

SKKT 27, SKKT 27B, SKKH 27



SEMIPACK® 1

Thyristor / Diode Modules

SKKT 27
SKKT 27B
SKKH 27

Features

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

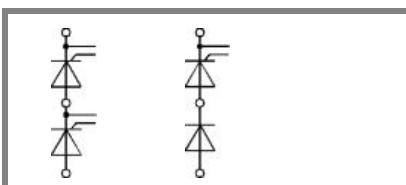
Typical Applications

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

1) See the assembly instructions

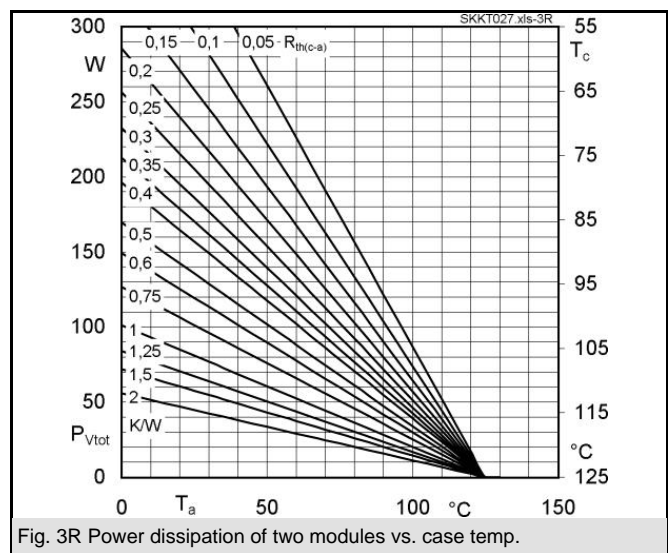
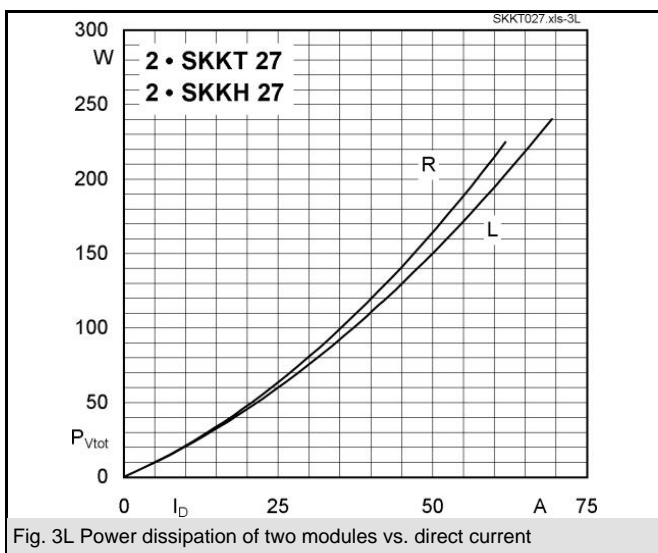
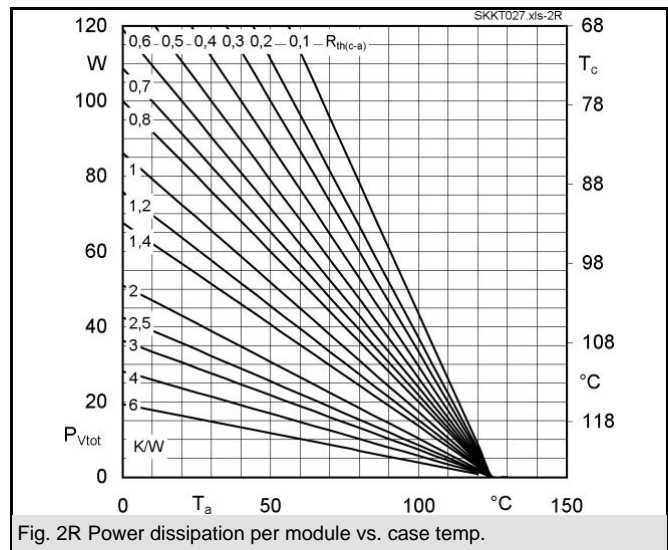
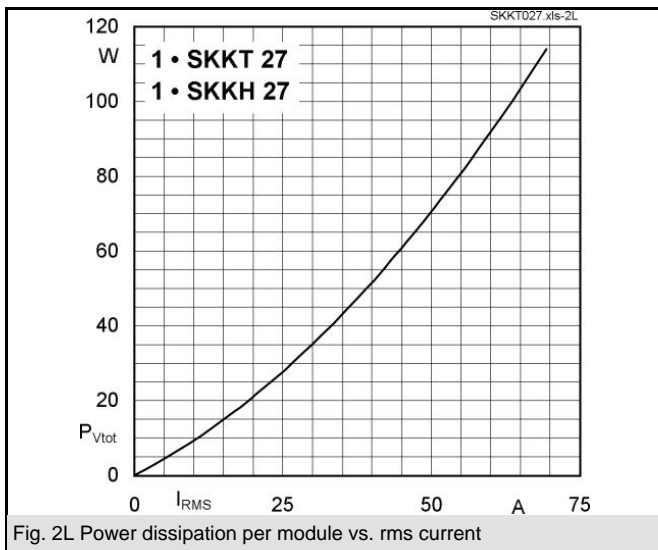
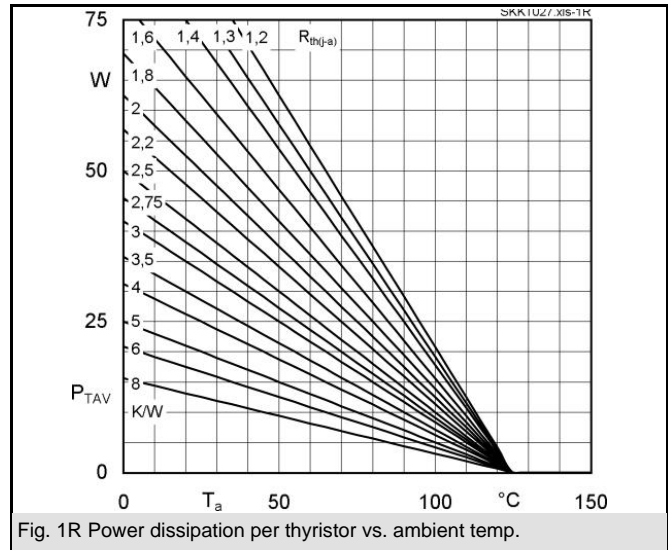
