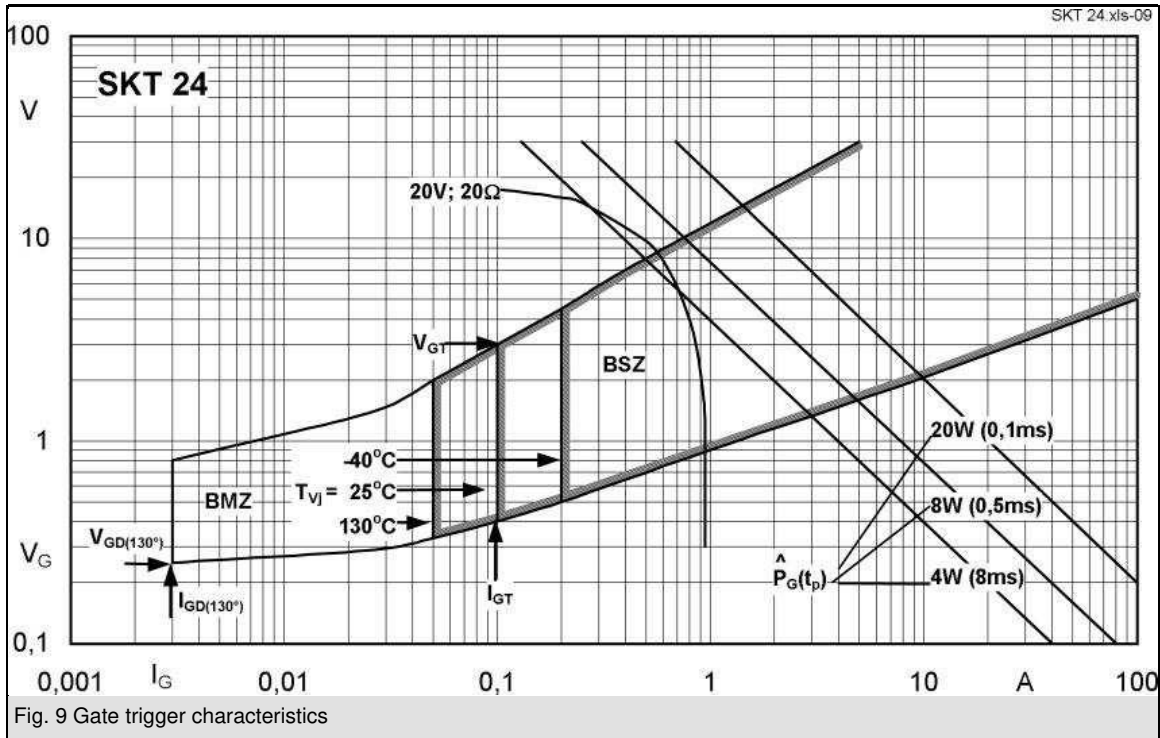
| Symbol           | Conditions  | Values             | Units                                |
|------------------|---|--------------------|--------------------------------------|
| $I_{TAV}$        | sin. 180; $T_c = 100$ (85) °C;  | 22 (29)            | A                                    |
| $I_D$            | K5; $T_a = 45$ °C; B2 / B6<br>K3; $T_a = 45$ °C; B2 / B6              | 22 / 30<br>28 / 40 | A<br>A                               |
| $I_{RMS}$        | K5; $T_a = 45$ °C; W1C  | 24                 | A                                    |
| $I_{TSM}$        | $T_{vj} = 25$ °C; 10 ms<br>$T_{vj} = 130$ °C; 10 ms                   | 450<br>380         | A<br>A                               |
| $i^2t$           | $T_{vj} = 25$ °C; 8,35 ... 10 ms<br>$T_{vj} = 130$ °C; 8,35 ... 10 ms | 1000<br>720        | A <sup>2</sup> s<br>A <sup>2</sup> s |
| $V_T$            | $T_{vj} = 25$ °C; $I_T = 75$ A  | max. 1,9           | V                                    |
| $V_{T(TO)}$      | $T_{vj} = 130$ °C   | max. 1             | V                                    |
| $r_T$            | $T_{vj} = 130$ °C   | max. 10            | mΩ                                   |
| $I_{DD}, I_{RD}$ | $T_{vj} = 130$ °C; $V_{RD} = V_{RRM}, V_{DD} = V_{DRM}$               | max. 8             | mA                                   |
| $t_{gd}$         | $T_{vj} = 25$ °C; $I_G = 1$ A; $di_G/dt = 1$ A/μs                     | 1                  | μs                                   |
| $t_{gr}$         | $V_D = 0,67 * V_{DRM}$  | 2                  | μs                                   |
| $(di/dt)_{cr}$   | $T_{vj} = 130$ °C   | max. 50            | A/μs                                 |
| $(dv/dt)_{cr}$   | $T_{vj} = 130$ °C; SKT ...D / SKT ...E                                | max. 500 / 1000    | V/μs                                 |
| $t_q$            | $T_{vj} = 130$ °C,  | 80                 | μs                                   |
| $I_H$            | $T_{vj} = 25$ °C; typ. / max.   | 80 / 150           | mA                                   |
| $I_L$            | $T_{vj} = 25$ °C; typ. / max.   | 150 / 300          | mA                                   |
| $V_{GT}$         | $T_{vj} = 25$ °C; d.c.  | min. 3             | V                                    |
| $I_{GT}$         | $T_{vj} = 25$ °C; d.c.  | min. 100           | mA                                   |
| $V_{GD}$         | $T_{vj} = 130$ °C; d.c.   | max. 0,25          | V                                    |
| $I_{GD}$         | $T_{vj} = 130$ °C; d.c.   | max. 3             | mA                                   |
| $R_{th(j-c)}$    | cont.   | 0,8                | K/W                                  |
| $R_{th(j-c)}$    | sin. 180  | 0,9                | K/W                                  |
| $R_{th(j-c)}$    | rec. 120  | 0,95               | K/W                                  |
| $R_{th(c-s)}$    |   | 0,5                | K/W                                  |
| $T_{vj}$         |   | - 40 ... + 130     | °C                                   |
| $T_{stg}$        |   | - 40 ... + 150     | °C                                   |
| $V_{isol}$       |   | -                  | V~                                   |
| $M_s$            | to heatsink   | 2,5                | Nm                                   |
| $a$              |   | 5 * 9,81           | m/s <sup>2</sup>                     |
| $m$              | approx.   | 13                 | g                                    |
| Case             |   | B 2                |                                      |



SKT







\* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON

products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.