

SKKT 162, SKKH 162



SEMIPACK® 2

Thyristor / Diode Modules

SKKT 162

SKKH 162

Features

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

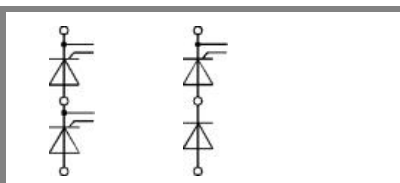
Typical Applications*

- 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

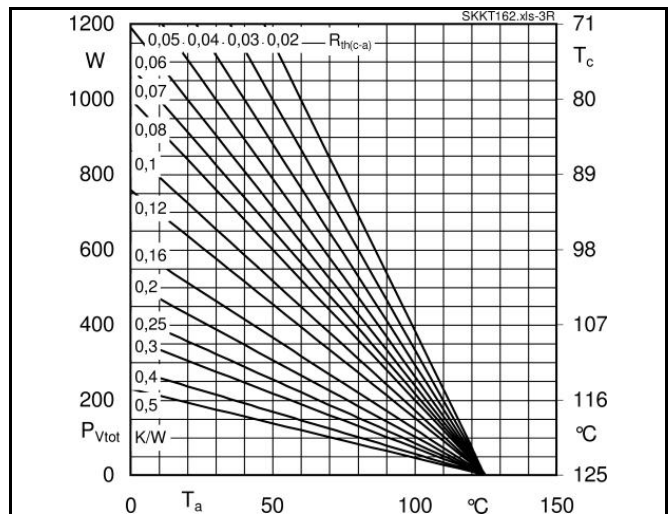
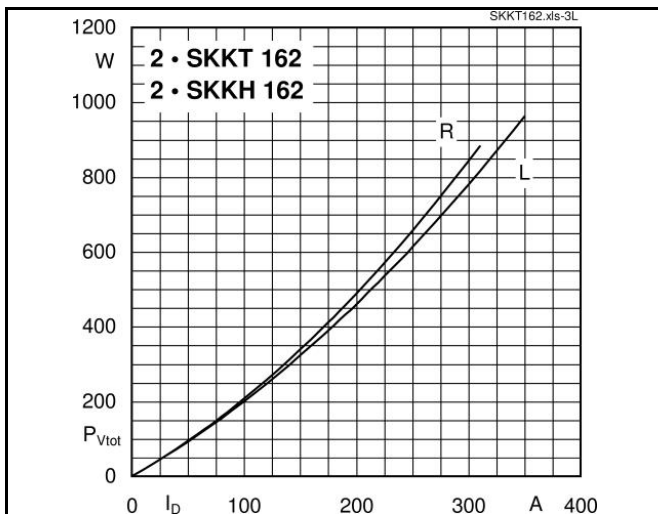
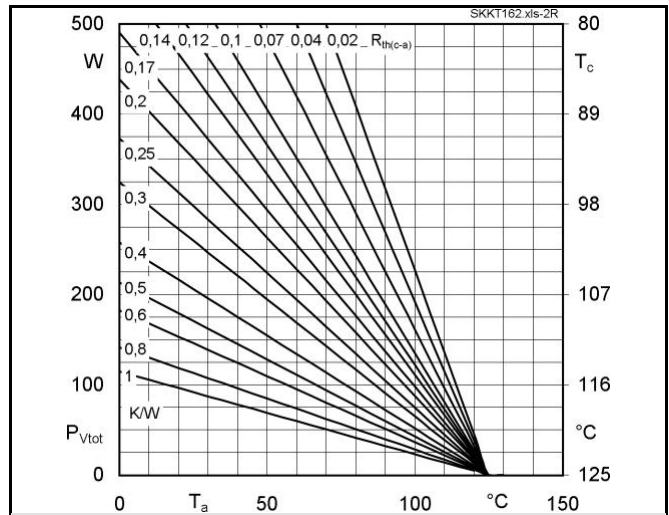
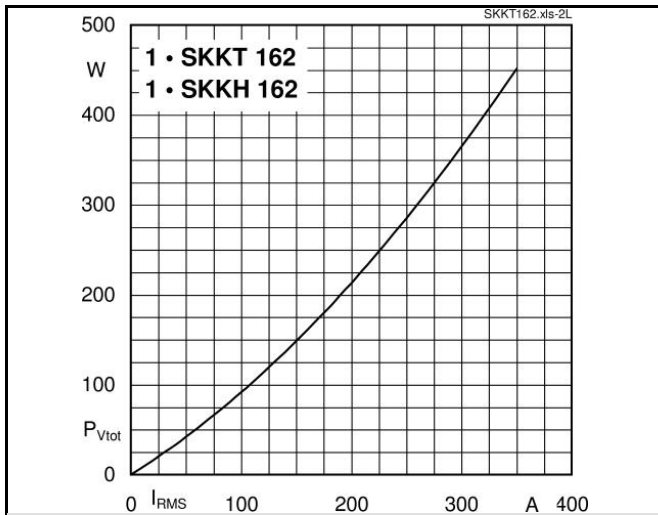
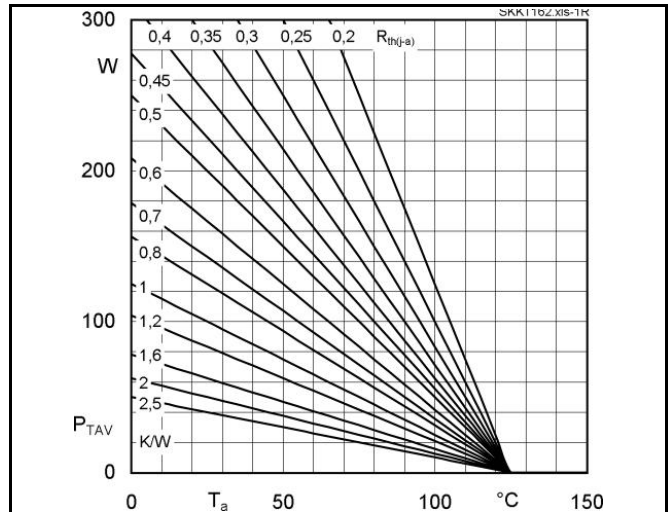
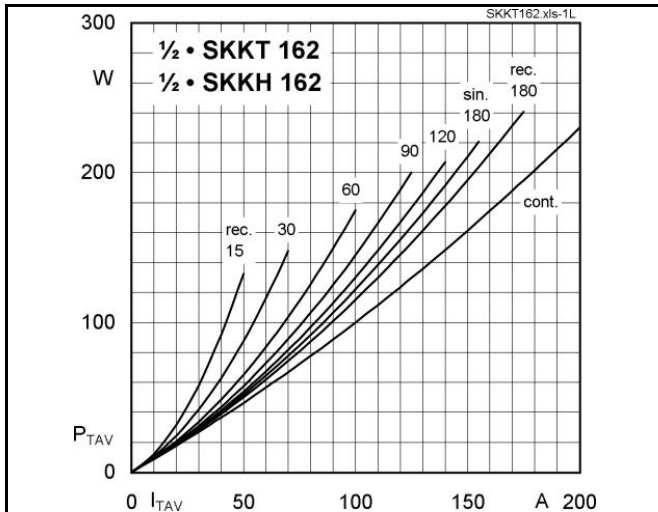
| V_{RSM} V | V_{RRM}, V_{DRM} V | $I_{TRMS} = 250$ A (maximum value for continuous operation) $I_{TAV} = 160$ A (sin.180; $T_c = 83$ °C) | |
|----------------|-------------------------|---|--------------|
| 900 | 800 | SKKT 162/08E | SKKH 162/08E |
| 1300 | 1200 | SKKT 162/12E | SKKH 162/12E |
| 1500 | 1400 | SKKT 162/14E | SKKH 162/14E |
| 1700 | 1600 | SKKT 162/16E | SKKH 162/16E |
| 1900 | 1800 | SKKT 162/18E | SKKH 162/18E |

