



Stud Thyristor

## Line Thyristor

### SKT 10

#### Features

- Hermetic metal case with glass insulator
- Threaded stud ISO M5
- International standard case

#### Typical Applications\*

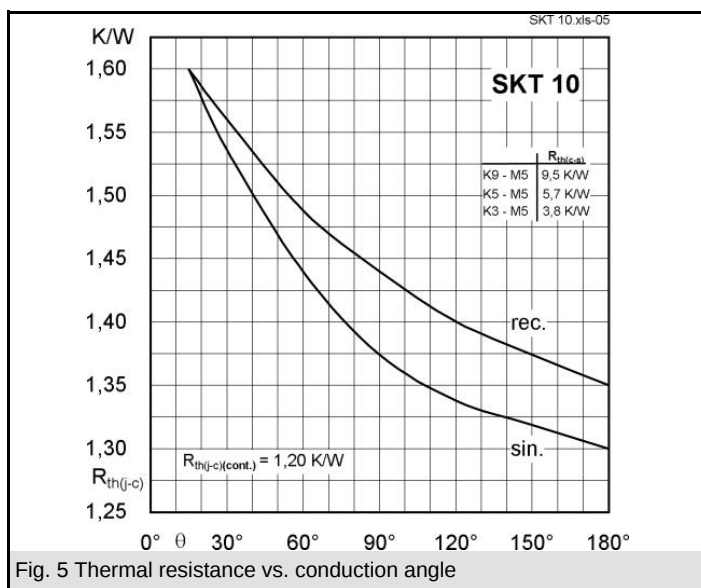
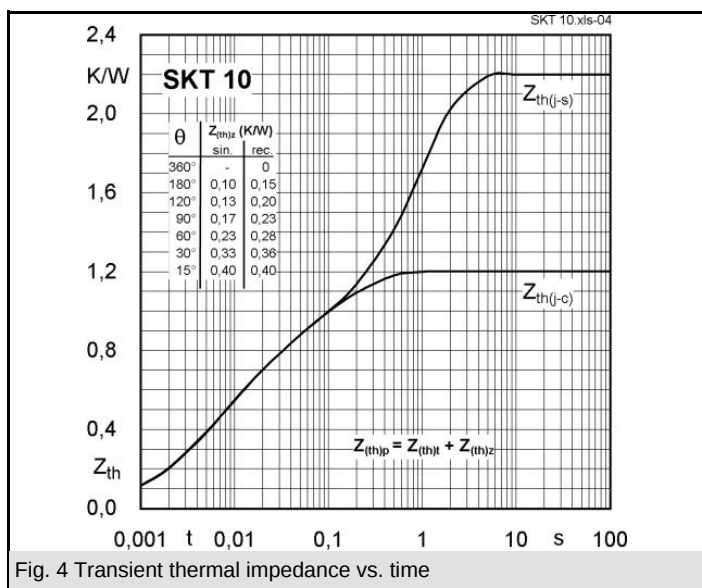
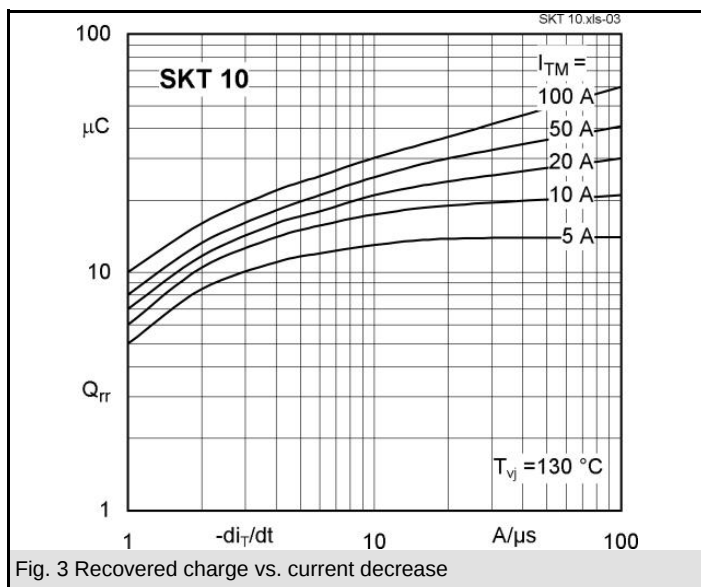
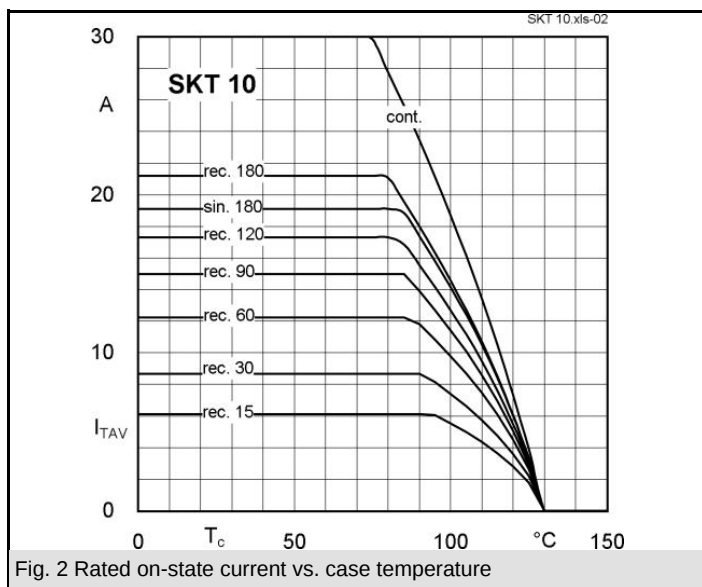