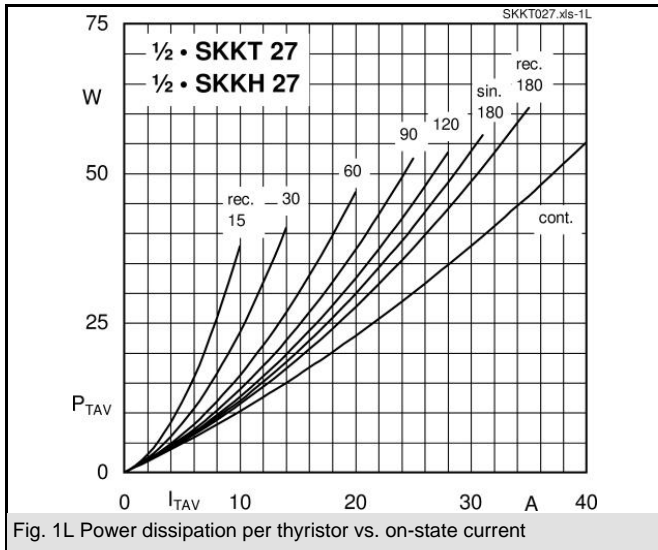
| V_{RSM} V | V_{RRM}, V_{DRM} V | $I_{TRMS} = 50$ A (maximum value for continuous operation) $I_{TAV} = 27$ A (sin. 180; $T_c = 82$ °C) | | |
|----------------|-------------------------|--|-------------|-------------|
| 900 | 800 | SKKT 27/08E | SKKT 27B08E | SKKH 27/08E |
| 1300 | 1200 | SKKT 27/12E | SKKT 27B12E | SKKH 27/12E |
| 1500 | 1400 | SKKT 27/14E | SKKT 27B14E | SKKH 27/14E |
| 1700 | 1600 | SKKT 27/16E | SKKT 27B16E | SKKH 27/16E |
| 1900 | 1800 | | | SKKH 27/18E |

