

# SKKT 122, SKKH 122



## SEMIPACK® 2

### Thyristor / Diode Modules

SKKT 122

SKKH 122

#### Features

- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- UL recognized, file no. E 63 532

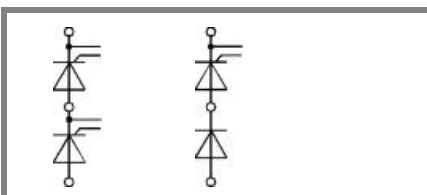
#### Typical Applications\*

- DC motor control (e. g. for machine tools)
- Softstarter
- Temperature control (e. g. for ovens, chemical processes)
- Professional light dimming (studios, theaters)

1) See the assembly instructions

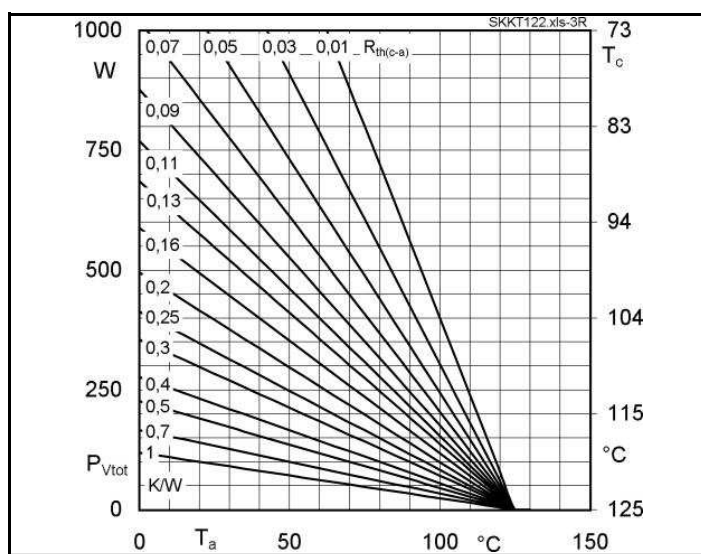
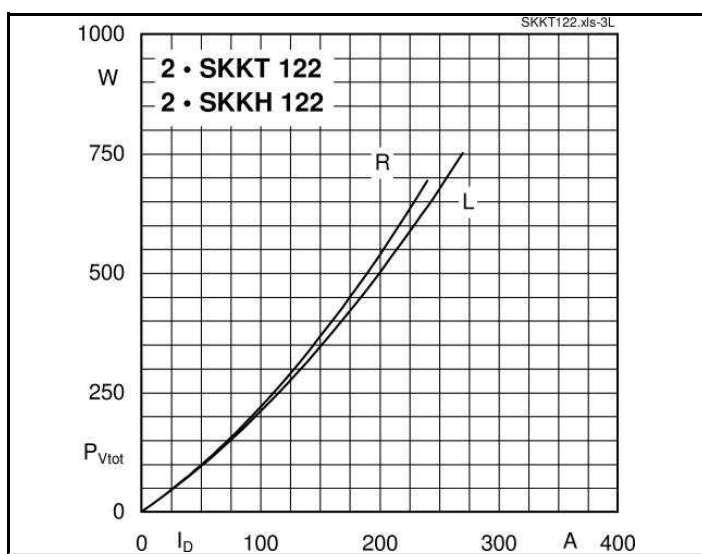
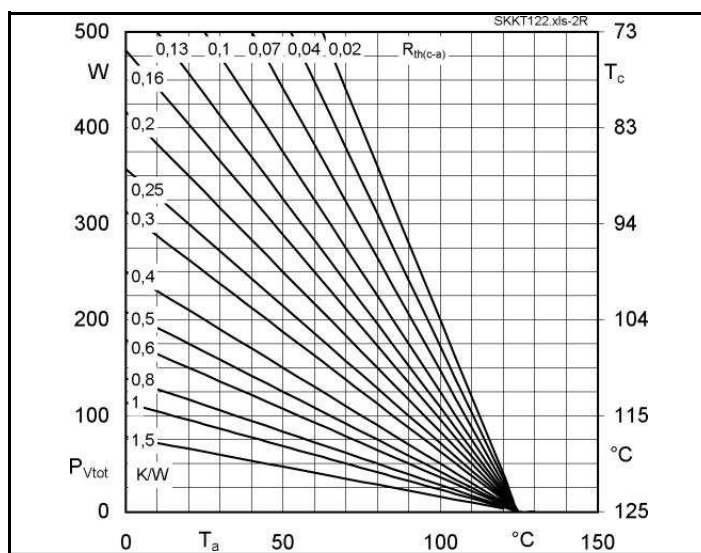
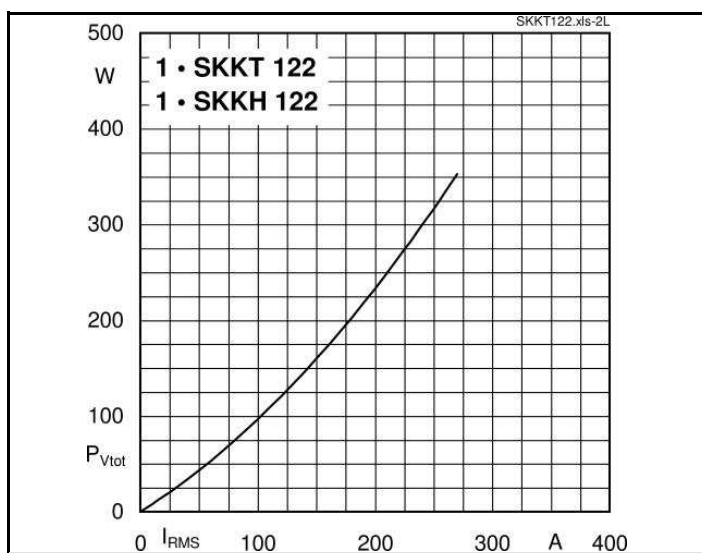
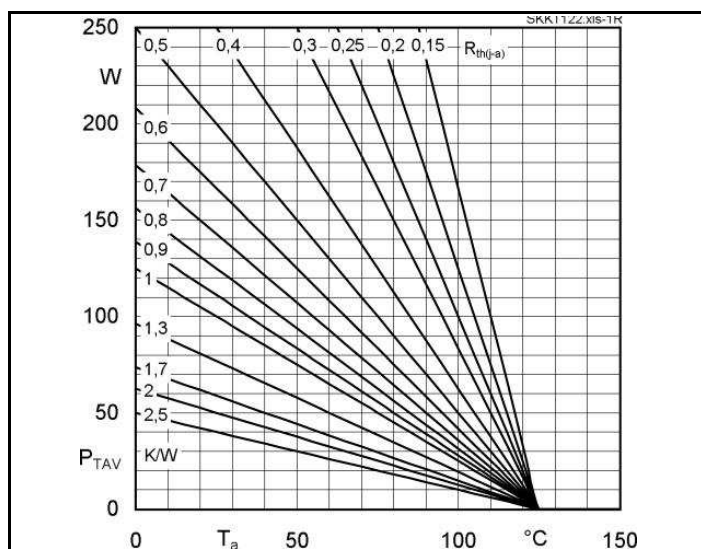
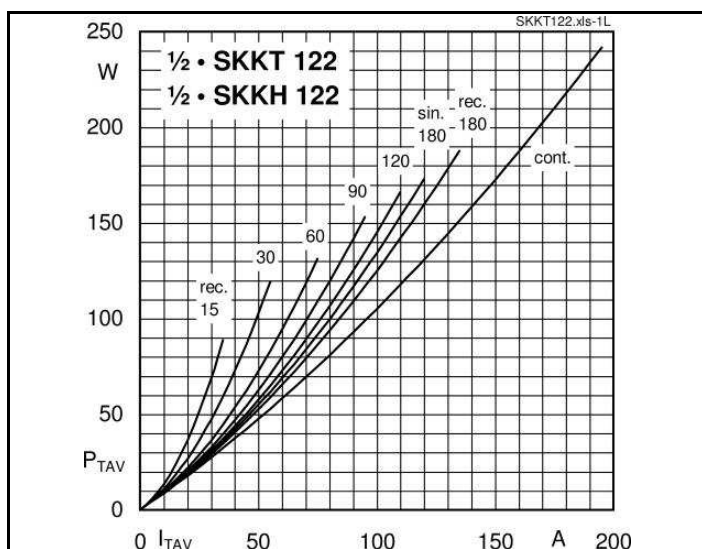
| $V_{RSM}$<br>V | $V_{RRM}, V_{DRM}$<br>V | $I_{TRMS} = 195 \text{ A}$ (maximum value for continuous operation)<br>$I_{TAV} = 122 \text{ A}$ (sin. 180; $T_c = 88^\circ \text{C}$ ) |              |
|----------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------|
| 900            | 800                     | SKKT 122/08E                                                                                                                            | SKKH 122/08E |
| 1300           | 1200                    | SKKT 122/12E                                                                                                                            | SKKH 122/12E |
| 1500           | 1400                    | SKKT 122/14E                                                                                                                            | SKKH 122/14E |
| 1700           | 1600                    | SKKT 122/16E                                                                                                                            | SKKH 122/16E |
| 1900           | 1800                    | SKKT 122/18E                                                                                                                            | SKKH 122/18E |