| Symbol | Conditions | Values | Units |
|------------------|---|------------------------|------------------|
| I_{TAV} | sin. 180; $T_c = 85$ (100) °C; | 156 (110) | A |
| I_D | P3/180F; $T_a = 35$ °C; B2 / B6 | 190 / 230 | A |
| I_{RMS} | P3/180F; $T_a = 35$ °C; W1 / W3 | 265 / 3 * 185 | A |
| I_{TSM} | $T_{vj} = 25$ °C; 10 ms | 5400 | A |
| | $T_{vj} = 125$ °C; 10 ms | 5000 | A |
| i^2t | $T_{vj} = 25$ °C; 8,3 ... 10 ms | 145000 | A ² s |
| | $T_{vj} = 125$ °C; 8,3 ... 10 ms | 125000 | A ² s |
| V_T | $T_{vj} = 25$ °C; $I_T = 500$ A | max. 1,6 | V |
| $V_{T(TO)}$ | $T_{vj} = 125$ °C | max. 0,85 | V |
| r_T | $T_{vj} = 125$ °C | max. 1,5 | mΩ |
| I_{DD}, I_{RD} | $T_{vj} = 125$ °C; $V_{RD} = V_{RRM}; V_{DD} = V_{DRM}$ | max. 40 | 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. | 3600 / 3000 | V~ |
| M_s | to heatsink | 5 ± 15 % ¹⁾ | Nm |
| M_t | to terminal | 5 ± 15 % | Nm |
| a | | 5 * 9,81 | m/s ² |
| m | approx. | 165 | g |
| Case | SKKT | A 21 | |
| | SKKH | A 22 | |



