**SEMIPACK® 2**

## Thyristor / Diode Modules

**SKKH 132 H4**

**SKKT 132 H4**

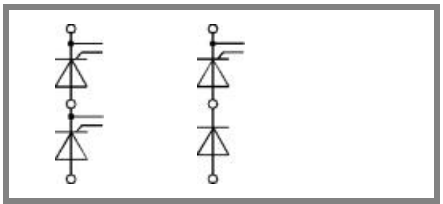
### Features

- 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)
- Temperature control (e. g. for ovens, chemical processes)
- Professional light dimming (studios, theaters)

1) See the assembly instructions



**SKKT SKKH**

| $V_{RSM}$ V | $V_{RRM}$, $V_{DRM}$ V | $I_{TRMS}$ = 220 A (maximum value for continuous operation) $I_{TAV}$ = 132 A (sin. 180; $T_c$ = 84 °C) | | |
|---|---|---|---|---|
| 2100 | 2000 | SKKT 132/20E H4 | SKKH 132/20E H4 | |
| 2300 | 2200 | SKKT 132/22E H4 | SKKH 132/22E H4 | |

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $I_{TAV}$ | sin. 180; $T_c$ = 85 (100) °C; | 128 (90 ) | A |
| $I_{TSM}$ | $T_{vj}$ = 25 °C; 10 ms | 4500 | A |
| | $T_{vj}$ = 125 °C; 10 ms | 3800 | A |
| i²t | $T_{vj}$ = 25 °C; 8,3 ... 10 ms | 100000 | A²s |
| | $T_{vj}$ = 125 °C; 8,3 ... 10 ms | 72000 | A²s |
| $V_T$ | $T_{vj}$ = 25 °C; $I_T$ = 500 A | max. 1,8 | V |
| $V_{T(TO)}$ | $T_{vj}$ = 125 °C | max. 1,1 | V |
| $r_T$ | $T_{vj}$ = 125 °C | max. 2 | mΩ |
| $I_{DD}$; $I_{RD}$ | $T_{vj}$ = 125 °C; $V_{RD}$ = $V_{RRM}$; $V_{DD}$ = $V_{DRM}$ | max. 60 | 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. 200 | 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 / 400 | mA |
| $I_L$ | $T_{vj}$ = 25 °C; $R_G$ = 33 Ω; typ. / max. | 300 / 1000 | mA |
| $V_{GT}$ | $T_{vj}$ = 25 °C; d.c. | min. 2 | V |
| $I_{GT}$ | $T_{vj}$ = 25 °C; d.c. | min. 150 | 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 | 0,17 / 0,085 | K/W |
| $R_{th(j-c)}$ | sin. 180; per thyristor / per module | 0,18 / 0,09 | K/W |
| $R_{th(j-c)}$ | rec. 120; per thyristor / per module | 0,2 / 0,1 | K/W |
| $R_{th(c-s)}$ | per thyristor / per module | 0,1 / 0,05 | 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 | 5 ± 15 %[1)] | Nm |
| $M_t$ | to terminal | 5 ± 15 % | Nm |
| a | | 5 * 9,81 | m/s² |
| m | approx. | 175 | g |
| Case | SKKT | A 21 | |
| | SKKH | A 22 | |