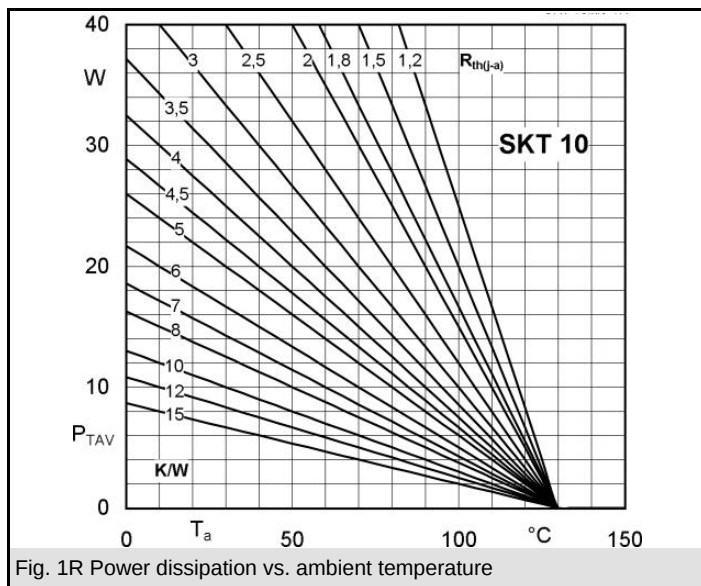
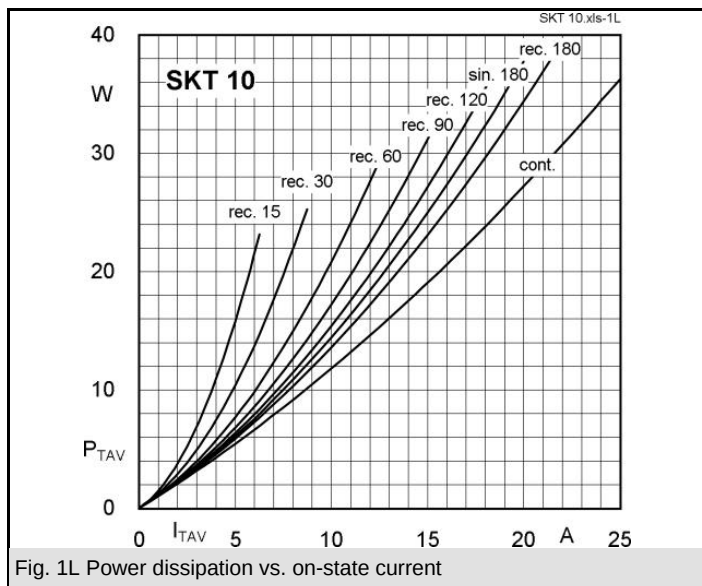
- DC motor control  
(e. g. for machine tools)
- Controlled rectifiers  
(e. g. for battery charging)
- AC controllers  
(e. g. for temperature control)
- Recommended snubber network  
e.g. for  $V_{VRMS} \leq 400$  V:  
 $R = 100 \Omega / 5$  W,  $C = 0,1 \mu F$