SKKT

SKKH



SKKT 162, SKKH 162

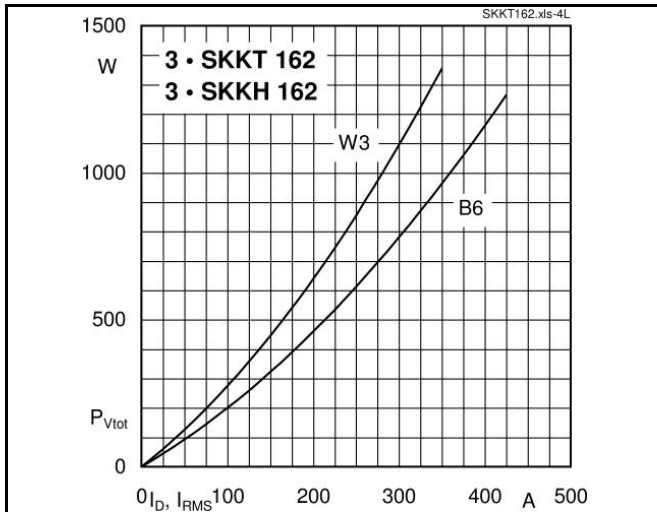


Fig. 4L Power dissipation of three modules vs. direct and rms current

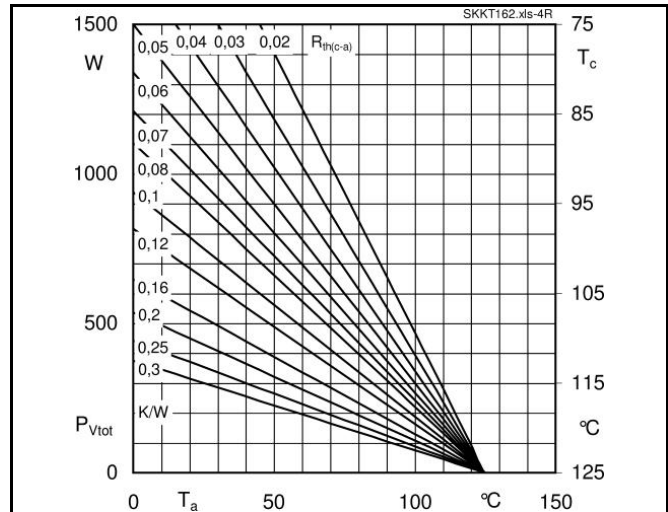


Fig. 4R Power dissipation of three modules vs. case temp.

