

# SKKT 280, SKKH 280



**SEMIPACK® 3 new**

## Thyristor / Diode Modules

**SKKH 280**

**SKKT 280**

### Features

- Heat transfer through aluminium nitride ceramic isolated metal baseplate
- Precious metal pressure contacts for high reliability
- Thyristor with amplifying gate
- UL recognized, file no. E 63 532

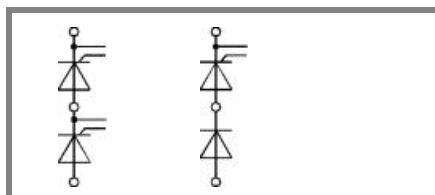
### Typical Applications\*

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

1) See the assembly instruction

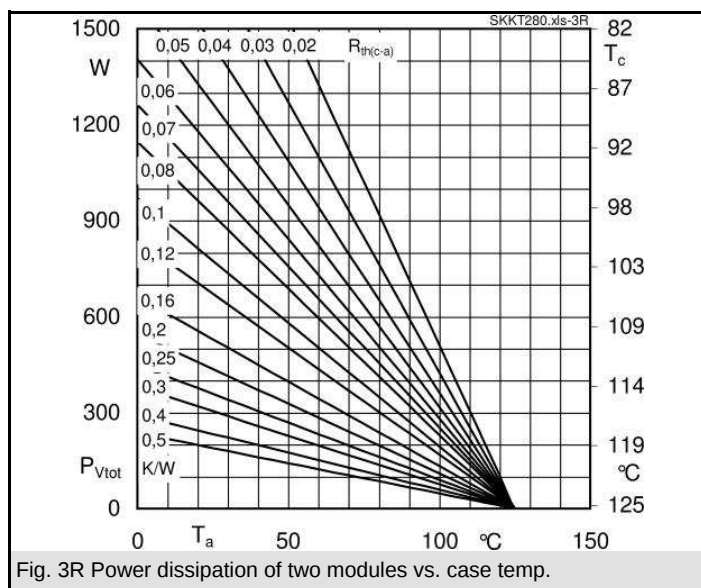
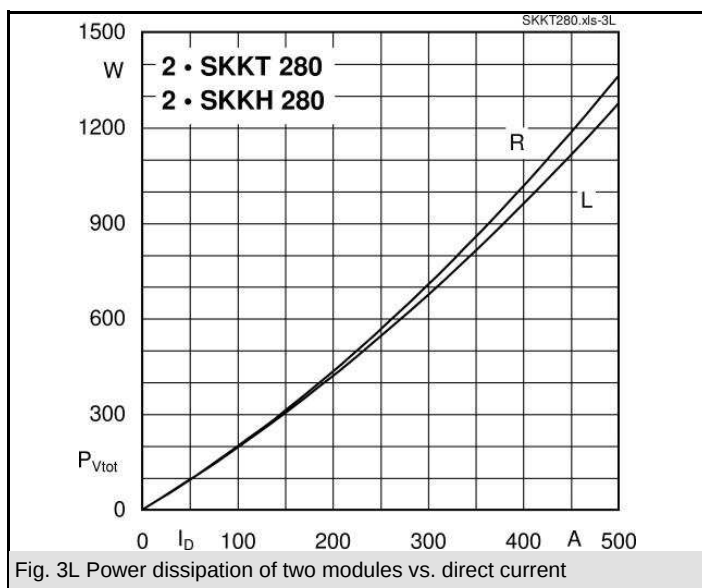
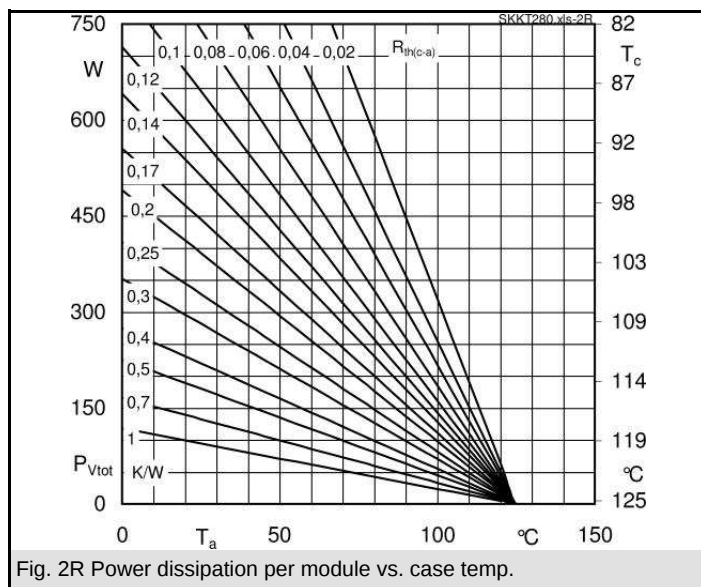
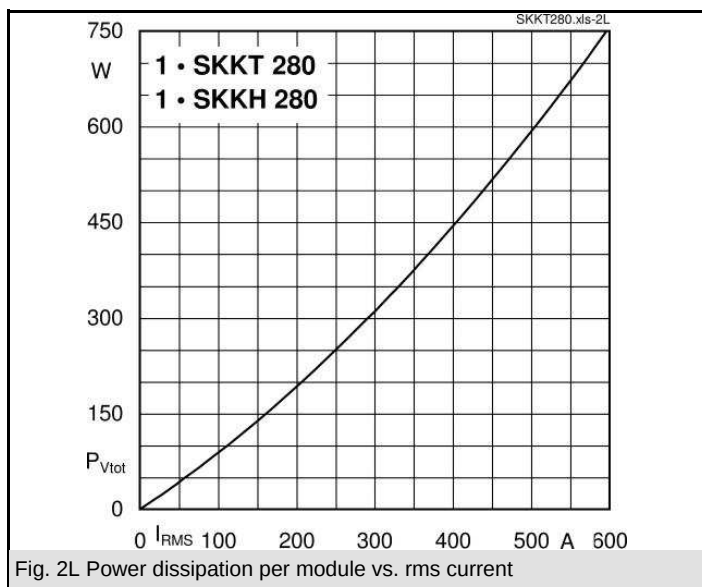
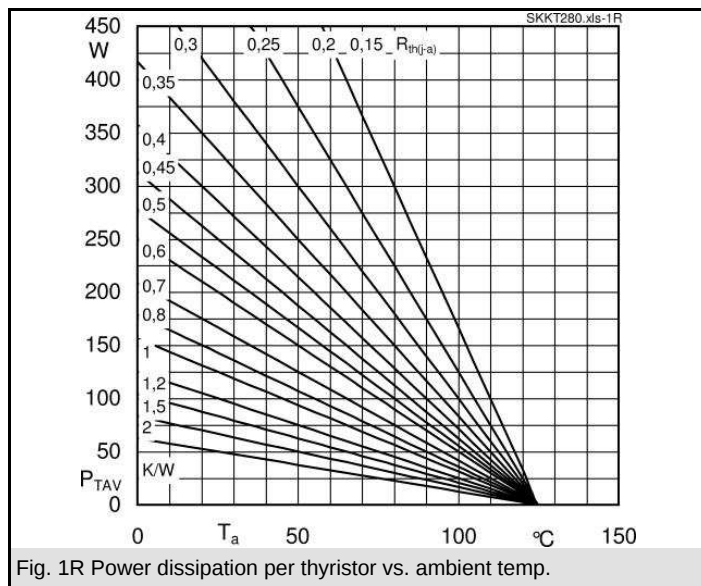
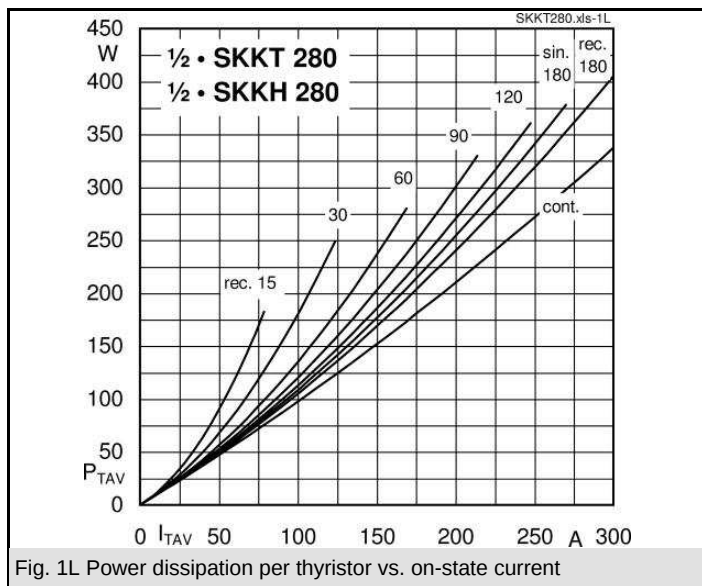
| $V_{RSM}$<br>V | $V_{RRM}, V_{DRM}$<br>V | $I_{TRMS} = 440$ A (maximum value for continuous operation)<br>$I_{TAV} = 280$ A (sin. 180; $T_c = 79$ °C) |                 |  |
|----------------|-------------------------|------------------------------------------------------------------------------------------------------------|-----------------|--|
| 2100           | 2000                    | SKKT 280/20E H4                                                                                            | SKKH 280/20E H4 |  |
| 2300           | 2200                    | SKKT 280/22E H4                                                                                            | SKKH 280/22E H4 |  |