| Symbol | Conditions | Values | Units |
|------------------|---|------------------------|------------------|
| I_{TAV} | sin. 180; $T_c = 85$ (100) °C; | 25 (18) | A |
| I_D | P3/180; $T_a = 45$ °C; B2 / B6 P3/180F; $T_a = 35$ °C; B2 / B6 | 38 / 50 60 / 77 | A |
| I_{RMS} | P3/180; $T_a = 45$ °C; W1 / W3 | 52 / 3 x 37 | A |
| I_{TSM} | $T_{vj} = 25$ °C; 10 ms $T_{vj} = 125$ °C; 10 ms | 550 480 | A |
| i^2t | $T_{vj} = 25$ °C; 8,3 ... 10 ms $T_{vj} = 125$ °C; 8,3 ... 10 ms | 1500 1150 | A ² s |
| V_T | $T_{vj} = 25$ °C; $I_T = 75$ A | max. 1,8 | V |
| $V_{T(TO)}$ | $T_{vj} = 125$ °C | max. 0,9 | V |
| r_T | $T_{vj} = 125$ °C | max. 12 | mΩ |
| I_{DD}, I_{RD} | $T_{vj} = 125$ °C; $V_{RD} = V_{RRM}; V_{DD} = V_{DRM}$ | max. 10 | mA |
| t_{gd} | $T_{vj} = 25$ °C; $I_G = 1$ A; $di_G/dt = 1$ A/μs | 1 | μs |
| t_{gr} | $V_D = 0,67 * V_{DRM}$ | 1 | 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. | 100 / 200 | mA |
| I_L | $T_{vj} = 25$ °C; $R_G = 33$ Ω; typ. / max. | 250 / 400 | 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. 5 | mA |
| $R_{th(j-c)}$ | cont.; per thyristor / per module | 0,9 / 0,45 | K/W |
| $R_{th(j-c)}$ | sin. 180; per thyristor / per module | 0,95 / 0,48 | K/W |
| $R_{th(j-c)}$ | rec. 120; per thyristor / per module | 1 / 0,5 | 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. to heatsink | 3600 / 3000 | V~ |
| M_s | to terminals | 5 ± 15 % ¹⁾ | Nm |
| M_t | | 3 ± 15 % | Nm |
| a | | 5 * 9,81 | m/s ² |
| m | approx. | 95 | g |
| Case | SKKT | A 46 | |
| | SKKT ...B | A 48 | |
| | SKKH | A 47 | |



SKKT

SKKH



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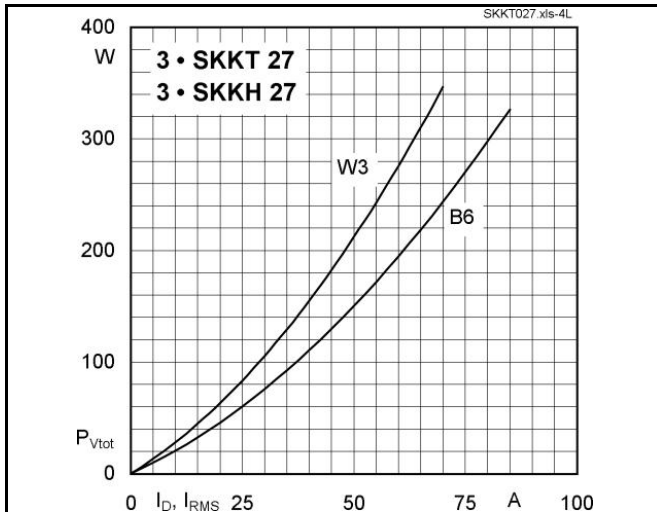


