

SKKT 500, SKKH 500



SEMIPACK[®] 5

Thyristor / Diode Modules

SKKT 500

SKKH 500

Features

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

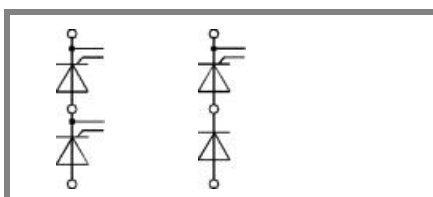
Typical Applications

- AC motor softstarters
- Input converters for AC inverter drives
- 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
- 2) The screws must be lubricated

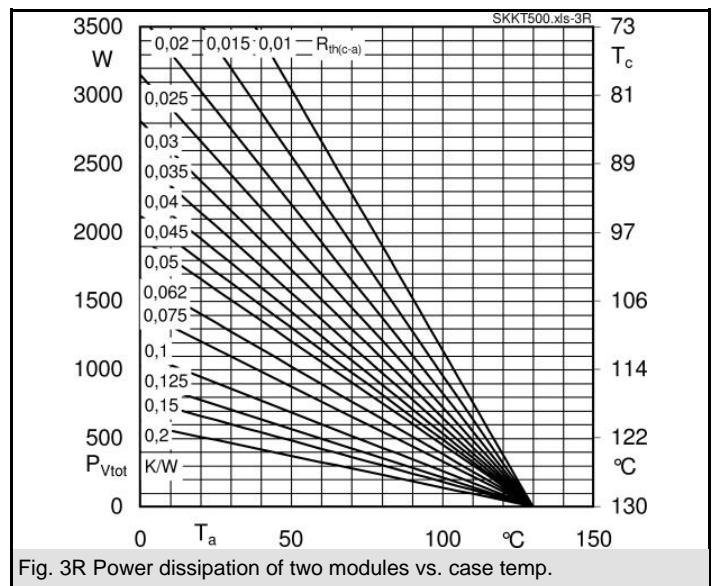
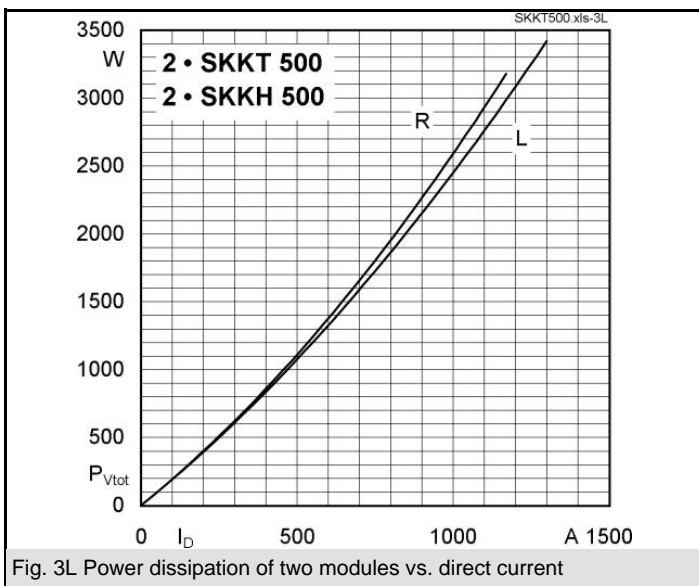
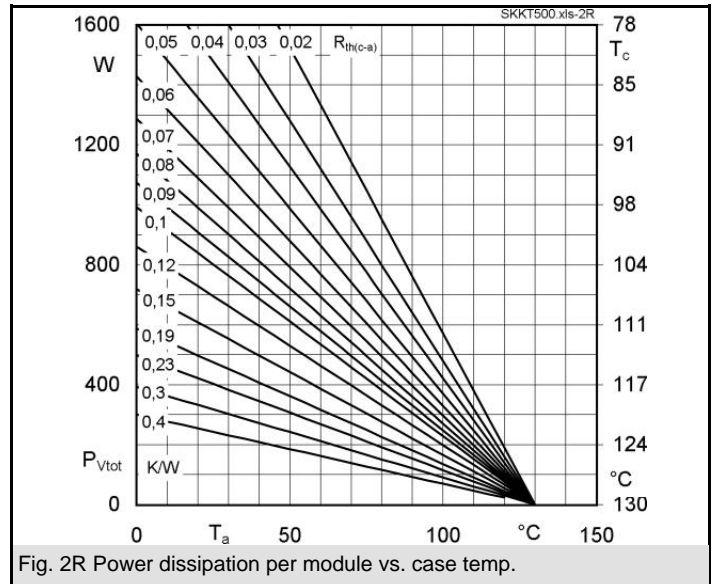
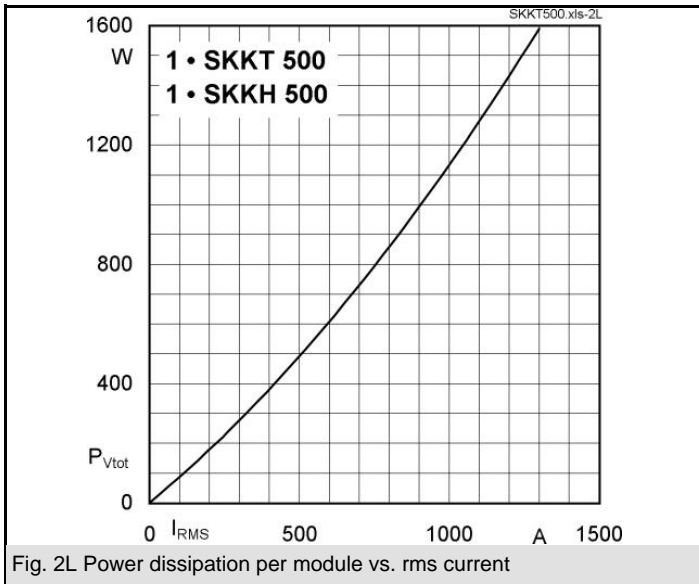