| Symbol           | Conditions                                                          | Values                 | Units      |
|------------------|---------------------------------------------------------------------|------------------------|------------|
| $I_{TAV}$        | sin. 180; $T_c = 79$ (85) °C;                                       | 280 (252 )             | A          |
| $I_{TSM}$        | $T_{vj} = 25$ °C; 10 ms<br>$T_{vj} = 125$ °C; 10 ms                 | 8500<br>7500           | A<br>A     |
| $i^2t$           | $T_{vj} = 25$ °C; 8,3 ... 10 ms<br>$T_{vj} = 125$ °C; 8,3 ... 10 ms | 361000<br>281000       | A²s<br>A²s |
| $V_T$            | $T_{vj} = 25$ °C; $I_T = 750$ A                                     | max. 1,55              | V          |
| $V_{T(TO)}$      | $T_{vj} = 125$ °C                                                   | max. 0,9               | V          |
| $r_T$            | $T_{vj} = 125$ °C                                                   | max. 0,75              | mΩ         |
| $I_{DD}, I_{RD}$ | $T_{vj} = 125$ °C; $V_{RD} = V_{RRM}; V_{DD} = V_{DRM}$             | max. 90                | 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         |
| $(di/dt)_{cr}$   | $T_{vj} = 125$ °C                                                   | max. 250               | A/μs       |
| $(dv/dt)_{cr}$   | $T_{vj} = 125$ °C                                                   | max. 1000              | V/μs       |
| $t_q$            | $T_{vj} = 125$ °C ,                                                 | 50 ... 150             | μs         |
| $I_H$            | $T_{vj} = 25$ °C; typ. / max.                                       | 150 / 500              | mA         |
| $I_L$            | $T_{vj} = 25$ °C; $R_G = 33$ Ω; typ. / max.                         | 300 / 2000             | mA         |
| $V_{GT}$         | $T_{vj} = 25$ °C; d.c.                                              | min. 3                 | V          |
| $I_{GT}$         | $T_{vj} = 25$ °C; d.c.                                              | min. 200               | mA         |
| $V_{GD}$         | $T_{vj} = 125$ °C; d.c.                                             | max. 0,25              | V          |
| $I_{GD}$         | $T_{vj} = 125$ °C; d.c.                                             | max. 10                | mA         |
| $R_{th(j-c)}$    | cont.; per thyristor / per module                                   | 0,11 / 0,055           | K/W        |
| $R_{th(j-c)}$    | sin. 180; per thyristor / per module                                | 0,116 / 0,058          | K/W        |
| $R_{th(j-c)}$    | rec. 120; per thyristor / per module                                | 0,13 / 0,065           | K/W        |
| $R_{th(c-s)}$    | per thyristor / per module                                          | 0,04 / 0,02            | 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.                                   | 4800 / 4000            | V~         |
| $M_s$            | to heatsink                                                         | 9 ± 15 % <sup>1)</sup> | Nm         |
| $M_t$            | to terminal                                                         | 9 ± 15 %               | Nm         |
| $a$              |                                                                     | 5 * 9,81               | m/s²       |
| $m$              | approx.                                                             | 600                    | g          |
| Case             | SKKT<br>SKKH                                                        | A 73b<br>A 76b         |            |