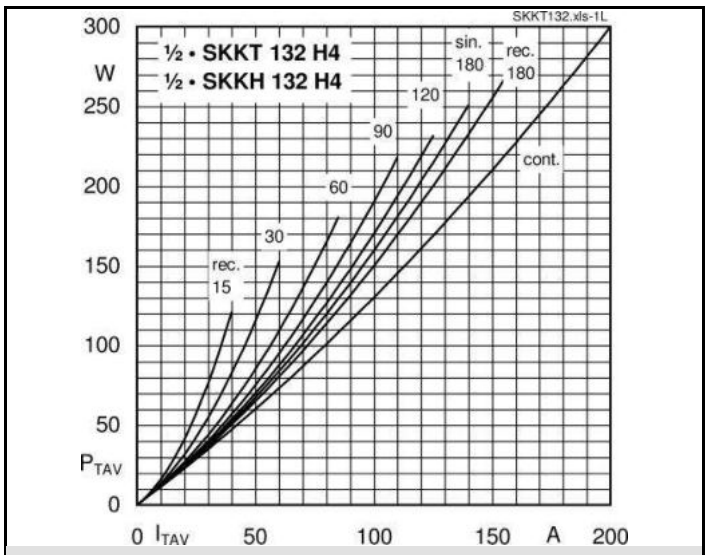



Fig. 1L Power dissipation per thyristor vs. on-state current

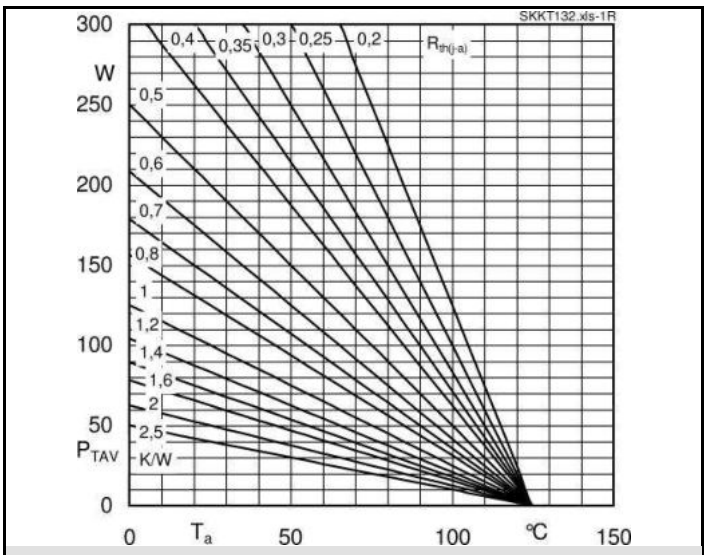



Fig. 1R Power dissipation per thyristor vs. ambient temp.

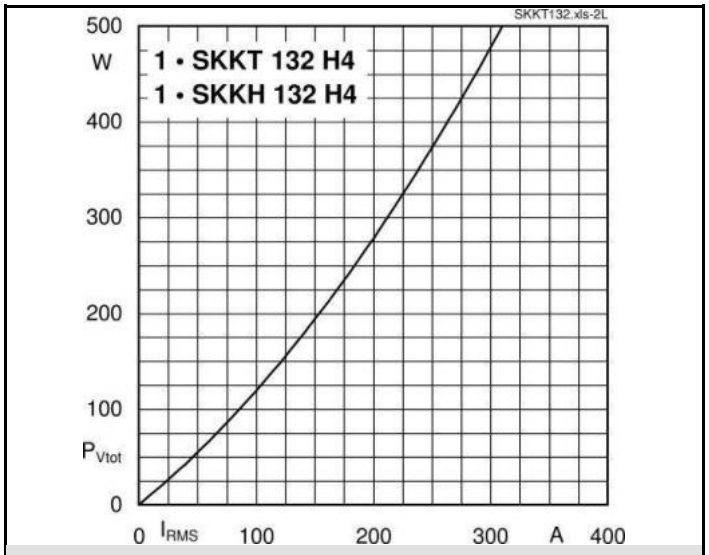



Fig. 2L Power dissipation per module vs. rms current

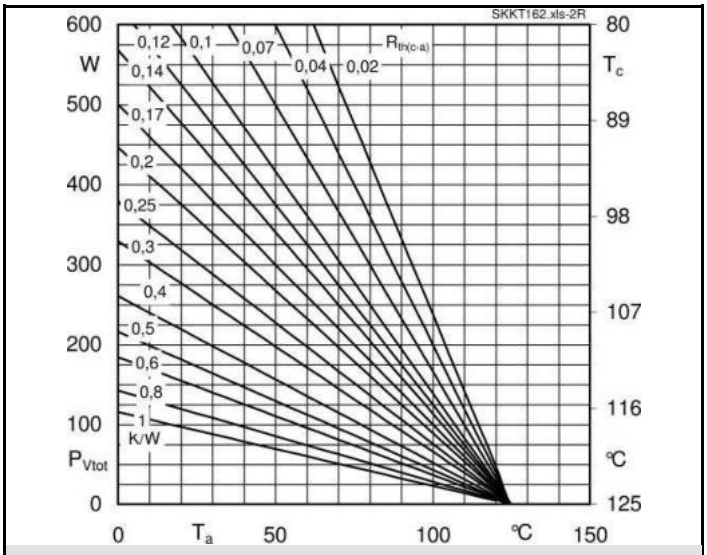



Fig. 2R Power dissipation per module vs. case temp.