Fig. 4L Power dissipation of three modules vs. direct and rms current

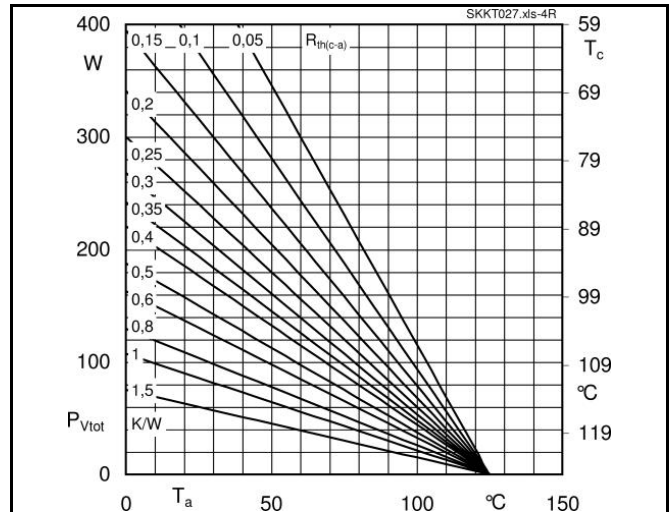


Fig. 4R Power dissipation of three modules vs. case temp.

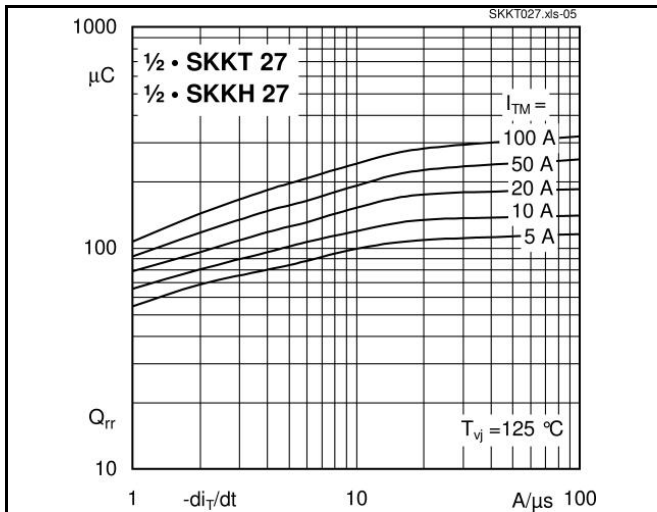


Fig. 5 Recovered charge vs. current decrease