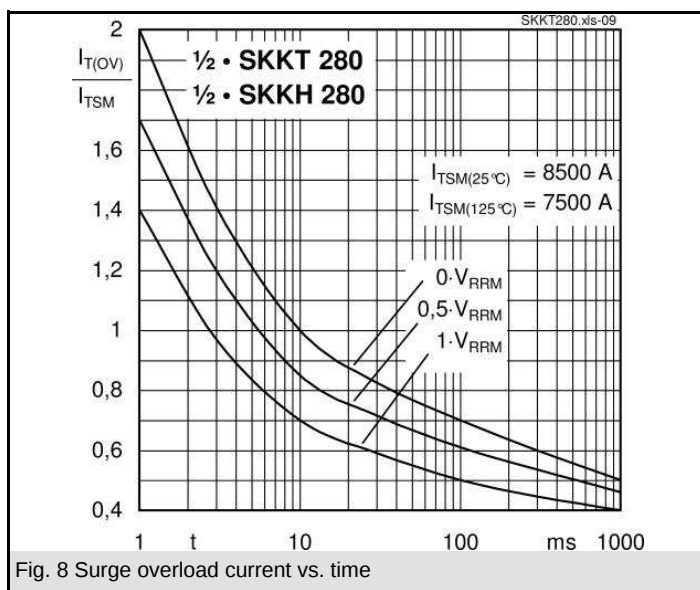
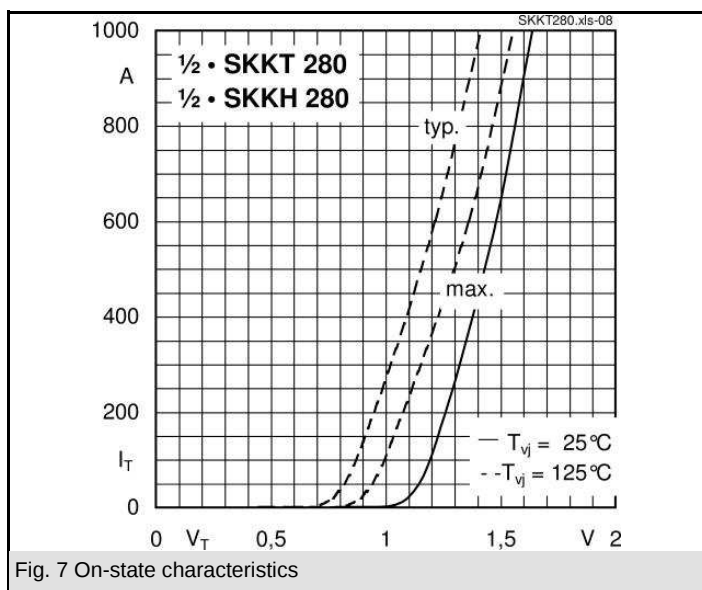
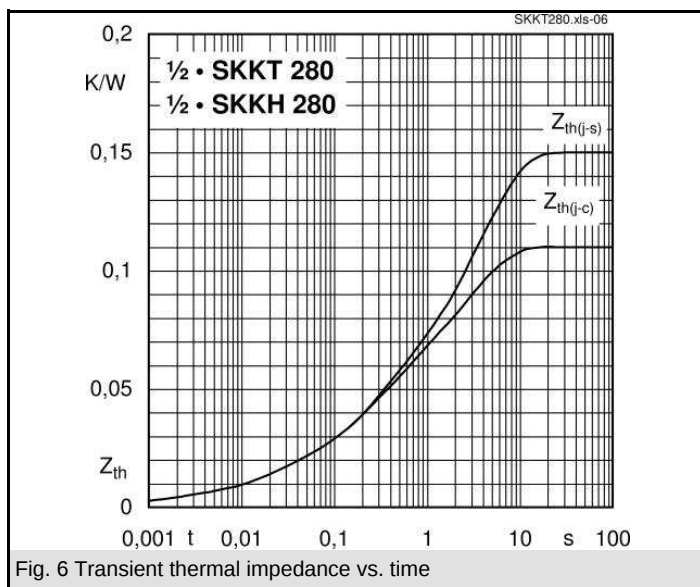