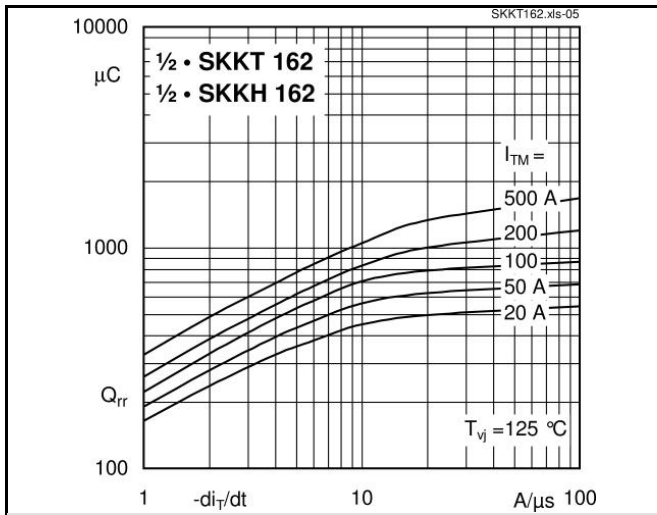


Fig. 5 Recovered charge vs. current decrease

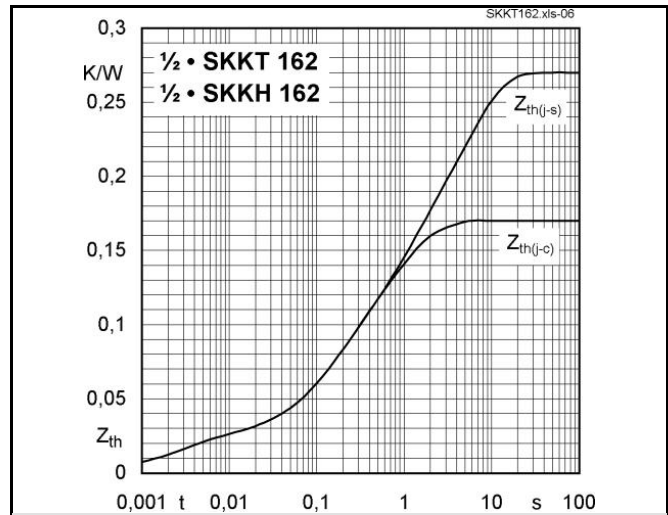


Fig. 6 Transient thermal impedance vs. time

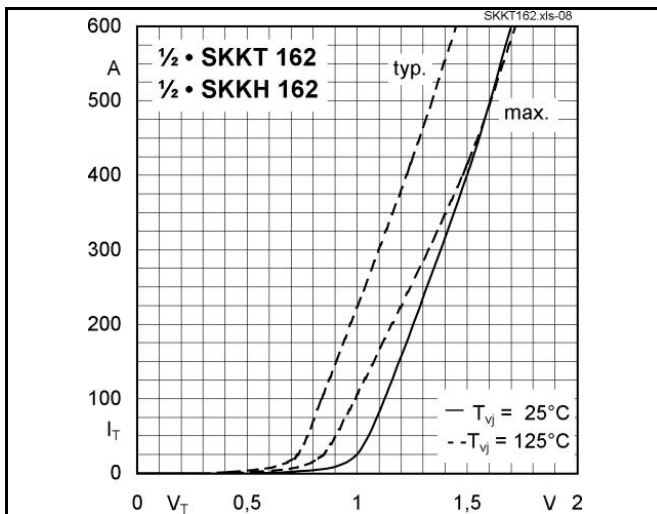


Fig. 7 On-state characteristics