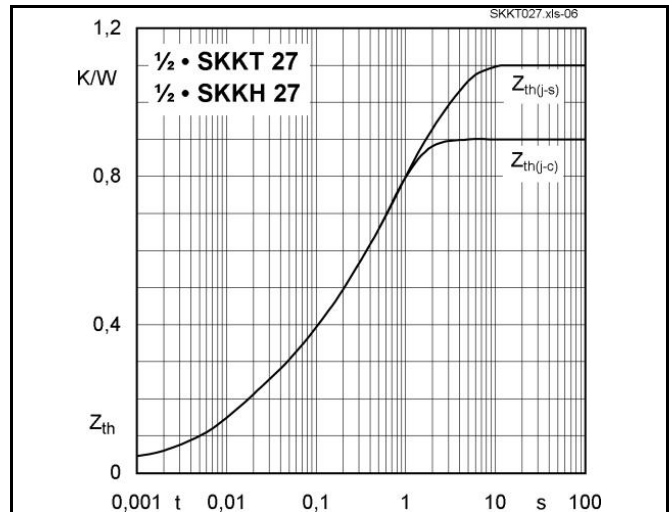


Fig. 6 Transient thermal impedance vs. time

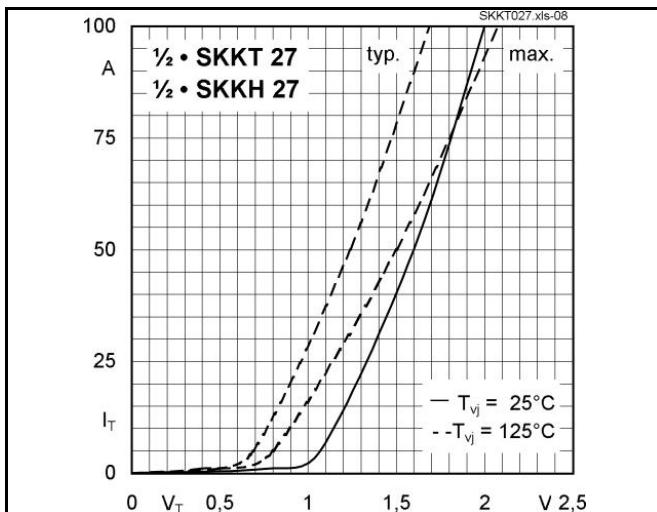


Fig. 7 On-state characteristics

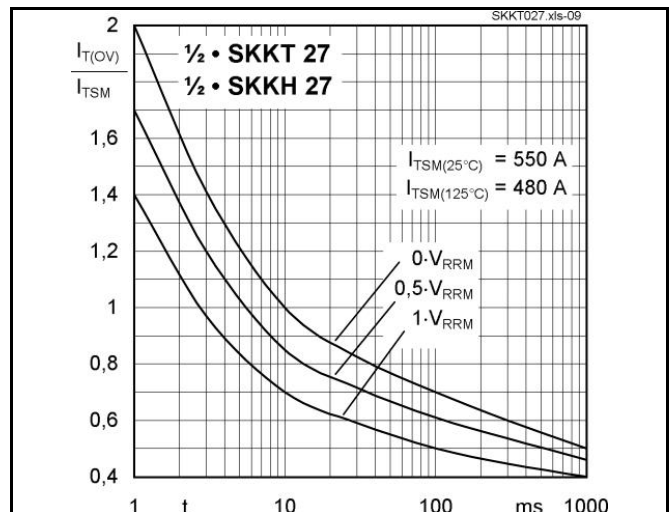
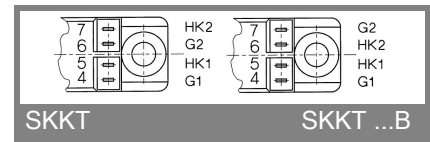