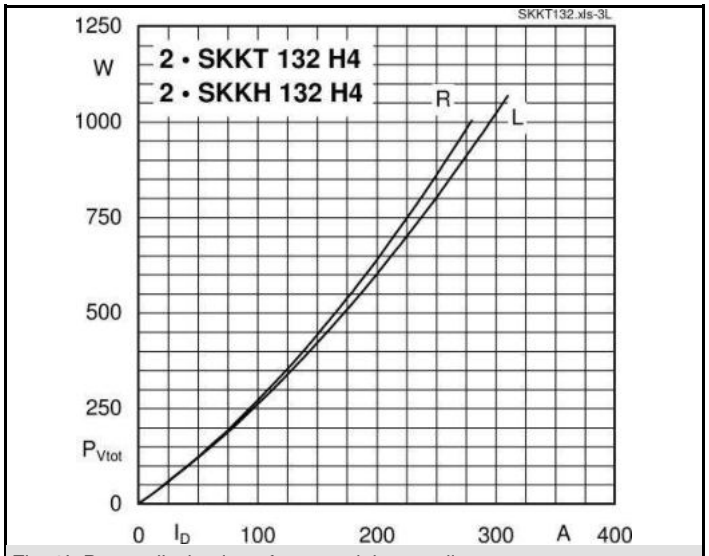



Fig. 3L Power dissipation of two modules vs. direct current

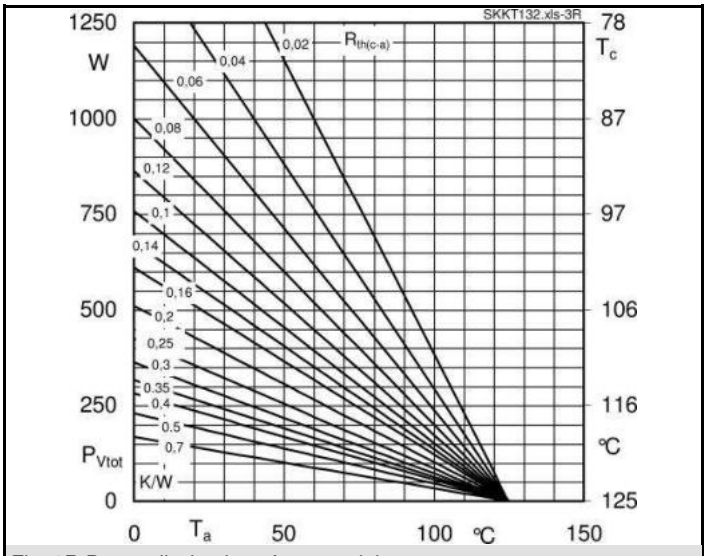



Fig. 3R Power dissipation of two modules vs. case temp.