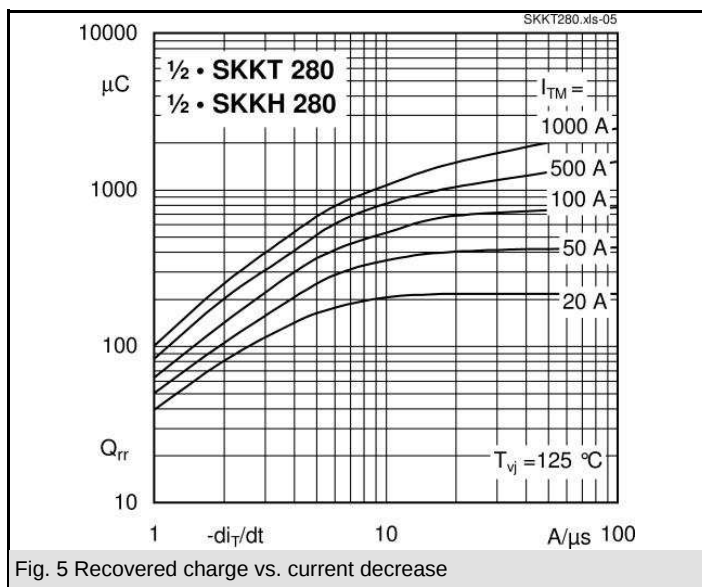
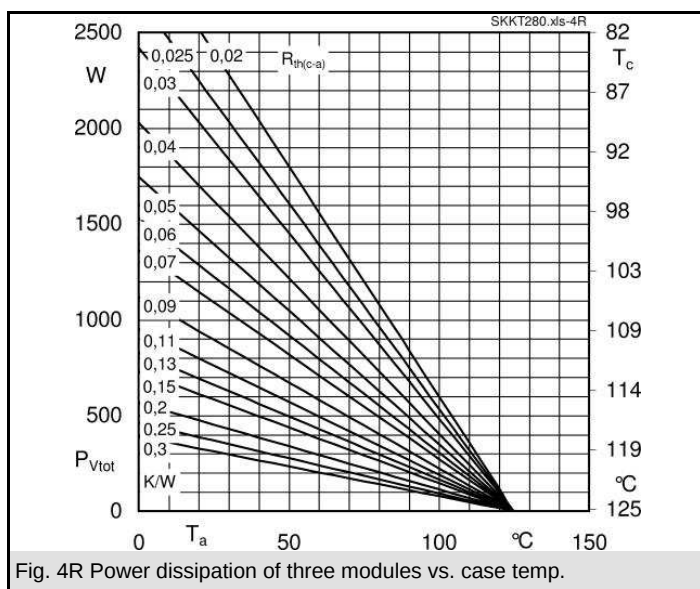
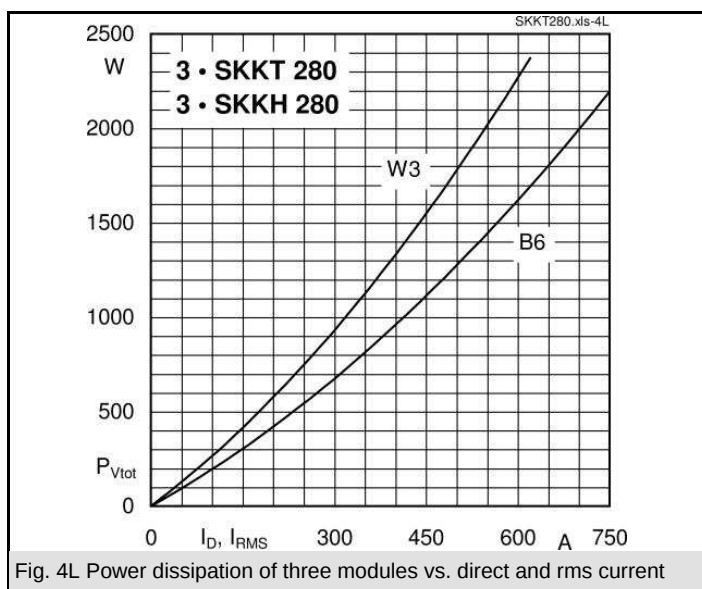