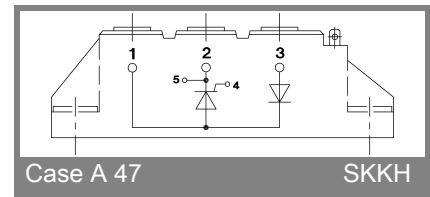
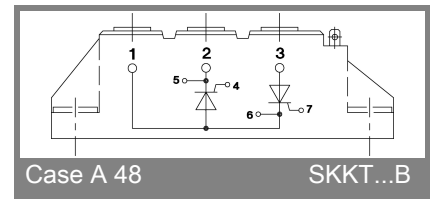
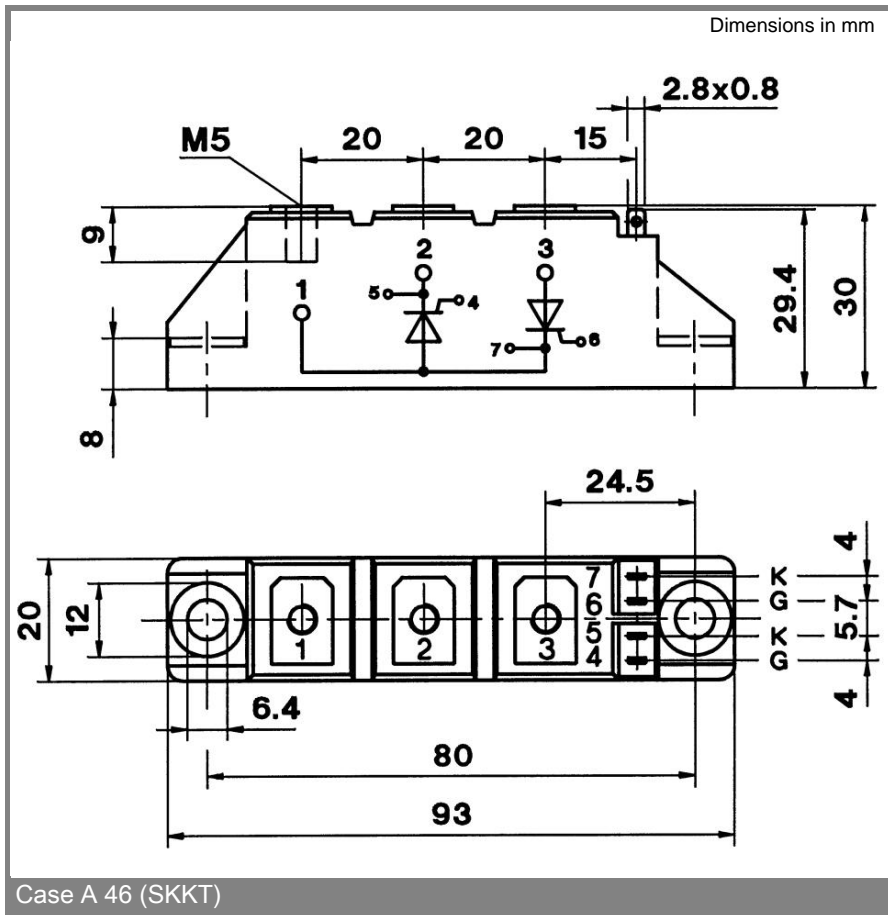
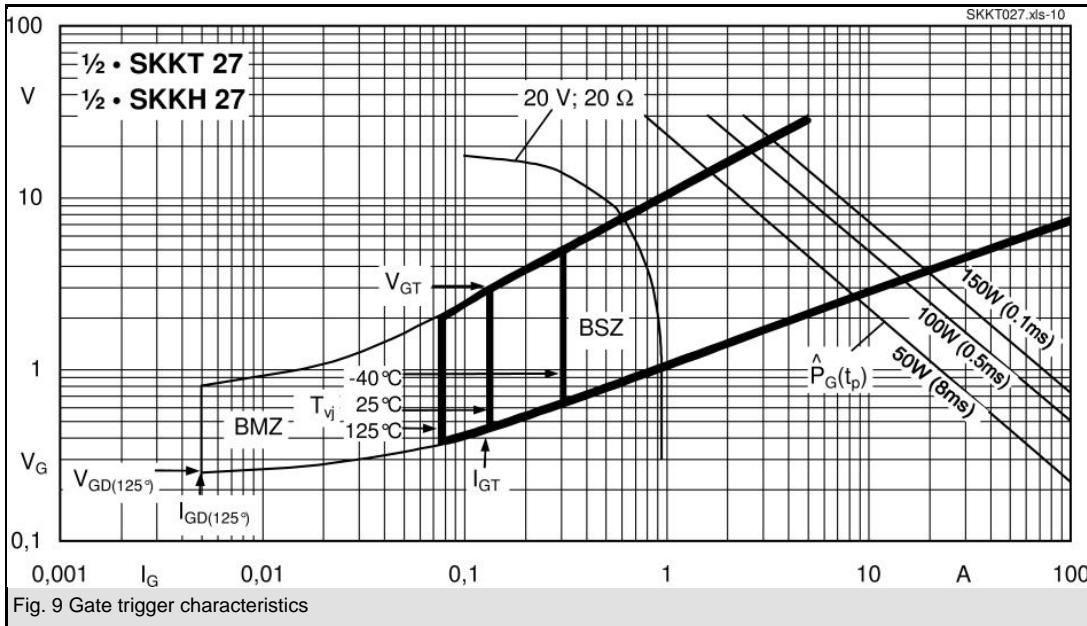


Fig. 8 Surge overload current vs. time



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