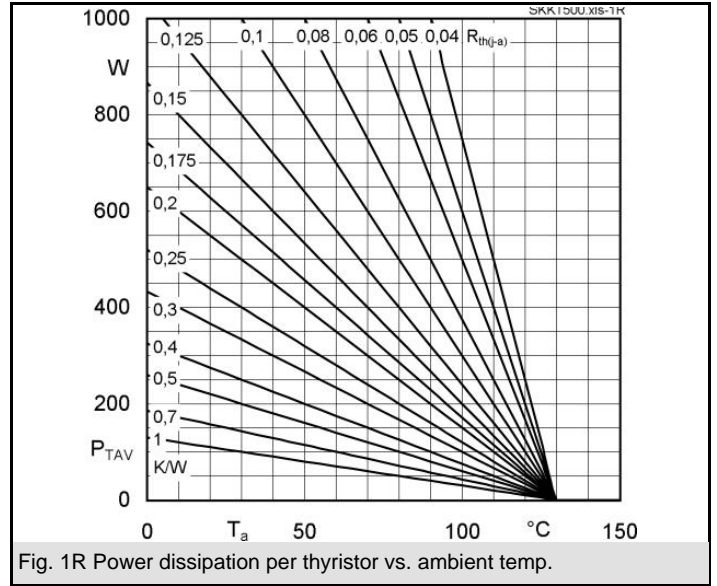
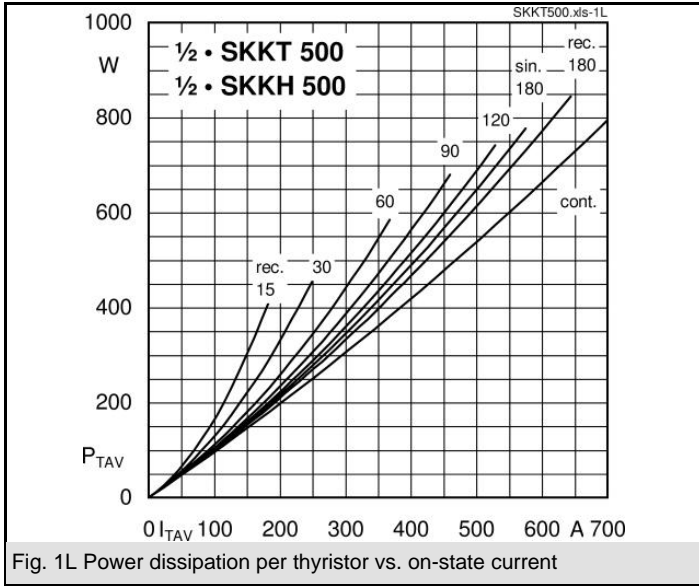
| V_{RSM} V | V_{RRM}, V_{DRM} V | $I_{TRMS} = 920$ A (maximum value for continuous operation) $I_{TAV} = 500$ A (sin. 180; $T_c = 89$ °C) | |
|----------------|-------------------------|--|--------------|
| 900 | 800 | SKKT 500/08E | SKKH 500/08E |
| 1300 | 1200 | SKKT 500/12E | SKKH 500/12E |
| 1500 | 1400 | SKKT 500/14E | SKKH 500/14E |
| 1700 | 1600 | SKKT 500/16E | SKKH 500/16E |
| 1900 | 1800 | SKKT 500/18E | SKKH 500/18E |