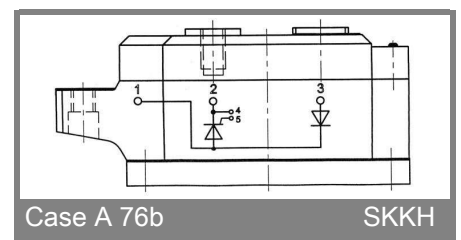
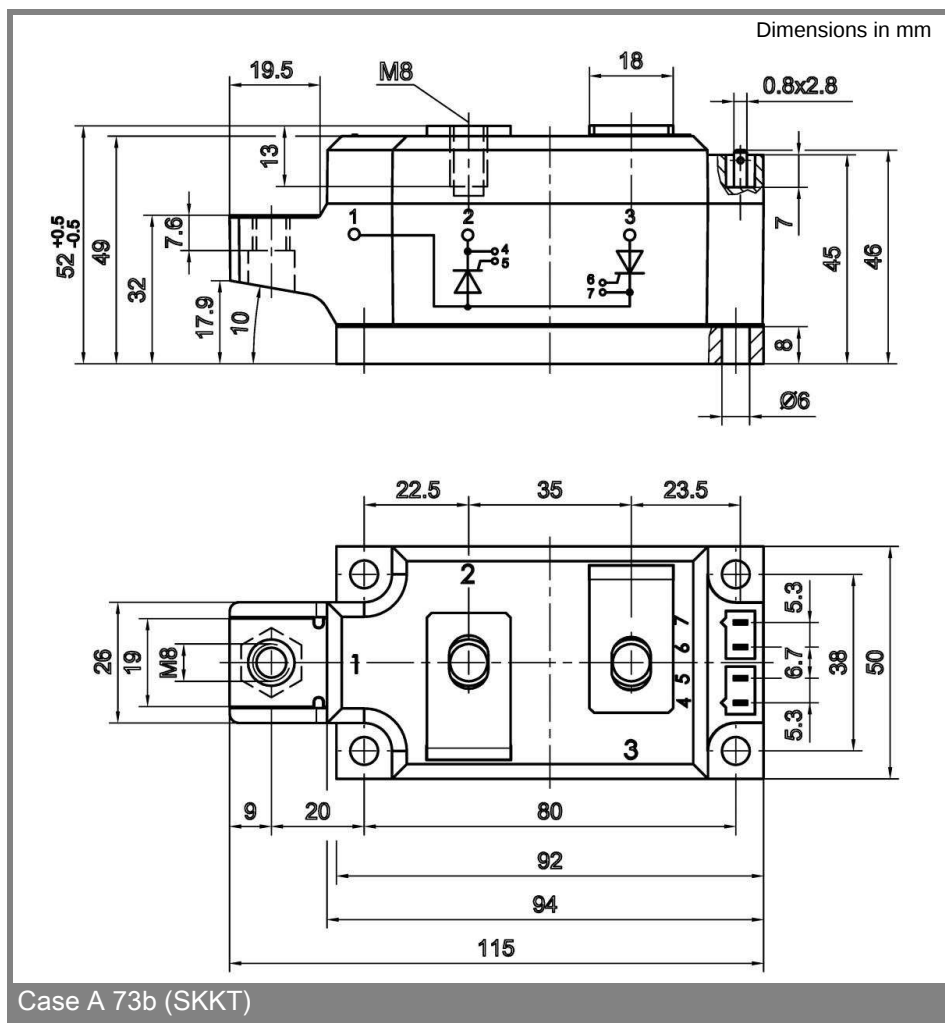
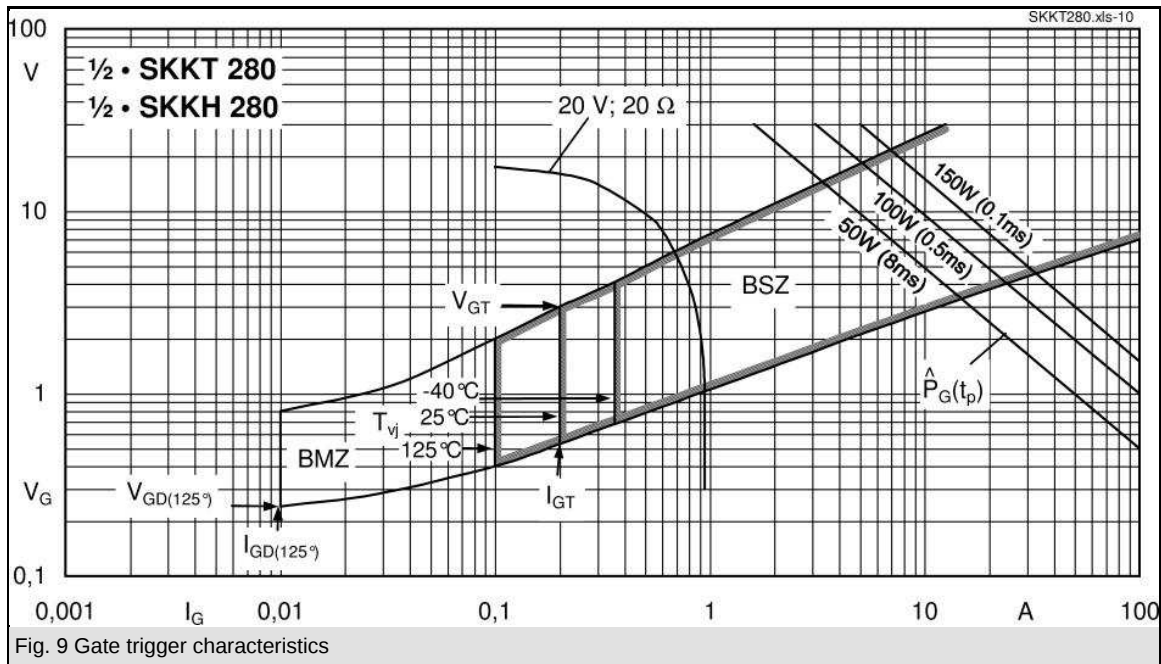
SKKT

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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 staff.