| Symbol           | Conditions                                                                               | Values             | Units            |
|------------------|------------------------------------------------------------------------------------------|--------------------|------------------|
| $I_{TAV}$        | sin. 180; $T_c = 85 (100)^\circ \text{C}$ ;                                              | 129 (92)           | A                |
| $I_D$            | P3/180; $T_a = 45^\circ \text{C}$ ; B2 / B6                                              | 82 / 105           | A                |
|                  | P3/180F; $T_a = 35^\circ \text{C}$ ; B2 / B6                                             | 170 / 200          | A                |
| $I_{RMS}$        | P3/180F; $T_a = 35^\circ \text{C}$ ; W1 / W3                                             | 235 / 3 * 160      | A                |
| $I_{TSM}$        | $T_{vj} = 25^\circ \text{C}$ ; 10 ms                                                     | 3600               | A                |
|                  | $T_{vj} = 125^\circ \text{C}$ ; 10 ms                                                    | 3200               | A                |
| $i^2t$           | $T_{vj} = 25^\circ \text{C}$ ; 8,3 ... 10 ms                                             | 64800              | A <sup>2</sup> s |
|                  | $T_{vj} = 125^\circ \text{C}$ ; 8,3 ... 10 ms                                            | 51200              | A <sup>2</sup> s |
| $V_T$            | $T_{vj} = 25^\circ \text{C}$ ; $I_T = 360 \text{ A}$                                     | max. 1,55          | V                |
| $V_{T(TO)}$      | $T_{vj} = 125^\circ \text{C}$                                                            | max. 0,85          | V                |
| $r_T$            | $T_{vj} = 125^\circ \text{C}$                                                            | max. 2             | mΩ               |
| $I_{DD}, I_{RD}$ | $T_{vj} = 125^\circ \text{C}$ ; $V_{RD} = V_{RRM}$ ; $V_{DD} = V_{DRM}$                  | max. 40            | mA               |
| $t_{gd}$         | $T_{vj} = 25^\circ \text{C}$ ; $I_G = 1 \text{ A}$ ; $di_G/dt = 1 \text{ A}/\mu\text{s}$ | 1                  | μs               |
| $t_{gr}$         | $V_D = 0,67 * V_{DRM}$                                                                   | 2                  | μs               |
| $(di/dt)_{cr}$   | $T_{vj} = 125^\circ \text{C}$                                                            | max. 200           | A/μs             |
| $(dv/dt)_{cr}$   | $T_{vj} = 125^\circ \text{C}$                                                            | max. 1000          | V/μs             |
| $t_q$            | $T_{vj} = 125^\circ \text{C}$                                                            | 120                | μs               |
| $I_H$            | $T_{vj} = 25^\circ \text{C}$ ; typ. / max.                                               | 100 / 300          | mA               |
| $I_L$            | $T_{vj} = 25^\circ \text{C}$ ; $R_G = 33 \Omega$ ; typ. / max.                           | 200 / 500          | mA               |
| $V_{GT}$         | $T_{vj} = 25^\circ \text{C}$ ; d.c.                                                      | min. 2             | V                |
| $I_{GT}$         | $T_{vj} = 25^\circ \text{C}$ ; d.c.                                                      | min. 150           | mA               |
| $V_{GD}$         | $T_{vj} = 125^\circ \text{C}$ ; d.c.                                                     | max. 0,25          | V                |
| $I_{GD}$         | $T_{vj} = 125^\circ \text{C}$ ; d.c.                                                     | max. 10            | mA               |
| $R_{th(j-c)}$    | cont.; per thyristor / per module                                                        | 0,2 / 0,1          | K/W              |
| $R_{th(j-c)}$    | sin. 180; per thyristor / per module                                                     | 0,21 / 0,105       | K/W              |
| $R_{th(j-c)}$    | rec.120; per thyristor / per module                                                      | 0,22 / 0,11        | K/W              |
| $R_{th(c-s)}$    | per thyristor / per module                                                               | 0,13 / 0,065       | K/W              |
| $T_{vj}$         |                                                                                          | - 40 ... + 125     | °C               |
| $T_{stg}$        |                                                                                          | - 40 ... + 125     | °C               |
| $V_{isol}$       | a. c. 50 Hz; r.m.s.; 1 s / 1 min.                                                        | 3600 / 3000        | V~               |
| $M_s$            | to heatsink                                                                              | $5 \pm 15 \%^{1)}$ | Nm               |
| $M_t$            | to terminal                                                                              | $5 \pm 15 \%$      | Nm               |
| $a$              |                                                                                          | $5 * 9,81$         | m/s <sup>2</sup> |
| $m$              | approx.                                                                                  | 165                | g                |
| Case             | SKKT                                                                                     | A 21               |                  |
|                  | SKKH                                                                                     | A 22               |                  |