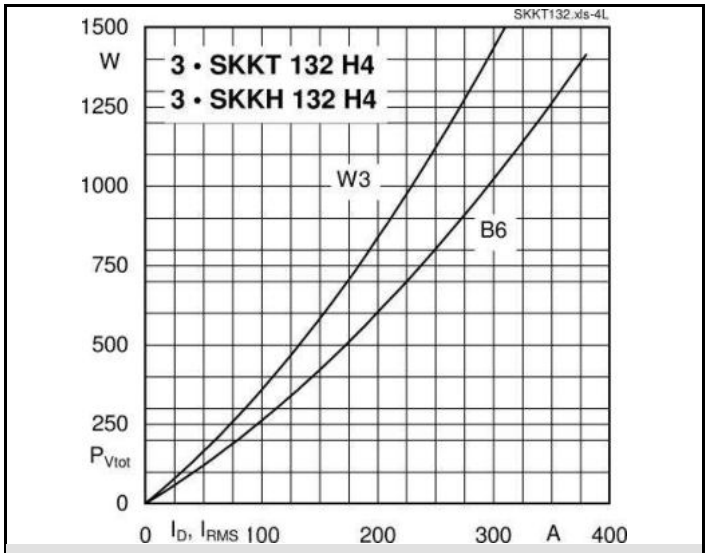



Fig. 4L Power dissipation of three modules vs. direct and rms current

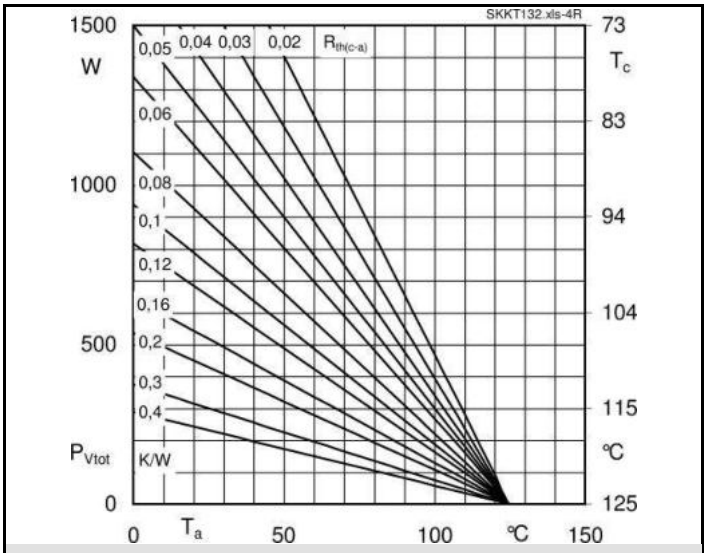



Fig. 4R Power dissipation of three modules vs. case temp.