| Symbol | Conditions | Values | Units |
|------------------|---|-------------------------|------------------|
| I_{TAV} | sin. 180; $T_c = 85$ (100) °C; | 540 (390) | A |
| I_D | P16/200F; $T_a = 35$ °C; B2 / B6 | 665 / 845 | A |
| I_{RMS} | P16/300F; $T_a = 35$ °C; W1 / W3 | 850 / 3 * 670 | A |
| I_{TSM} | $T_{vj} = 25$ °C; 10 ms | 17000 | A |
| | $T_{vj} = 130$ °C; 10 ms | 15000 | A |
| i^2t | $T_{vj} = 25$ °C; 8,3 ... 10 ms | 1445000 | A ² s |
| | $T_{vj} = 130$ °C; 8,3 ... 10 ms | 1125000 | A ² s |
| V_T | $T_{vj} = 25$ °C; $I_T = 1700$ A | max. 1,5 | V |
| $V_{T(TO)}$ | $T_{vj} = 130$ °C | max. 0,925 | V |
| r_T | $T_{vj} = 130$ °C | max. 0,27 | mΩ |
| I_{DD}, I_{RD} | $T_{vj} = 130$ °C; $V_{RD} = V_{RRM}, V_{DD} = V_{DRM}$ | max. 100 | 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 |
| $(di/dt)_{cr}$ | $T_{vj} = 130$ °C | max. 200 | A/μs |
| $(dv/dt)_{cr}$ | $T_{vj} = 130$ °C | max. 1000 | V/μs |
| t_q | $T_{vj} = 130$ °C | 100 ... 200 | 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} | $T_{vj} = 130$ °C; d.c. | max. 0,25 | V |
| I_{GD} | $T_{vj} = 130$ °C; d.c. | max. 10 | mA |
| $R_{th(j-c)}$ | cont.; per thyristor / per module | 0,062 / 0,031 | K/W |
| $R_{th(j-c)}$ | sin. 180; per thyristor / per module | 0,065 / 0,032 | K/W |
| $R_{th(j-c)}$ | rec. 120; per thyristor / per module | 0,07 / 0,035 | K/W |
| $R_{th(c-s)}$ | per thyristor / per module | 0,02 / 0,01 | K/W |
| T_{vj} | | - 40 ... + 130 | °C |
| T_{stg} | | - 40 ... + 130 | °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 | 12 ± 15 % ²⁾ | Nm |
| a | | 5 * 9,81 | m/s ² |
| m | approx. | 1420 | g |
| Case | SKKT | A 60 a | |
| | SKKH | A 66 a | |

