

SKET 400



SEMIPACK® 4

Thyristor Modules

SKET 400

Features

- Heat transfer through aluminium nitride ceramic isolated metal baseplate
- Precious metal pressure contacts for high reliability
- Thyristor with amplifying gate
- 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
- 2) The screws must be lubricated

| V_{RSM} V | V_{RRM}, V_{DRM} V | $I_{TRMS} = 700$ A (maximum value for continuous operation) $I_{TAV} = 400$ A (sin. 180; $T_c = 84$ °C) | |
|----------------|-------------------------|--|--|
| 900 | 800 | SKET 400/08E | |
| 1300 | 1200 | SKET 400/12E | |
| 1500 | 1400 | SKET 400/14E | |
| 1700 | 1600 | SKET 400/16E | |
| 1900 | 1800 | SKET 400/18E | |

| Symbol | Conditions | Values | Units |
|------------------|---|-------------------------|------------------|
| I_{TAV} | sin. 180; $T_c = 85$ (100) °C; | 392 (280) | A |
| I_D | P16/300F; $T_a = 35$ °C; B2 / B6 | 700 / 880 | A |
| I_{RMS} | P16/400F; $T_a = 35$ °C; W1 / W3 | 905 / 3 * 720 | A |
| I_{TSM} | $T_{vj} = 25$ °C; 10 ms | 14000 | A |
| | $T_{vj} = 130$ °C; 10 ms | 12000 | A |
| i^2t | $T_{vj} = 25$ °C; 8,3 ... 10 ms | 980000 | A ² s |
| | $T_{vj} = 130$ °C; 8,3 ... 10 ms | 720000 | A ² s |
| V_T | $T_{vj} = 25$ °C; $I_T = 2400$ A | max. 1,7 | V |
| $V_{T(TO)}$ | $T_{vj} = 130$ °C | max. 0,92 | V |
| r_T | $T_{vj} = 130$ °C | max. 0,3 | mΩ |
| I_{DD}, I_{RD} | $T_{vj} = 130$ °C; $V_{RD} = V_{RRM}, V_{DD} = V_{DRM}$ | max. 80 | 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. 125 | A/μs |
| $(dv/dt)_{cr}$ | $T_{vj} = 130$ °C | max. 1000 | V/μs |
| t_q | $T_{vj} = 130$ °C | 150 ... 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. | 500 / 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. | 0,09 | K/W |
| $R_{th(j-c)}$ | sin. 180 | 0,095 | K/W |
| $R_{th(j-c)}$ | rec. 120 | 0,11 | K/W |
| $R_{th(c-s)}$ | | 0,02 | K/W |
| T_{vj} | | - 40 ... + 130 | °C |
| T_{stg} | | - 40 ... + 130 | °C |
| V_{isol} | a. c. 50 Hz; r.m.s.; 1s / 1 min. | 3600 / 3000 | V~ |
| M_s | to heatsink | 5 ± 15 % ¹⁾ | Nm |
| M_t | to terminal | 17 ± 15 % ²⁾ | Nm |
| a | | 5 * 9,81 | m/s ² |
| m | approx. | 940 | g |
| Case | | A 36 | |