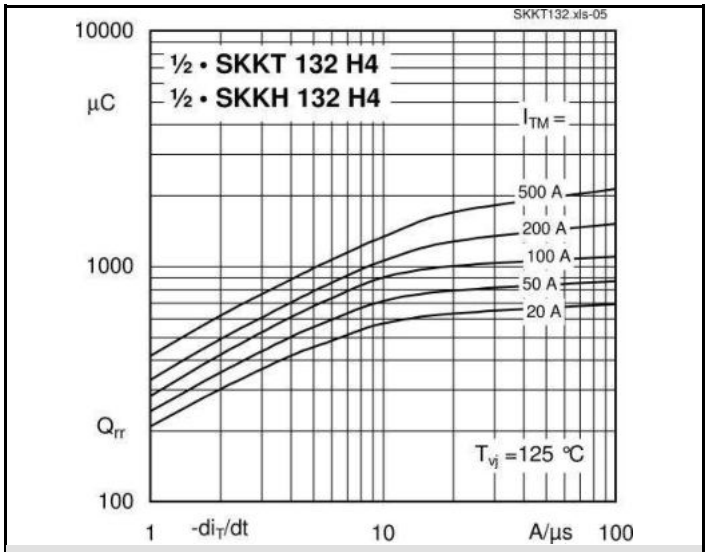



Fig. 5 Recovered charge vs. current decrease

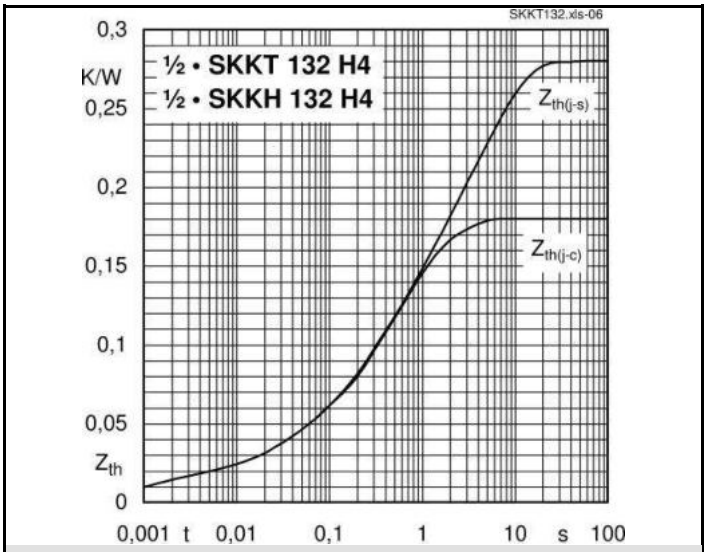



Fig. 6 Transient thermal impedance vs. time

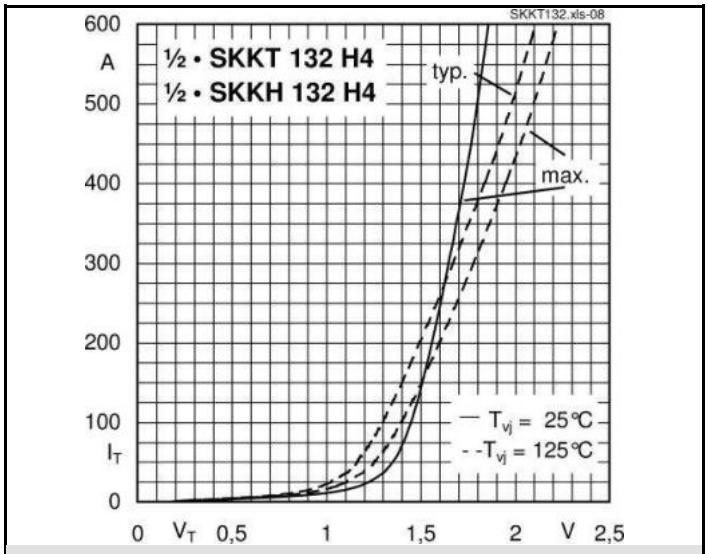



Fig. 7 On-state characteristics

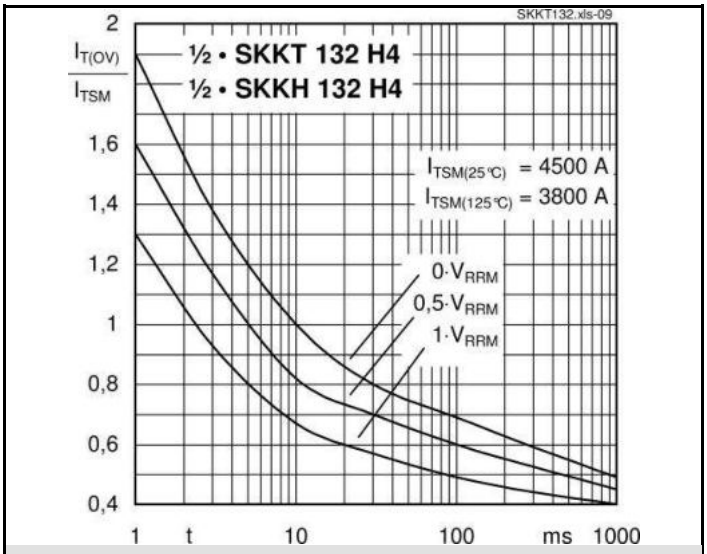



Fig. 8 Surge overload current vs. time

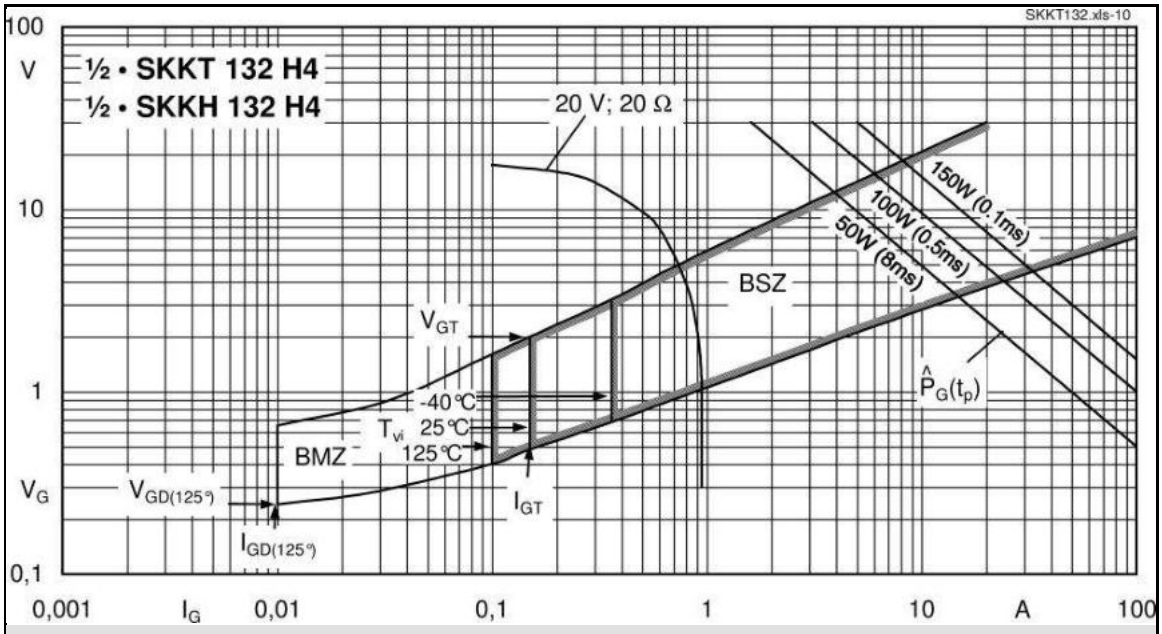