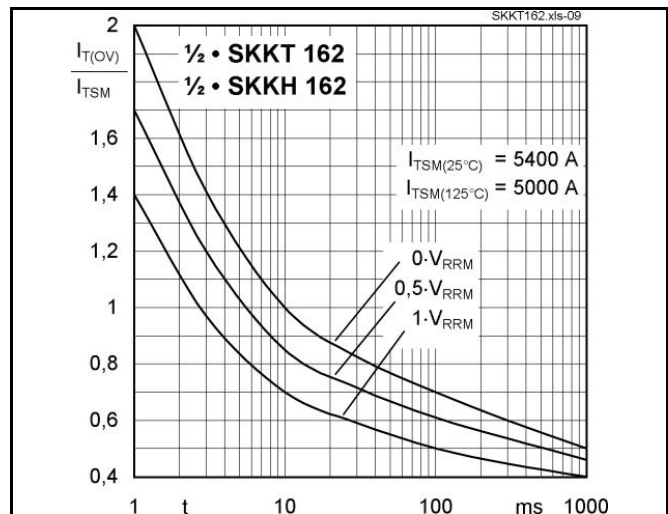
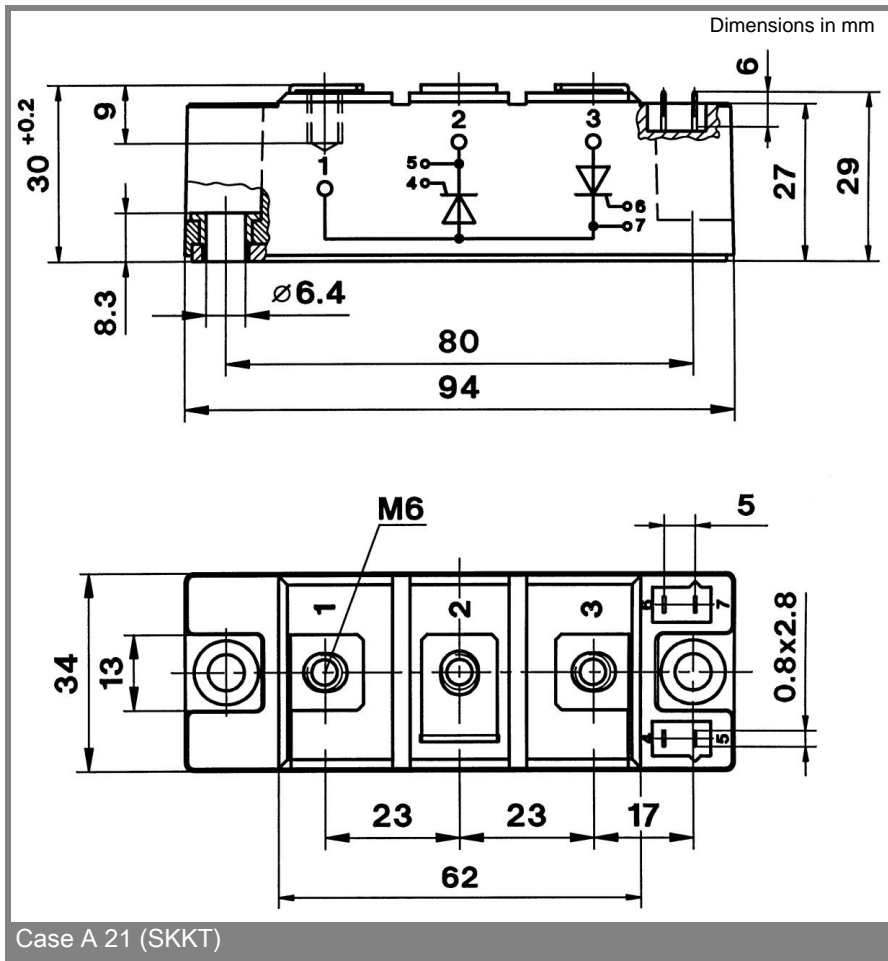
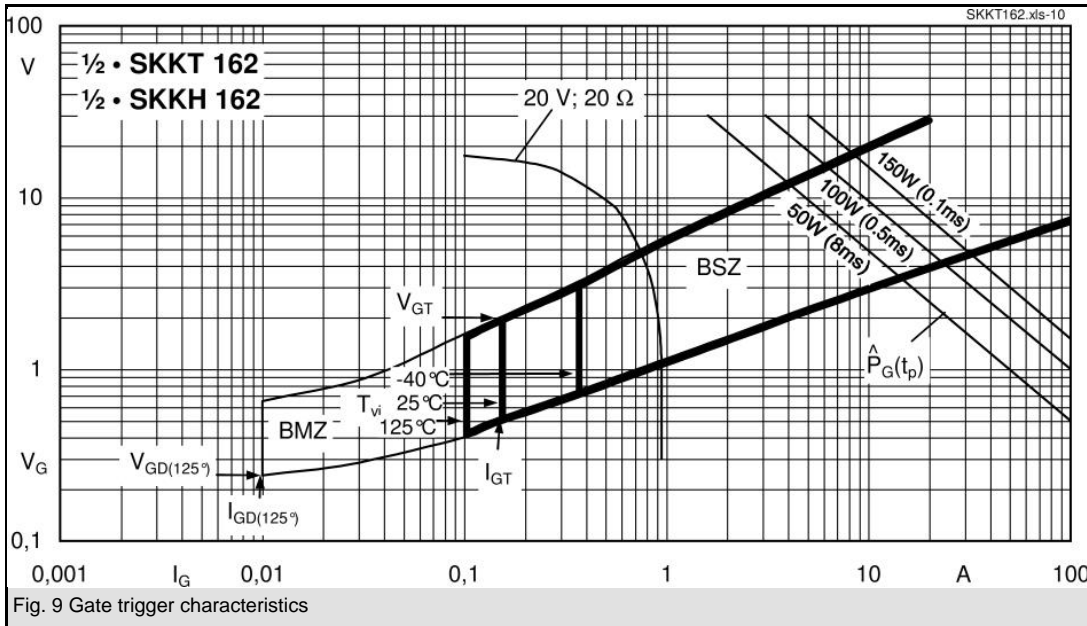


Fig. 8 Surge overload current vs. time



* 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 personal.