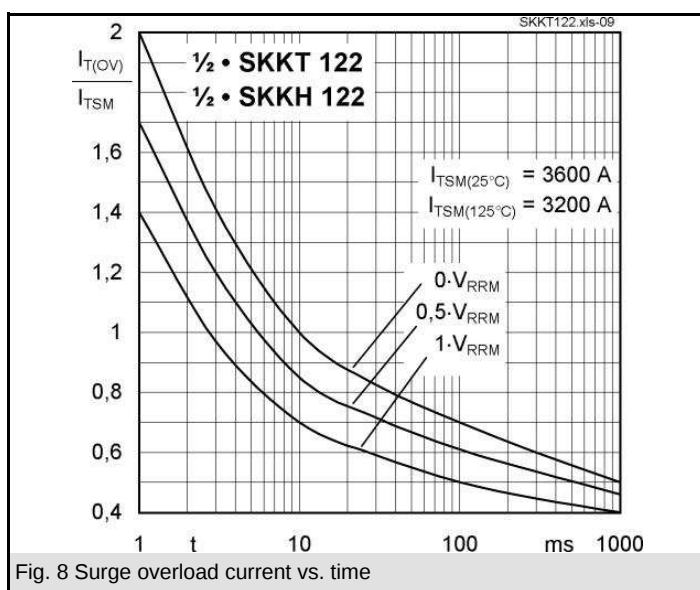
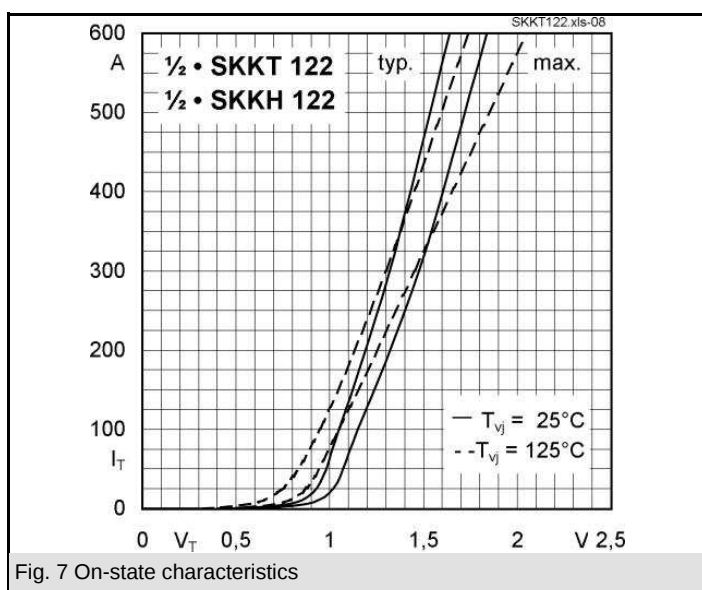
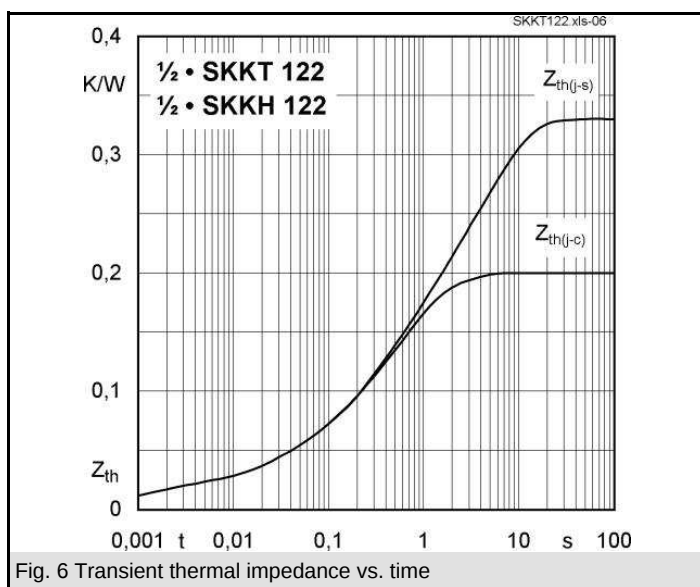
