# SKKT 57, SKKH 57, SKKT 57B


**SEMIPACK® 1**

## Thyristor / Diode Modules

**SKKT 57**

**SKKH 57**

**SKKT 57B**

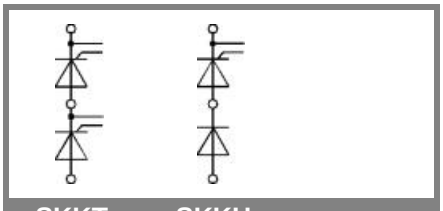
### Features

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

### Typical Applications*

- DC motor control (e. g. for machine tools)
- AC motor soft starters
- 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 | $I_{TRMS}$ = 95 A (maximum value for continuous operation) $I_{TAV}$ = 55 A (sin. 180; $T_c$ = 80 °C) | | |
|---|---|---|---|---|
| 900 | 800 | SKKT 57/08E | SKKT 57B08E | SKKH 57/08E |
| 1300 | 1200 | SKKT 57/12E | SKKT 57B12E | SKKH 57/12E |
| 1500 | 1400 | SKKT 57/14E | SKKT 57B14E | SKKH 57/14E |
| 1700 | 1600 | SKKT 57/16E | SKKT 57B16E | SKKH 57/16E |
| 1900 | 1800 | SKKT 57/18E | SKKT 57B18E | SKKH 57/18E |

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $I_{TAV}$ | sin. 180; $T_c$ = 85 (100) °C; | 50 (35 ) | A |
| $I_D$ | P3/180; $T_a$ = 45 °C; B2 / B6 | 57 / 68 | A |
| | P3/180F; $T_a$ = 35 °C; B2 / B6 | 100 /130 | A |
| $I_{RMS}$ | P3/180F; $T_a$ = 35 °C; W1 / W3 | 130 / 3 x 100 | A |
| $I_{TSM}$ | $T_{vj}$ = 25 °C; 10 ms | 1500 | A |
| | $T_{vj}$ = 125 °C; 10 ms | 1250 | A |
| i²t | $T_{vj}$ = 25 °C; 8,3 ... 10 ms | 11000 | A²s |
| | $T_{vj}$ = 125 °C; 8,3 ... 10 ms | 8000 | A²s |
| $V_T$ | $T_{vj}$ = 25 °C; $I_T$ = 200 A | max. 1,65 | V |
| $V_{T(TO)}$ | $T_{vj}$ = 125 °C | max. 0,9 | V |
| $r_T$ | $T_{vj}$ = 125 °C | max. 3,5 | mΩ |
| $I_{DD}$; $I_{RD}$ | $T_{vj}$ = 125 °C; $V_{RD}$ = $V_{RRM}$; $V_{DD}$ = $V_{DRM}$ | max. 15 | 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. 150 | A/µs |
| $(dv/dt)_{cr}$ | $T_{vj}$ = 125 °C | max. 1000 | V/µs |
| $t_q$ | $T_{vj}$ = 125 °C , | 80 | µs |
| $I_H$ | $T_{vj}$ = 25 °C; typ. / max. | 150 / 250 | mA |
| $I_L$ | $T_{vj}$ = 25 °C; $R_G$ = 33 Ω; 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. 150 | mA |
| $V_{GD}$ | $T_{vj}$ = 125 °C; d.c. | max. 0,25 | V |
| $I_{GD}$ | $T_{vj}$ = 125 °C; d.c. | max. 6 | mA |
| $R_{th(j-c)}$ | cont.; per thyristor / per module | 0,57 / 0,29 | K/W |
| $R_{th(j-c)}$ | sin. 180; per thyristor / per module | 0,6 / 0,3 | K/W |
| $R_{th(j-c)}$ | rec. 120; per thyristor / per module | 0,64 / 0,32 | K/W |
| $R_{th(c-s)}$ | per thyristor / per module | 0,2 / 0,1 | 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 ± 15 %[1)] | Nm |
| $M_t$ | to terminals | 3 ± 15 % | Nm |
| a | | 5 * 9,81 | m/s² |
| m | approx. | 95 | g |
| Case | SKKT | A 46 | |
| | SKKT ...B | A 48 | |
| | SKKH | A 47 | |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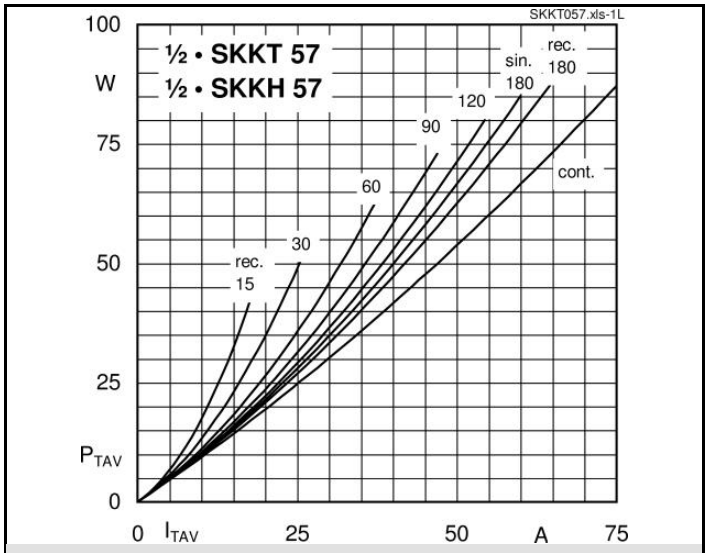