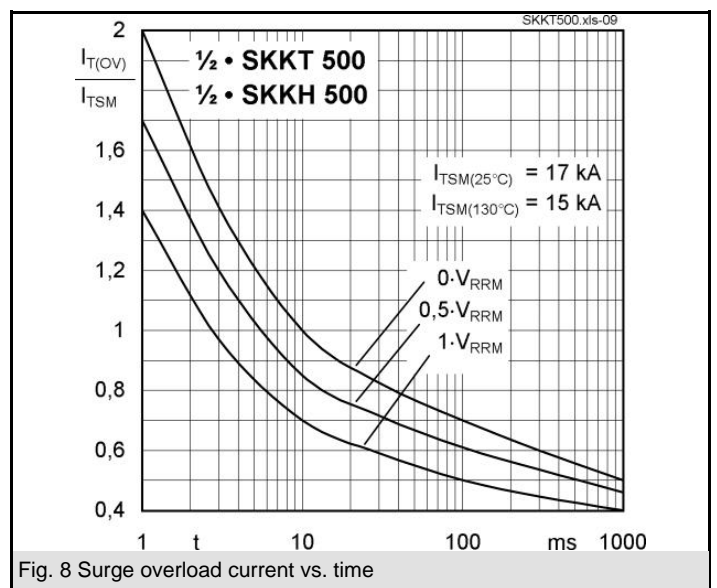
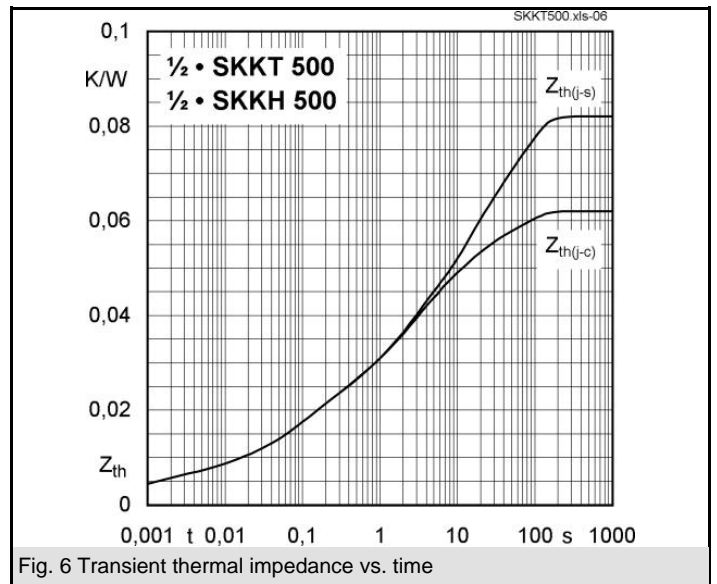
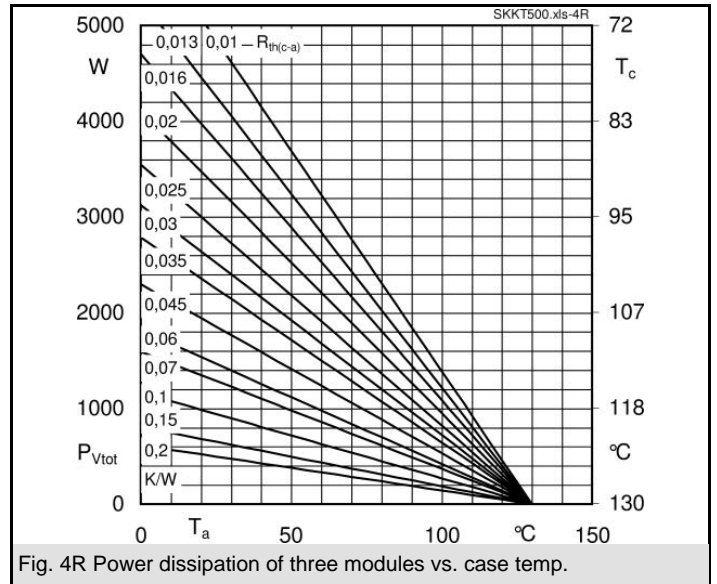
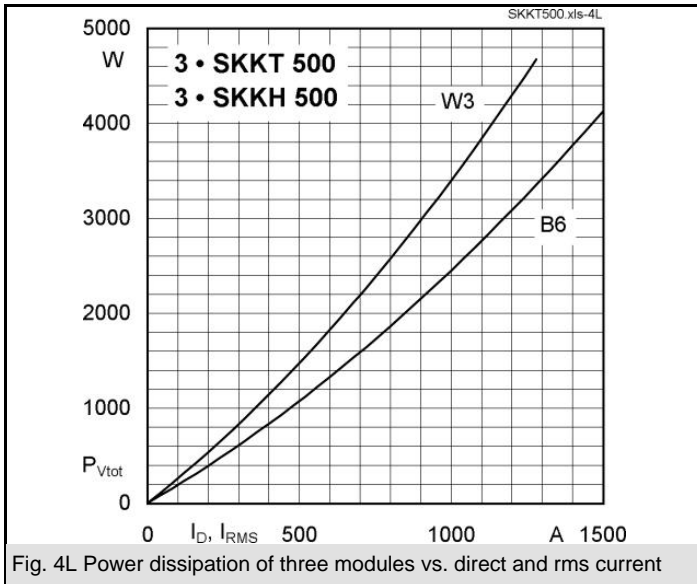


