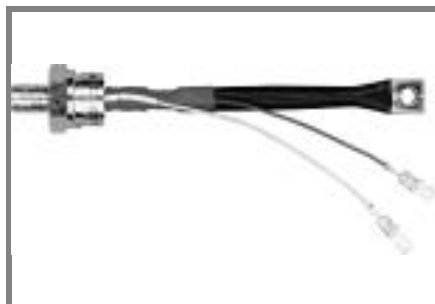




Stud Thyristor

## Line Thyristor

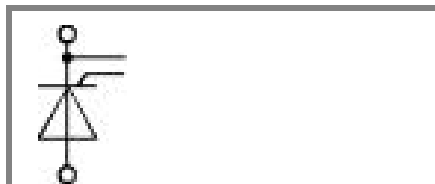
### SKT 250

#### Features

- Hermetic metal case with glass insulator
- Threaded stud ISO M24x1,5
- High  $i^2t$  and  $I_{TSM}$  values for easy fusing
- International standard case

#### Typical Applications\*

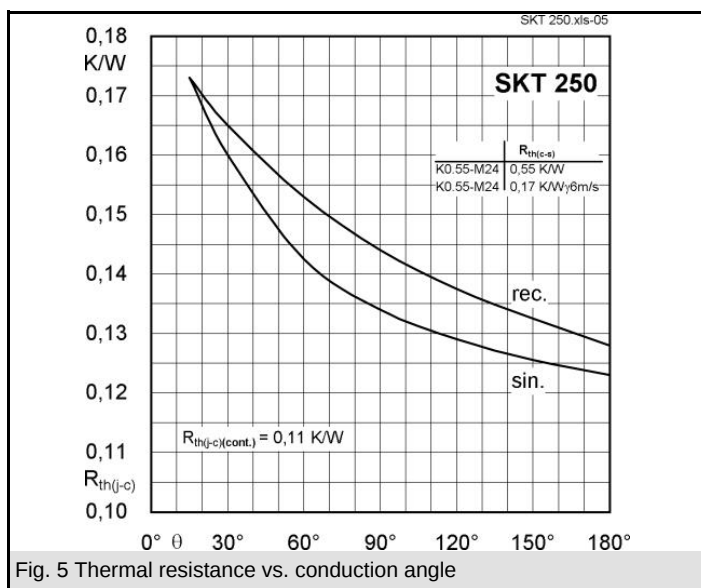
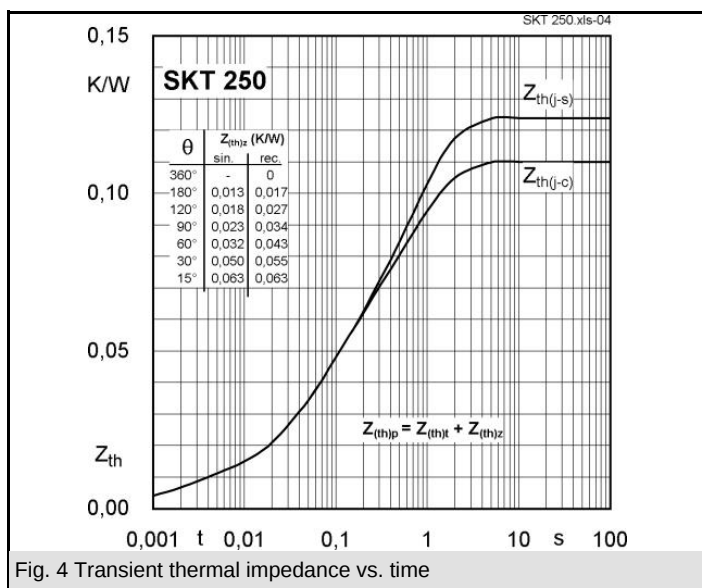