Fig. 1L Power dissipation per thyristor vs. on-state current

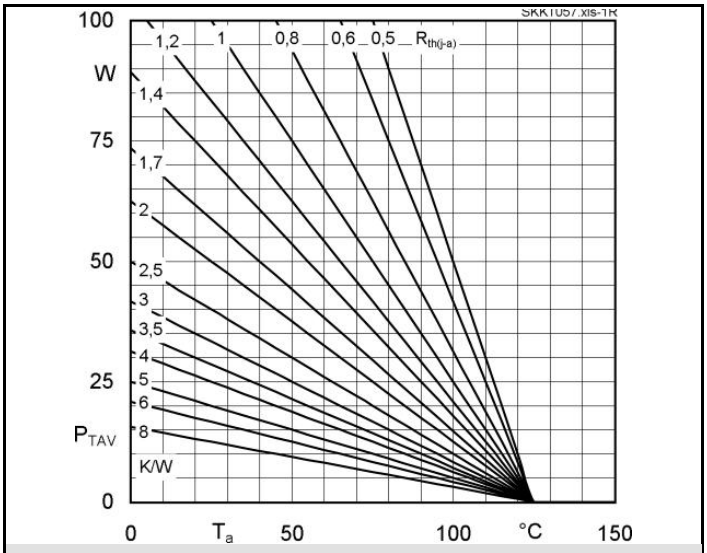


Fig. 1R Power dissipation per thyristor vs. ambient temp.