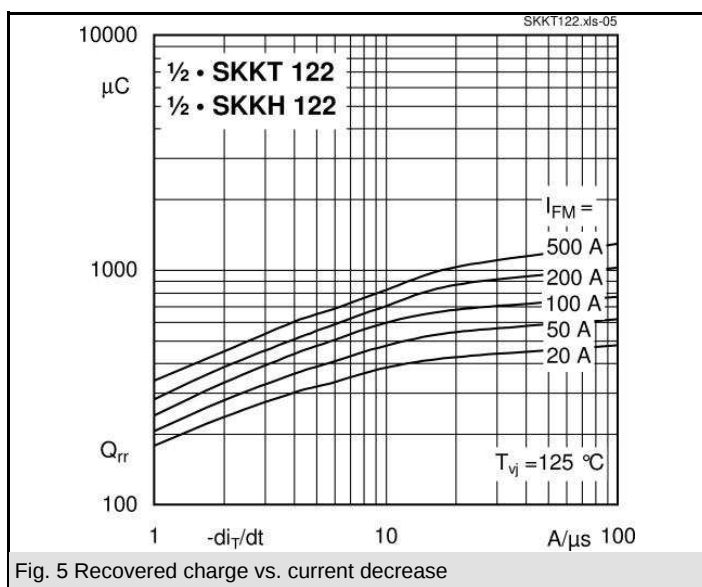
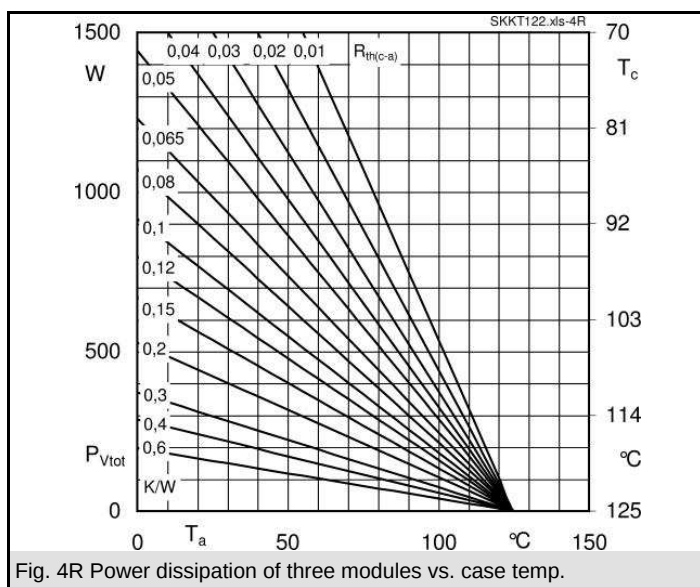
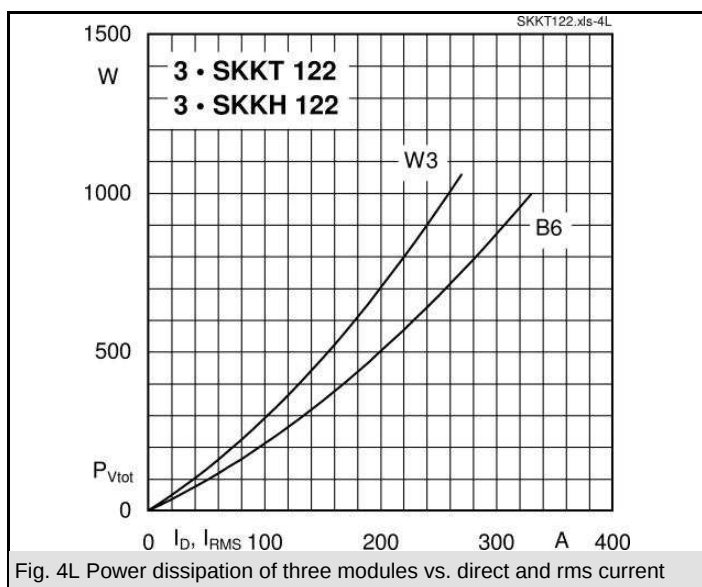