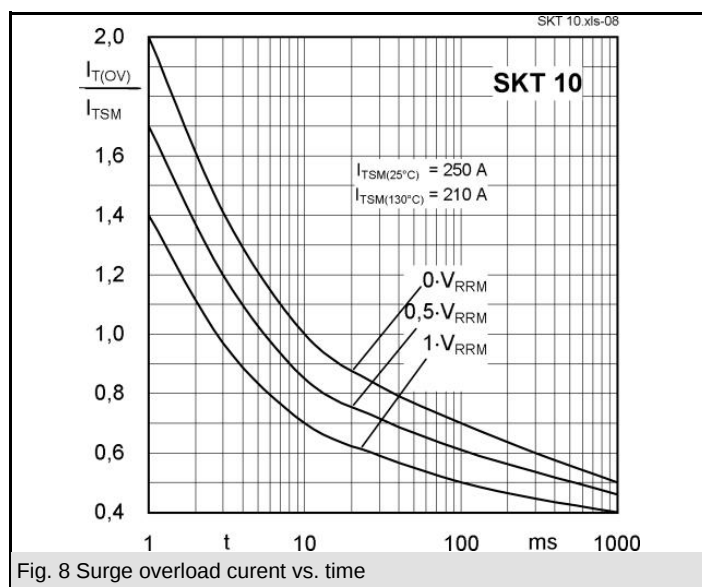
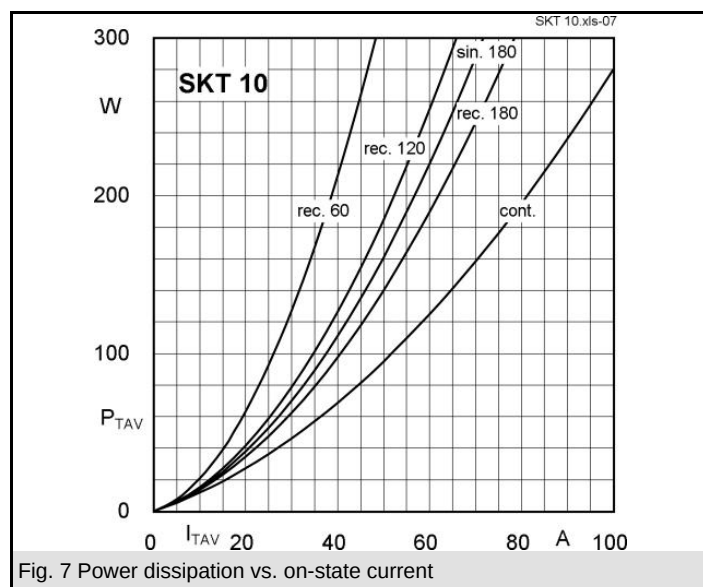
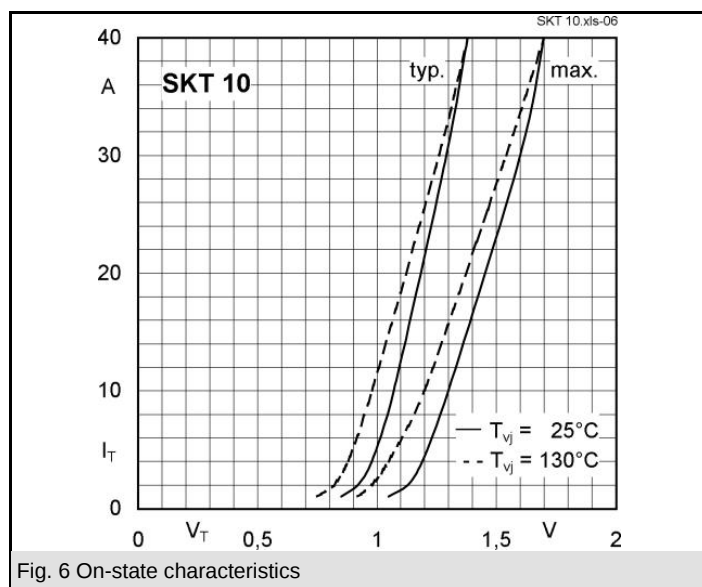
| $V_{RSM}$<br>V | $V_{RRM}, V_{DRM}$<br>V | $I_{TRMS} = 30$ A (maximum value for continuous operation)<br>$I_{TAV} = 10$ A (sin. 180; $T_c = 111$ °C) |  |
|----------------|-------------------------|-----------------------------------------------------------------------------------------------------------|--|
| 700            | 600                     | SKT 10/06D                                                                                                |  |
| 900            | 800                     | SKT 10/08D                                                                                                |  |
| 1300           | 1200                    | SKT 10/12E                                                                                                |  |