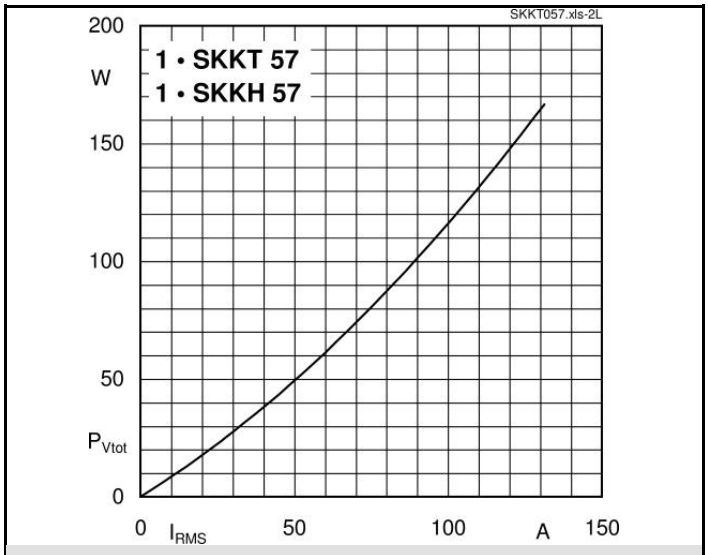


Fig. 2L Power dissipation per module vs. rms current

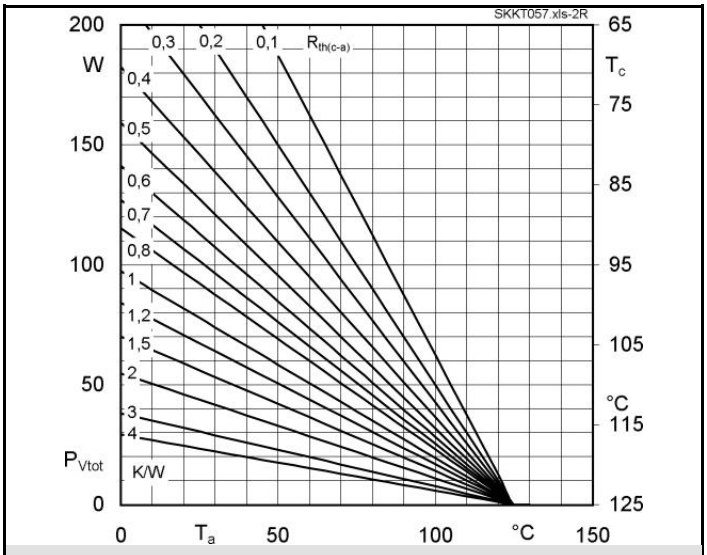


Fig. 2R Power dissipation per module vs. case temp.

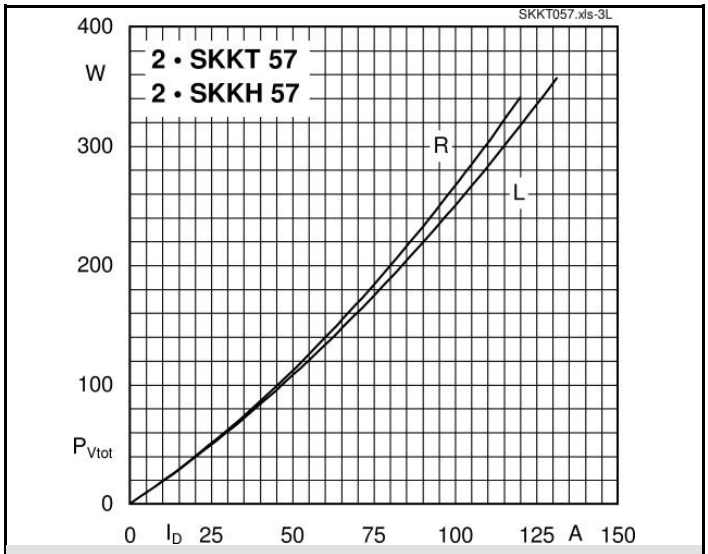


Fig. 3L Power dissipation of two modules vs. direct current

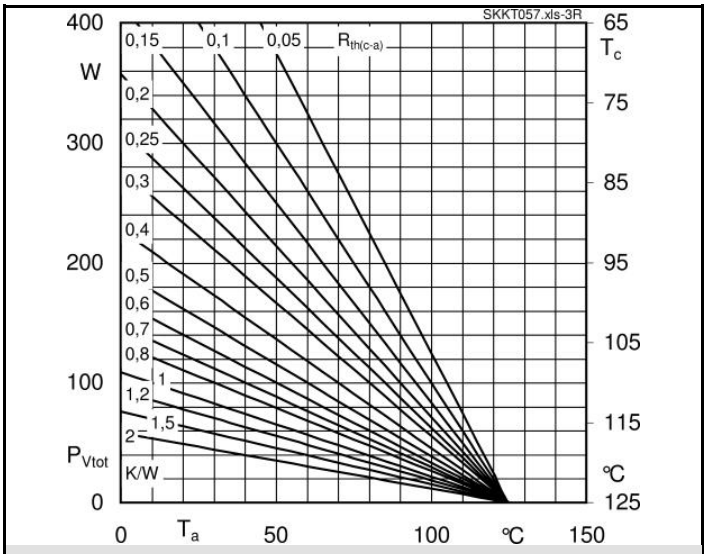


Fig. 3R Power dissipation of two modules vs. case temp.

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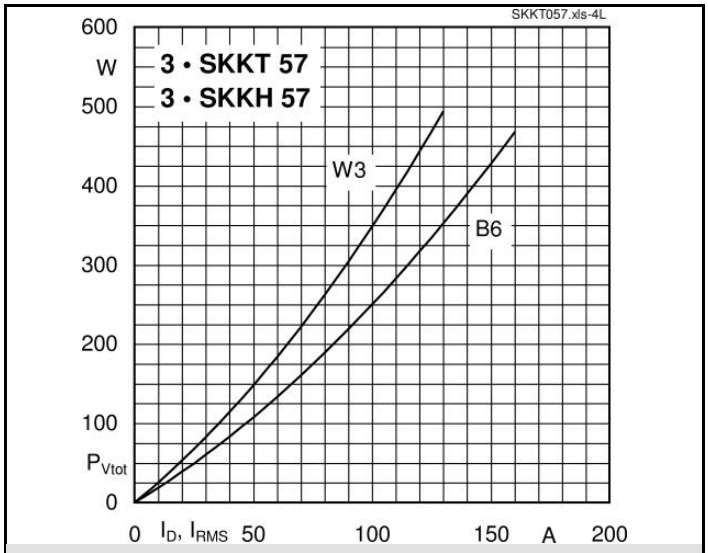