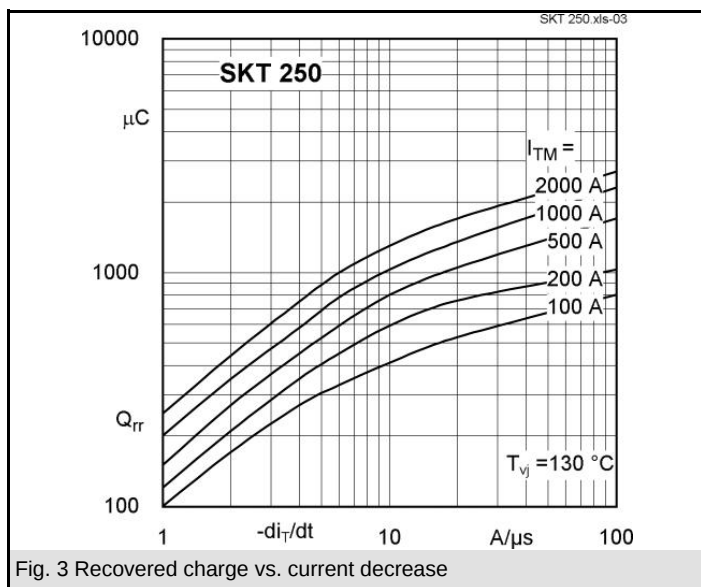
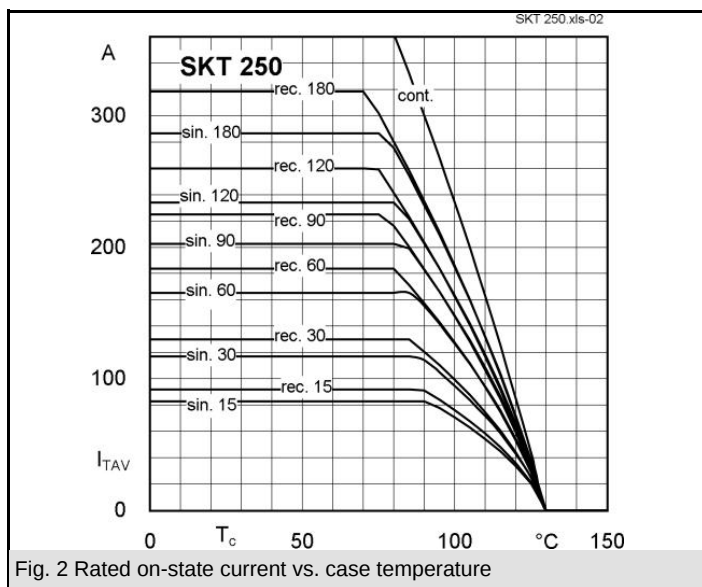
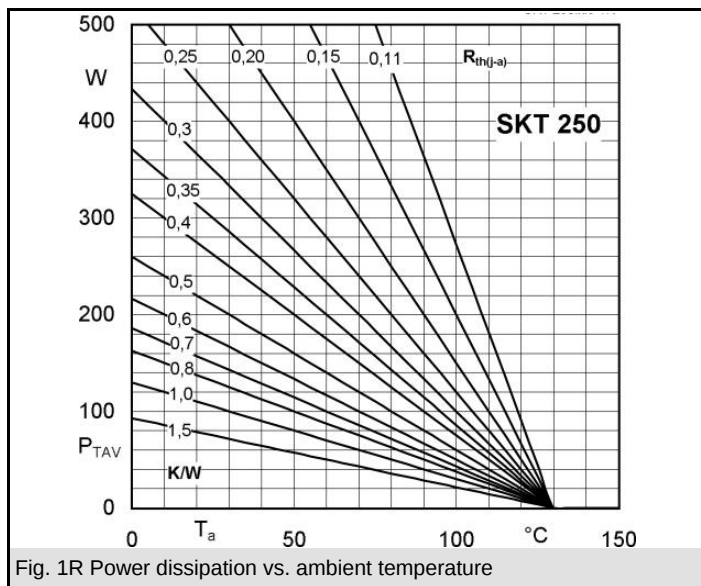
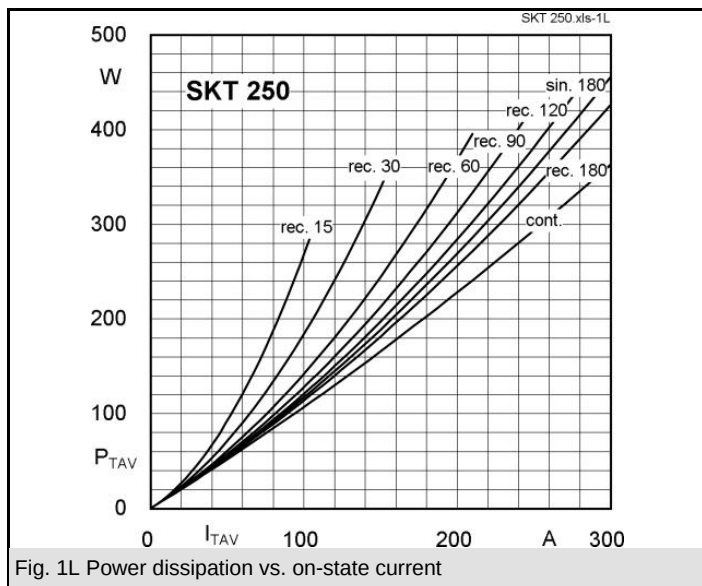
- DC motor control  
(e. g. for machine tools)
- Controlled rectifiers  
(e. g. for battery charging)
- AC controllers  
(e. g. for temperature control)
- Recommended snubber network  
e. g. for  $V_{VRMS} \leq 400$  V:  
 $R = 33 \Omega / 32$  W,  $C = 0,47 \mu F$