SKET

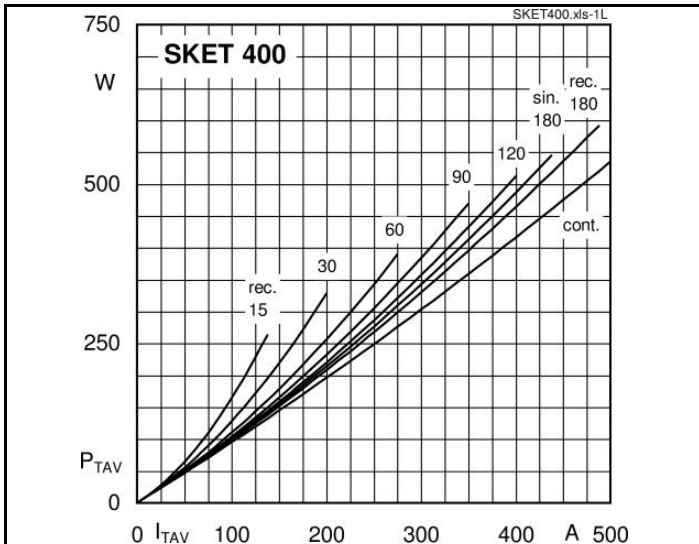


Fig. 1L Power dissipation per thyristor vs. on-state current

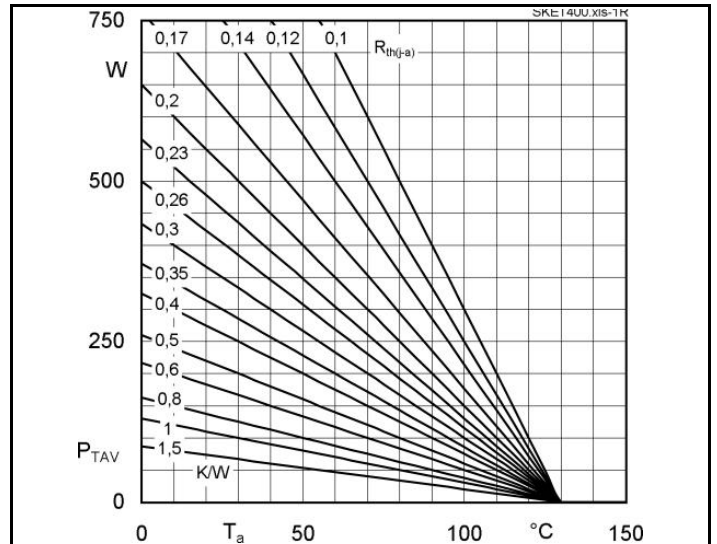


Fig. 1R Power dissipation per thyristor vs. ambient temp.