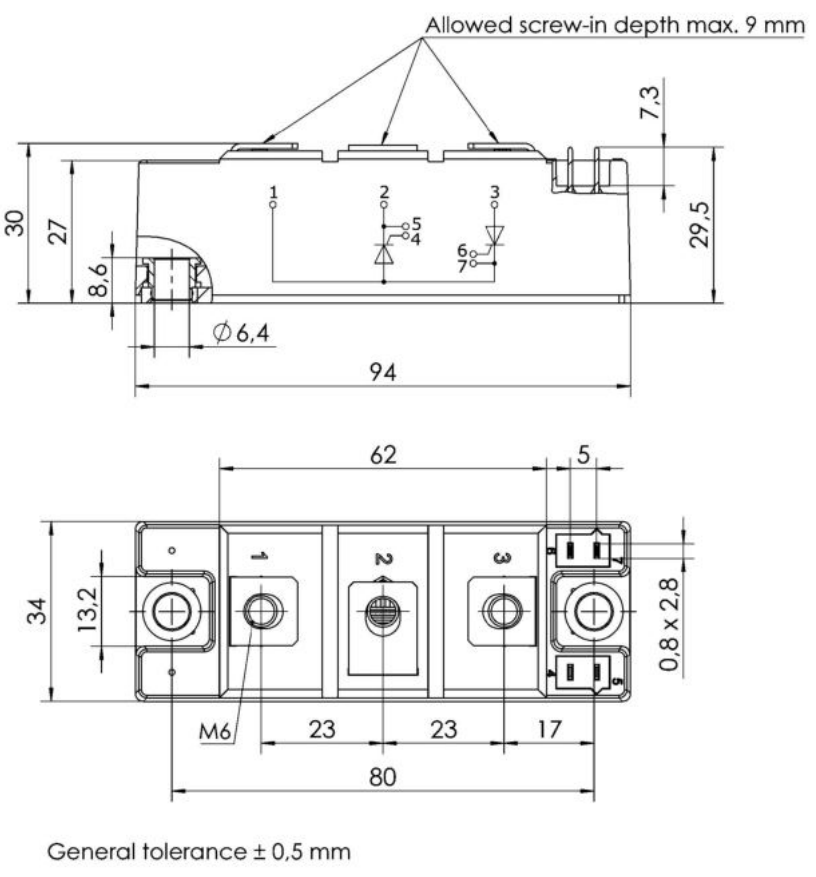


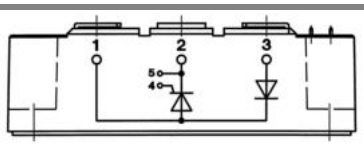
Fig. 9 Gate trigger characteristics

Dimensions in mm




General tolerance ± 0,5 mm

Case A 21 (SKKT)




Case A 22 SKKH

This is an electrostatic discharge sensitive device (ESDS) due to international standard IEC 61340.

***IMPORTANT INFORMATION AND WARNINGS**

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