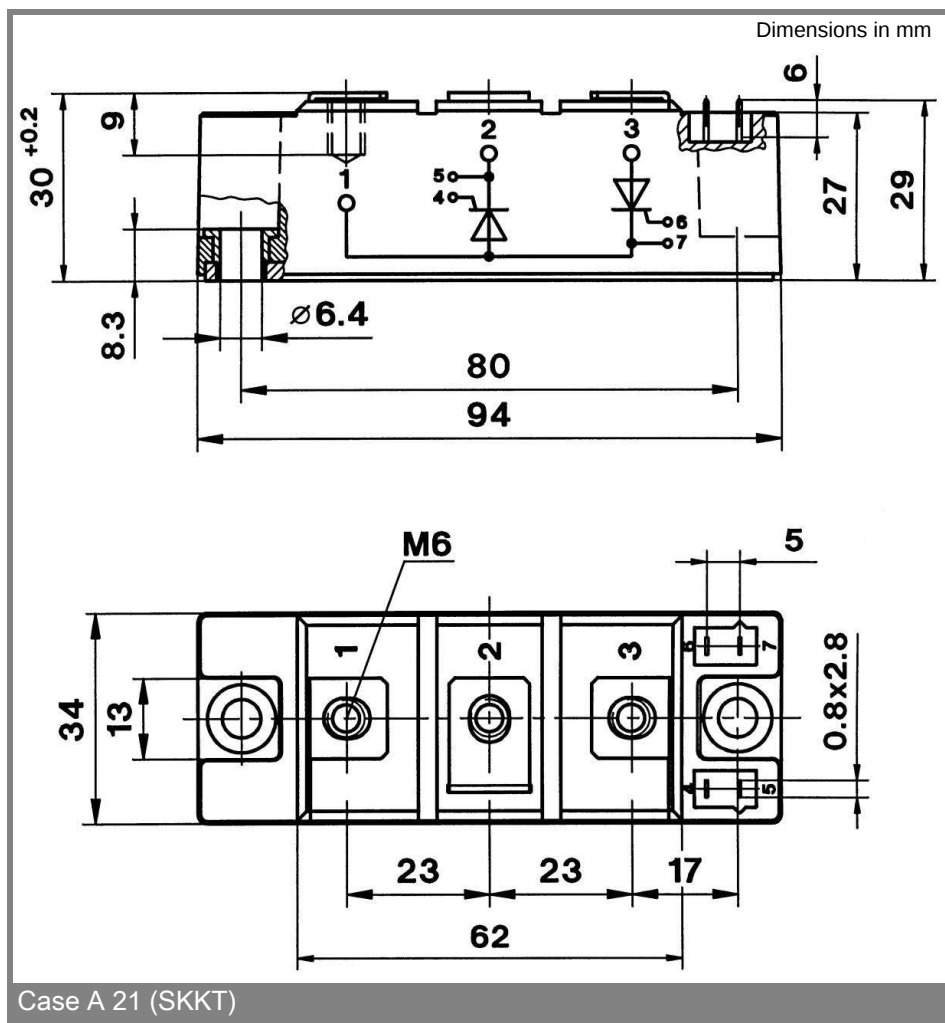
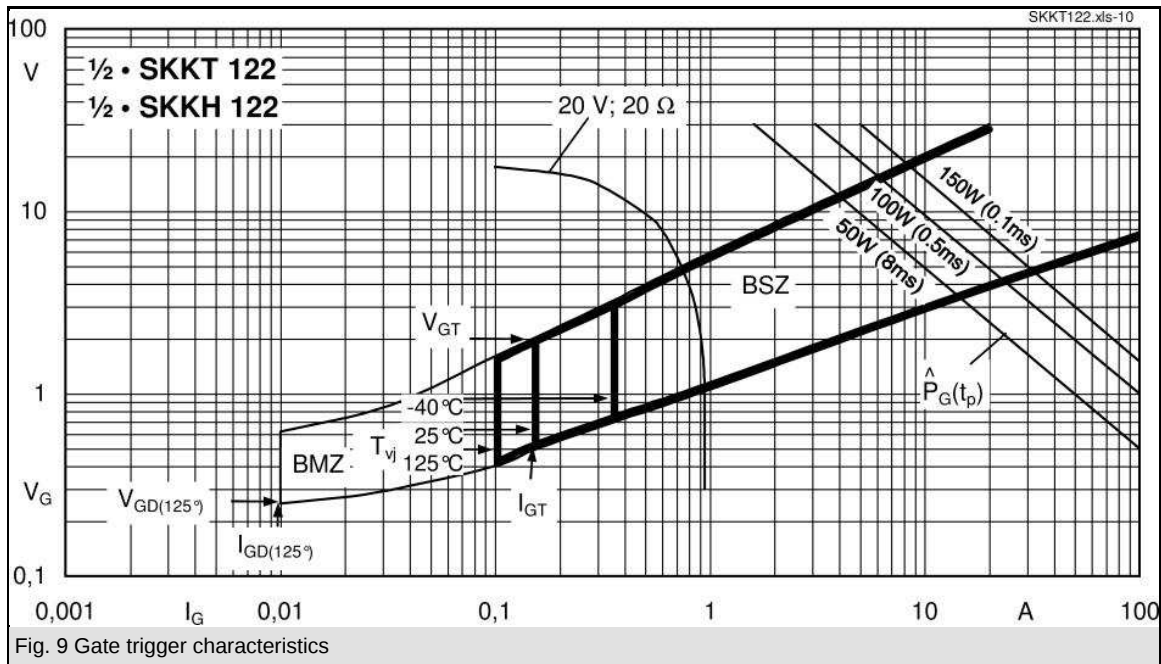
SKKT

SKKH



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\* 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.