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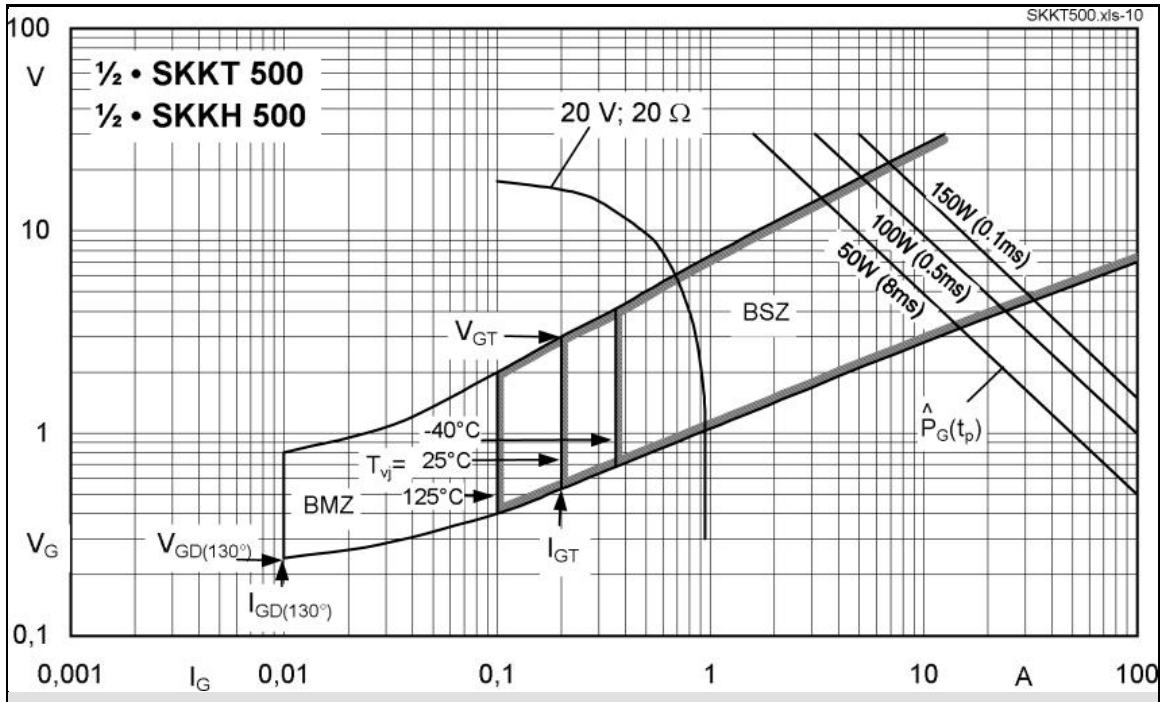
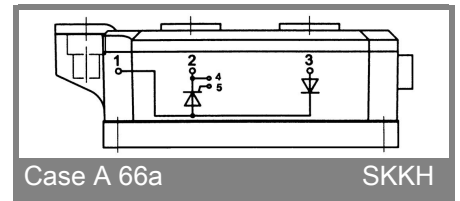
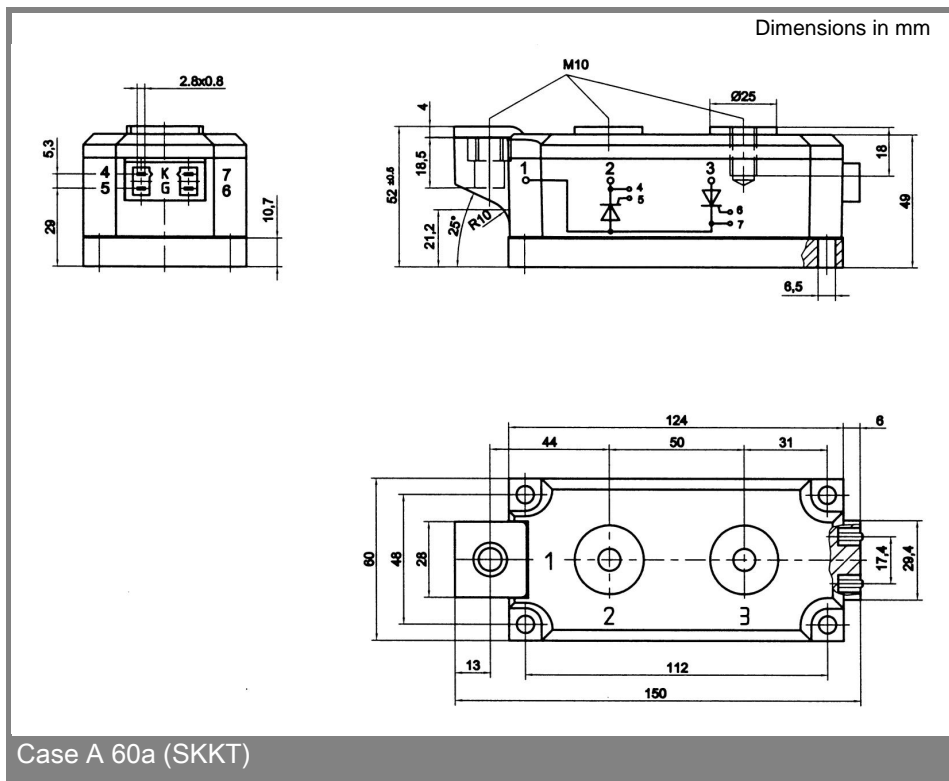


Fig. 9 Gate trigger characteristics



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