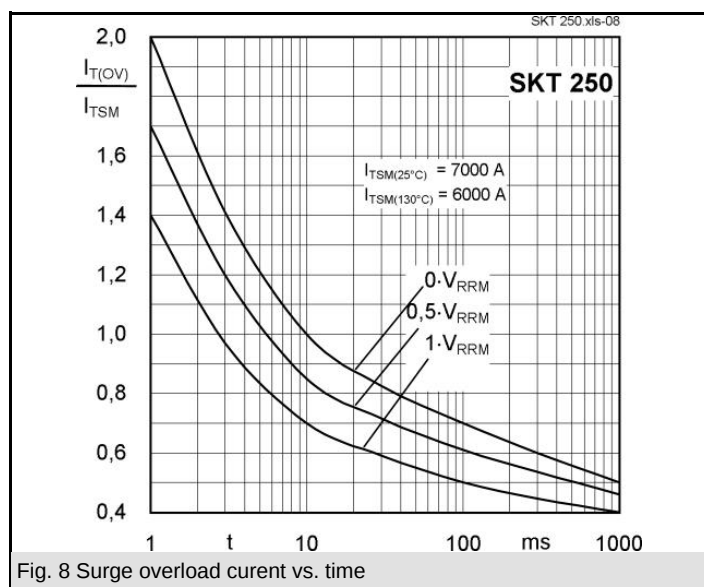
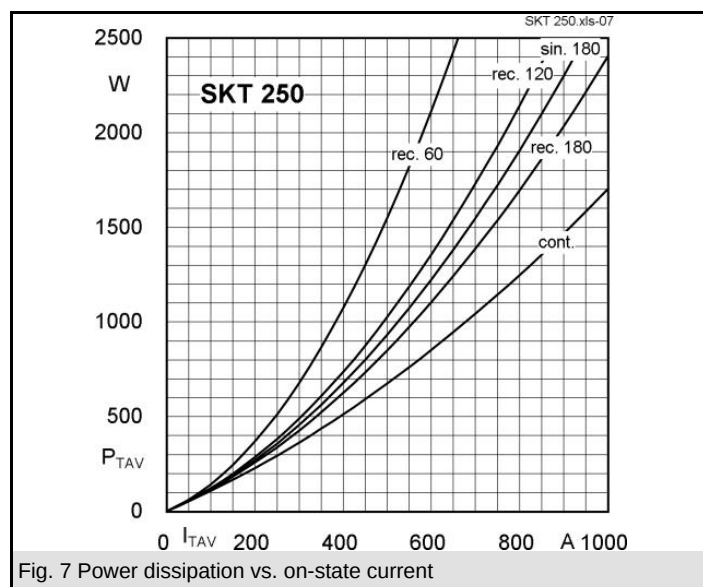
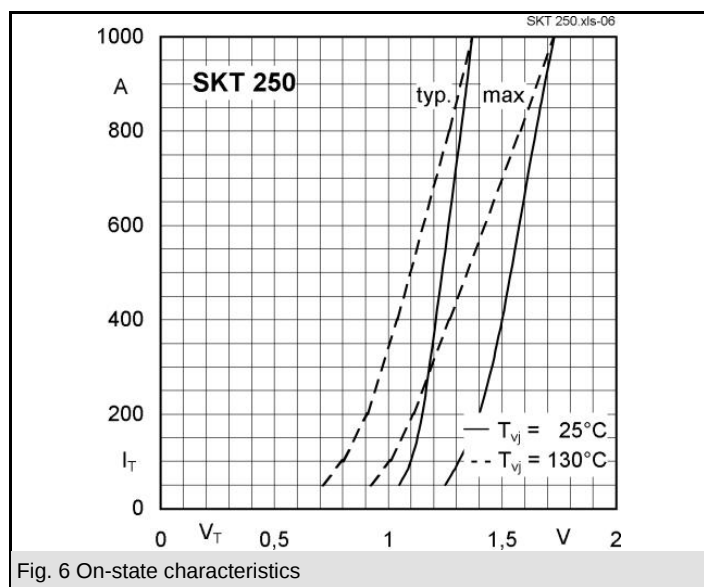