| Symbol           | Conditions                                              | Values          | Units |
|------------------|---------------------------------------------------------|-----------------|-------|
| $I_{TAV}$        | sin. 180; $T_c = 100$ (85) °C;                          | 14 (19)         | A     |
| $I_D$            | K9; $T_a = 45$ °C; B2 / B6                              | 12 / 16,5       | A     |
|                  | K5; $T_a = 45$ °C; B2 / B6                              | 17 / 24         | A     |
| $I_{RMS}$        | K9; $T_a = 45$ °C; W1C                                  | 13              | A     |
| $I_{TSM}$        | $T_{vj} = 25$ °C; 10 ms                                 | 250             | A     |
|                  | $T_{vj} = 130$ °C; 10 ms                                | 210             | A     |
| $i^2t$           | $T_{vj} = 25$ °C; 8,35 ... 10 ms                        | 310             | A²s   |
|                  | $T_{vj} = 130$ °C; 8,35 ... 10 ms                       | 220             | A²s   |
| $V_T$            | $T_{vj} = 25$ °C; $I_T = 30$ A                          | max. 1,6        | V     |
| $V_{T(TO)}$      | $T_{vj} = 130$ °C                                       | max. 1          | V     |
| $r_T$            | $T_{vj} = 130$ °C                                       | max. 18         | mΩ    |
| $I_{DD}, I_{RD}$ | $T_{vj} = 130$ °C; $V_{RD} = V_{RRM}, V_{DD} = V_{DRM}$ | max. 4          | mA    |
| $t_{gd}$         | $T_{vj} = 25$ °C; $I_G = 1$ A; $di_G/dt = 1$ A/μs       | 1               | μs    |
| $t_{gr}$         | $V_D = 0,67 \cdot V_{DRM}$                              | 2               | μs    |
| $(di/dt)_{cr}$   | $T_{vj} = 125$ °C                                       | max. 50         | A/μs  |
| $(dv/dt)_{cr}$   | $T_{vj} = 125$ °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.                                                   | 1,2             | K/W   |
| $R_{th(j-c)}$    | sin. 180                                                | 1,3             | K/W   |
| $R_{th(j-c)}$    | rec. 120                                                | 1,35            | K/W   |
| $R_{th(c-s)}$    |                                                         | 1               | K/W   |
| $T_{vj}$         |                                                         | - 40 ... + 130  | °C    |
| $T_{stg}$        |                                                         | - 40 ... + 150  | °C    |
| $V_{isol}$       |                                                         | -               | V~    |
| $M_s$            | to heatsink                                             | 2,0             | Nm    |
| $a$              |                                                         | 5 * 9,81        | m/s²  |
| $m$              | approx.                                                 | 7               | g     |
| Case             |                                                         | B 1             |       |



SKT







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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.