Fig. 4L Power dissipation of three modules vs. direct and rms current

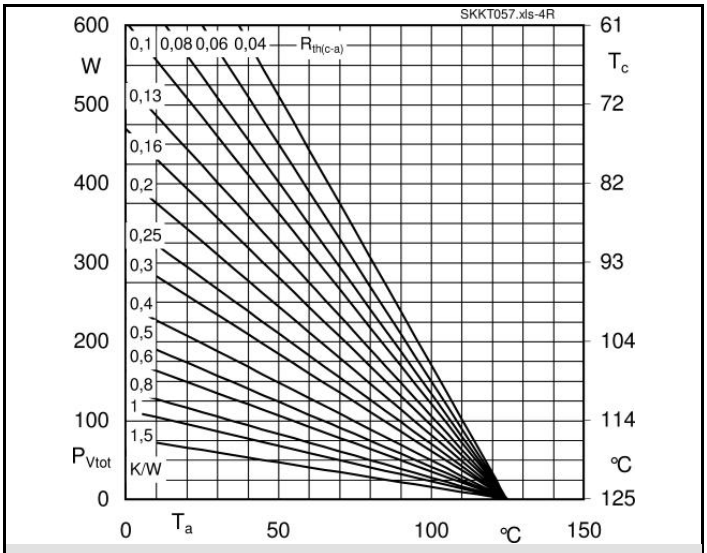


Fig. 4R Power dissipation of three modules vs. case temp.