SKT

| $V_{RSM}$<br>V | $V_{RRM}, V_{DRM}$<br>V | $I_{TRMS} = 450$ A (maximum value for continuous operation)<br>$I_{TAV} = 250$ A (sin. 180; $T_c = 85$ °C) |  |  |
|----------------|-------------------------|------------------------------------------------------------------------------------------------------------|--|--|
| 500            | 400                     | SKT 250/04D                                                                                                |  |  |
| 900            | 800                     | SKT 250/08D                                                                                                |  |  |
| 1300           | 1200                    | SKT 250/12E                                                                                                |  |  |
| 1500           | 1400                    | SKT 250/14E                                                                                                |  |  |
| 1700           | 1600                    | SKT 250/16E                                                                                                |  |  |

| Symbol           | Conditions                                              | Values          | Units            |
|------------------|---------------------------------------------------------|-----------------|------------------|
| $I_{TAV}$        | sin. 180; $T_c = 100$ (85) °C;                          | 185 (250 )      | A                |
| $I_D$            | K0,55; $T_a = 45$ °C; B2 / B6                           | 240 / 330       | A                |
|                  | K0,55F; $T_a = 35$ °C; B2 / B5                          | 490 / 675       | A                |
| $I_{RMS}$        | K0,55; $T_a = 45$ °C; W1C                               | 265             | A                |
| $I_{TSM}$        | $T_{vj} = 25$ °C; 10 ms                                 | 7000            | A                |
|                  | $T_{vj} = 130$ °C; 10 ms                                | 6000            | A                |
| $i^2t$           | $T_{vj} = 25$ °C; 8,35 ... 10 ms                        | 245000          | A <sup>2</sup> s |
|                  | $T_{vj} = 130$ °C; 8,35 ... 10 ms                       | 180000          | A <sup>2</sup> s |
| $V_T$            | $T_{vj} = 25$ °C; $I_T = 800$ A                         | max. 1,65       | V                |
| $V_{T(TO)}$      | $T_{vj} = 130$ °C                                       | max. 1          | V                |
| $r_T$            | $T_{vj} = 130$ °C                                       | max. 0,7        | mΩ               |
| $I_{DD}, I_{RD}$ | $T_{vj} = 130$ °C; $V_{RD} = V_{RRM}, V_{DD} = V_{DRM}$ | max. 50         | 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. 100        | A/μs             |
| $(dv/dt)_{cr}$   | $T_{vj} = 130$ °C; SKT ...D / SKT ...E                  | max. 500 / 1000 | V/μs             |
| $t_q$            | $T_{vj} = 130$ °C,                                      | 50 ... 150      | μs               |
| $I_H$            | $T_{vj} = 25$ °C; typ. / max.                           | 150 / 250       | mA               |
| $I_L$            | $T_{vj} = 25$ °C; $R_G = 33 \Omega$ ; typ. / max.       | 300 / 600       | mA               |
| $V_{GT}$         | $T_{vj} = 25$ °C; d.c.                                  | min. 3          | V                |
| $I_{GT}$         | $T_{vj} = 25$ °C; d.c.                                  | min. 200        | mA               |
| $V_{GD}$         | $T_{vj} = 130$ °C; d.c.                                 | max. 0,25       | V                |
| $I_{GD}$         | $T_{vj} = 130$ °C; d.c.                                 | max. 10         | mA               |
| $R_{th(j-c)}$    | cont.                                                   | 0,11            | K/W              |
| $R_{th(j-c)}$    | sin. 180                                                | 0,123           | K/W              |
| $R_{th(j-c)}$    | rec. 120                                                | 0,137           | K/W              |
| $R_{th(c-s)}$    |                                                         | 0,015           | K/W              |
| $T_{vj}$         |                                                         | - 40 ... + 130  | °C               |
| $T_{stg}$        |                                                         | - 55 ... + 150  | °C               |
| $V_{isol}$       |                                                         | -               | V~               |
| $M_s$            | to heatsink                                             | 60              | Nm               |
| $a$              |                                                         | 5 * 9,81        | m/s <sup>2</sup> |
| $m$              | approx.                                                 | 490             | g                |
| Case             |                                                         | B 7             |                  |





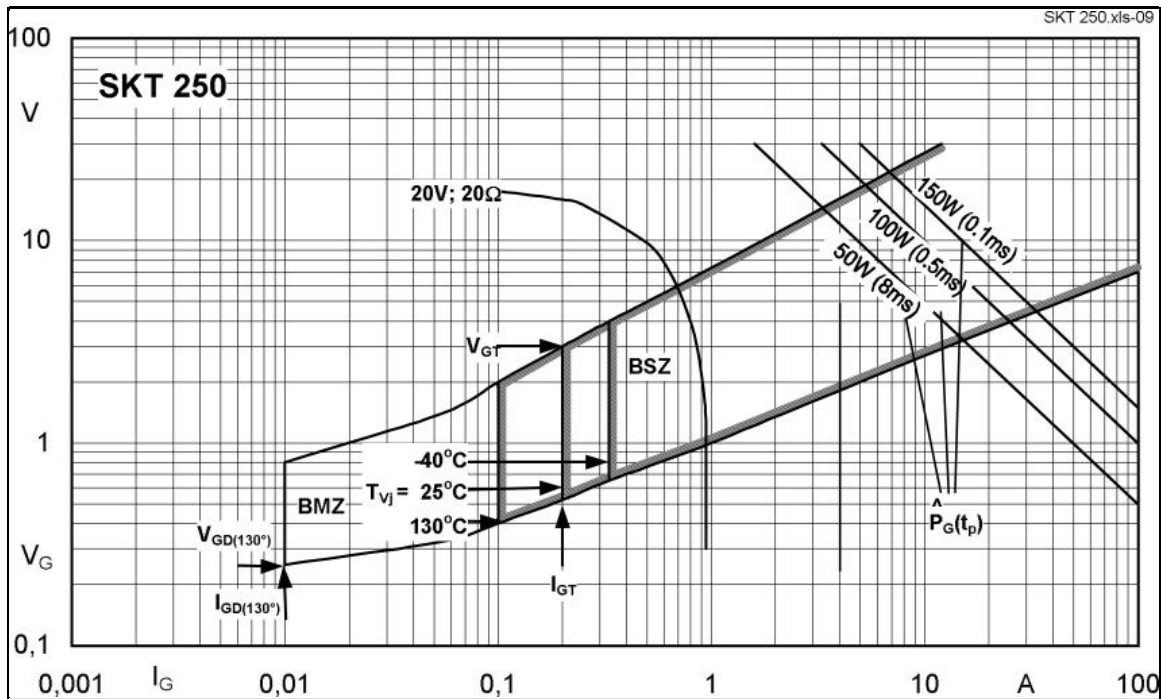
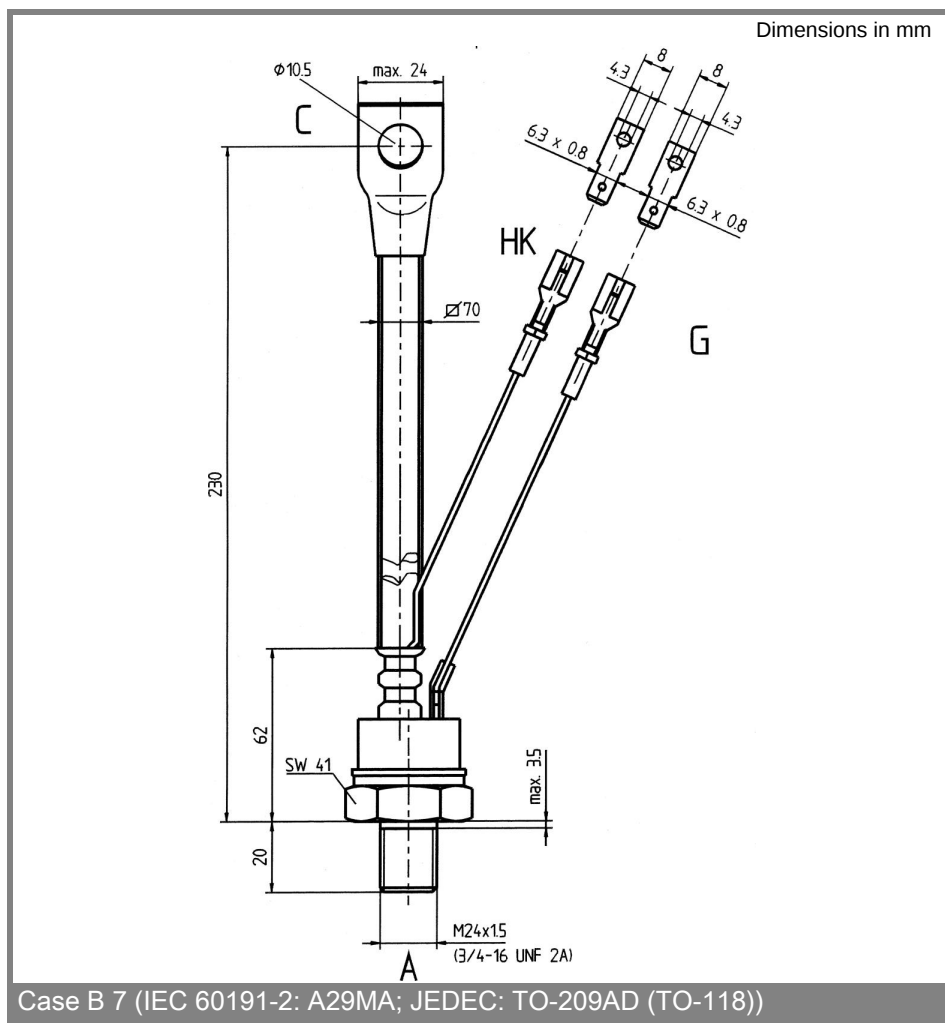


Fig. 9 Gate trigger characteristics



Case B 7 (IEC 60191-2; A29MA; JEDEC: TO-209AD (TO-118))

\* 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.