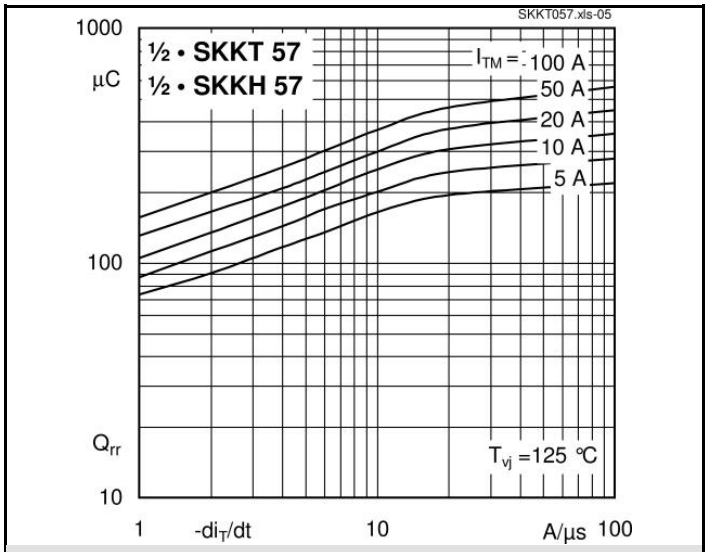


Fig. 5 Recovered charge vs. current decrease

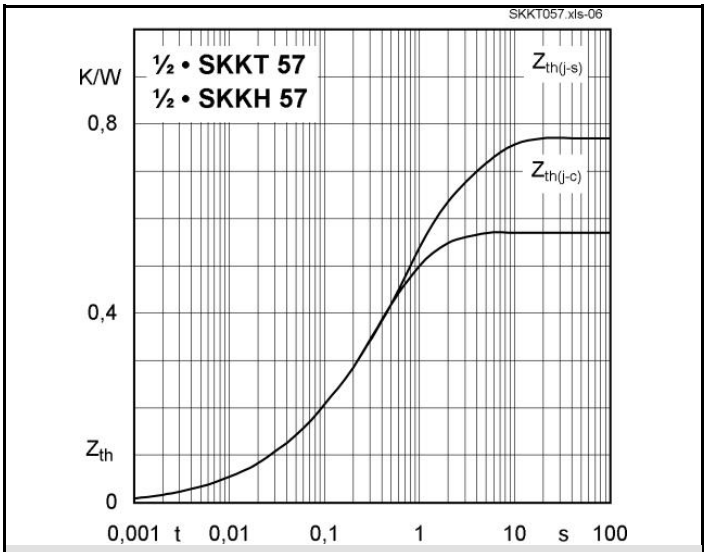


Fig. 6 Transient thermal impedance vs. time

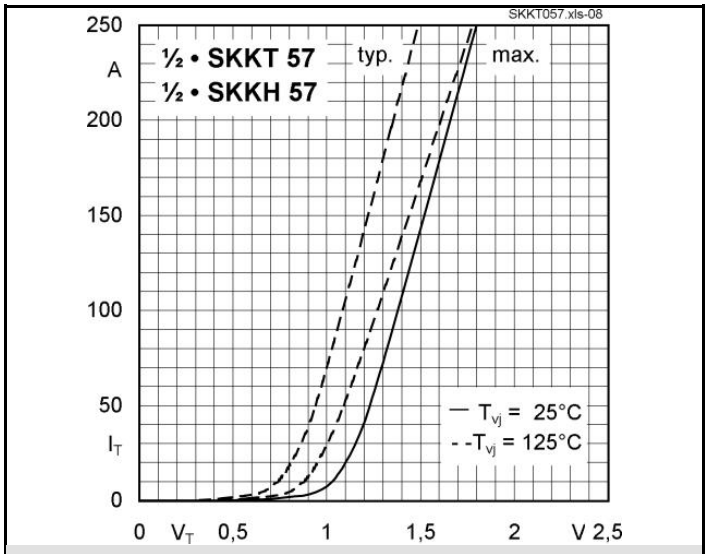


Fig. 7 On-state characteristics

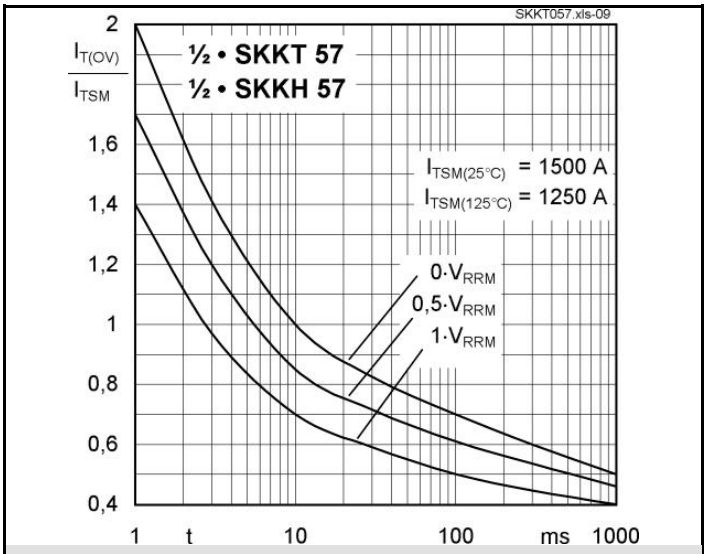


Fig. 8 Surge overload current vs. time

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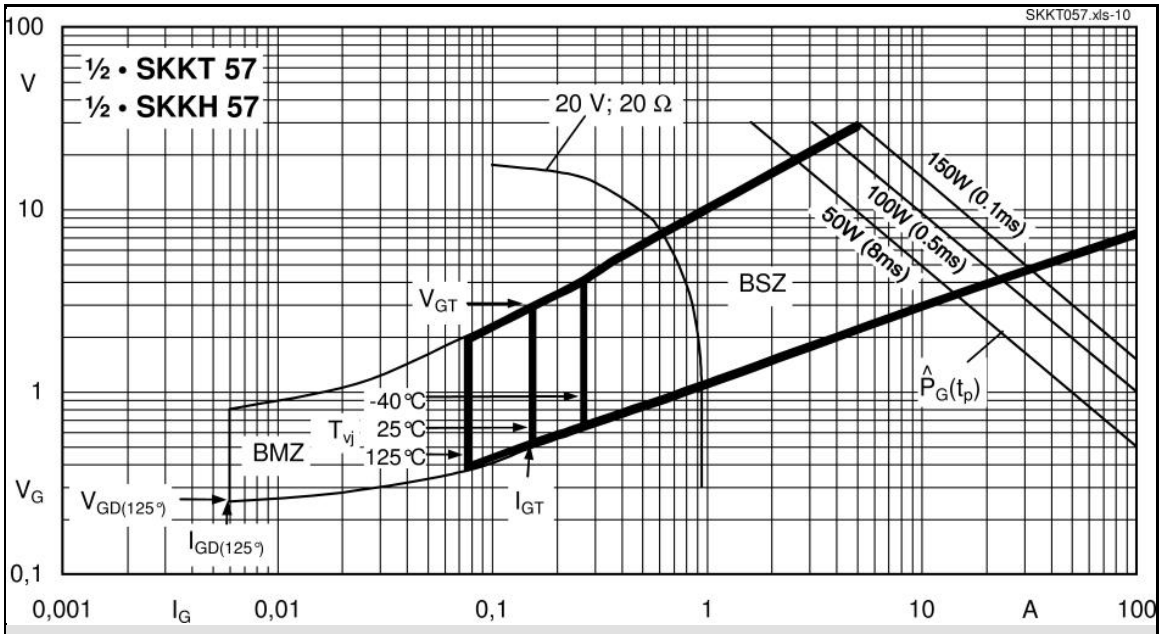
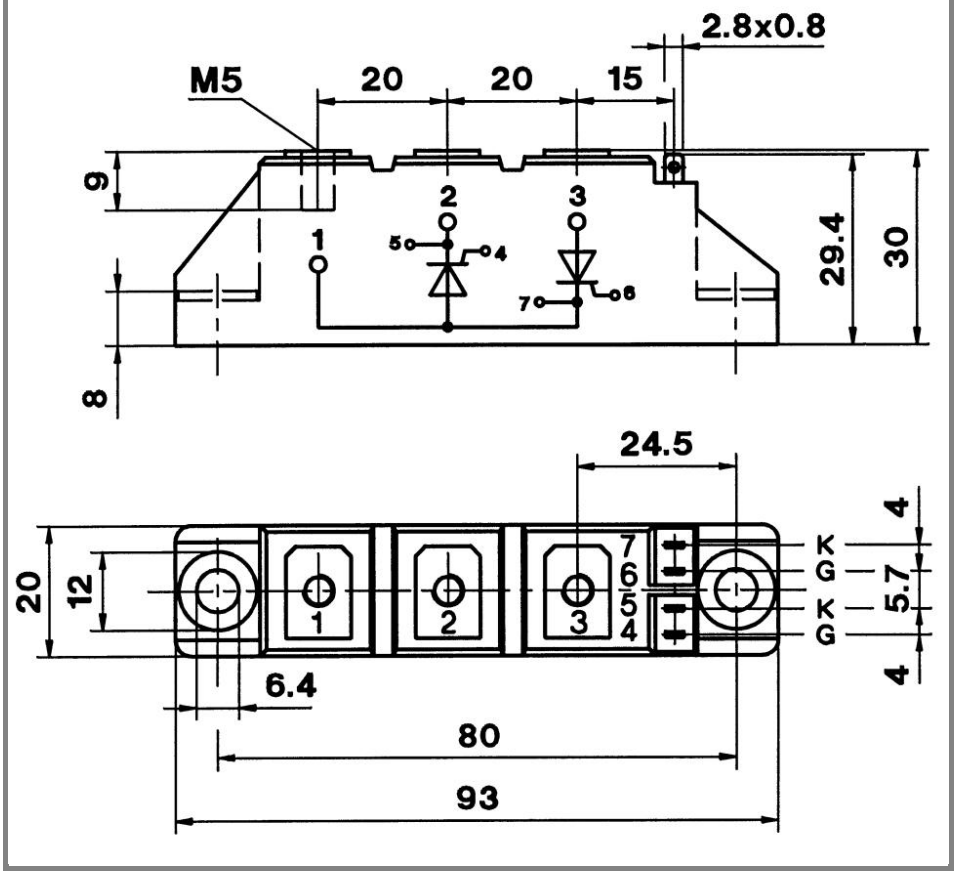
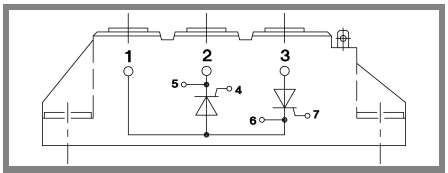


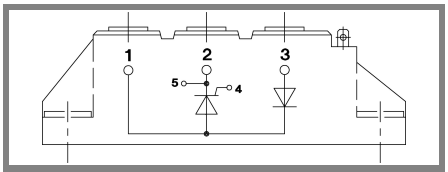
Fig. 9 Gate trigger characteristics

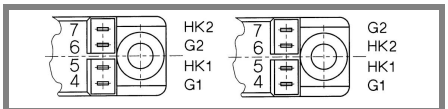
Dimensions in mm



Case A 46 (SKKT)


Case A 48 SKKT ... B


Case A 47 SKKH



SKKT SKKT ...B

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