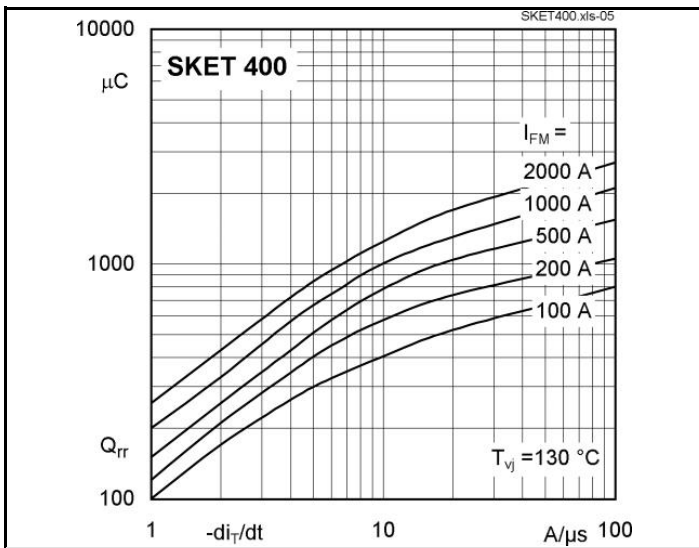


Fig. 5 Recovered charge vs. current decrease

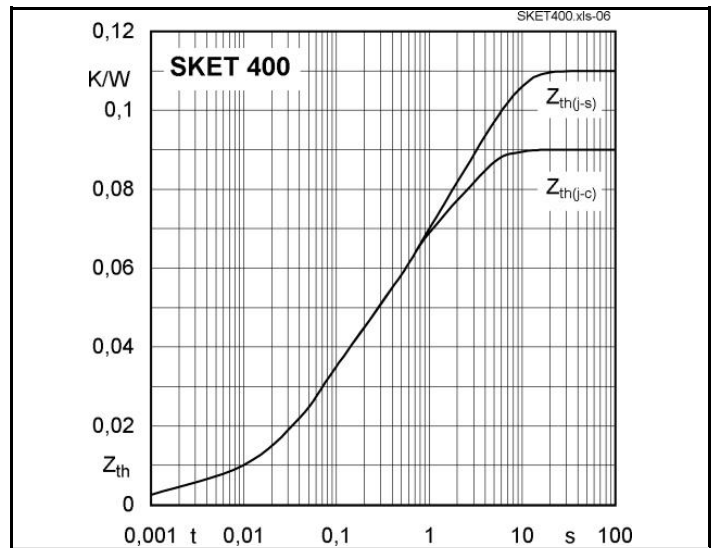


Fig. 6 Transient thermal impedance vs. time

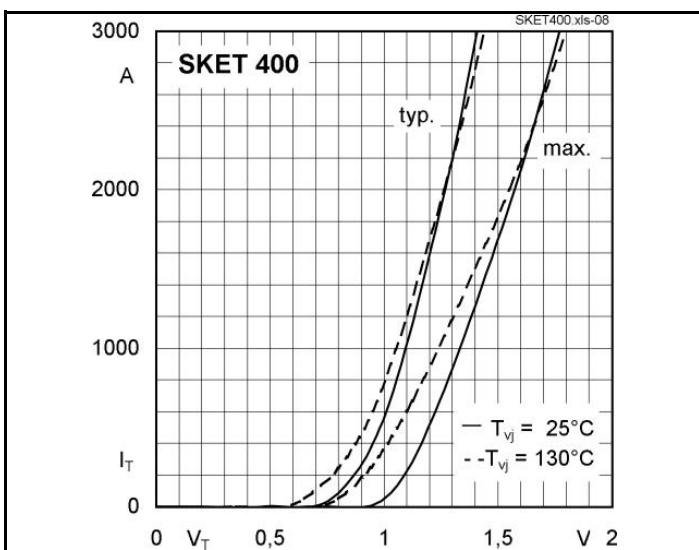


Fig. 7 On-state characteristics

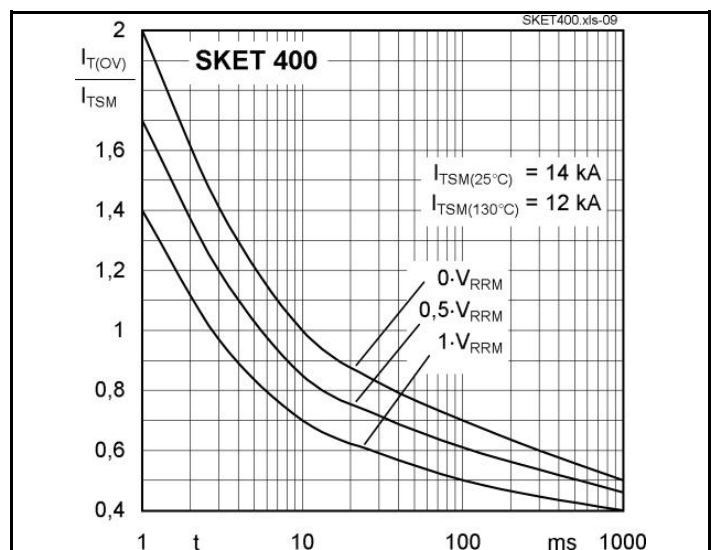
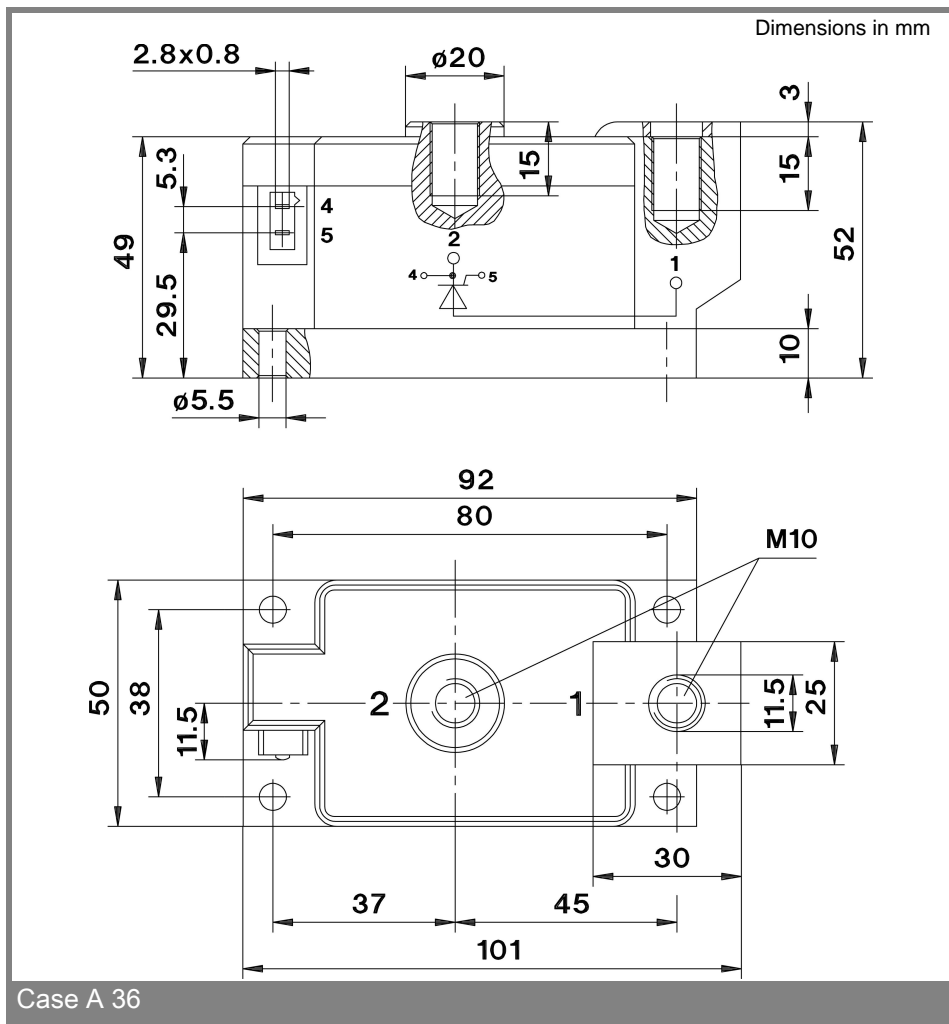
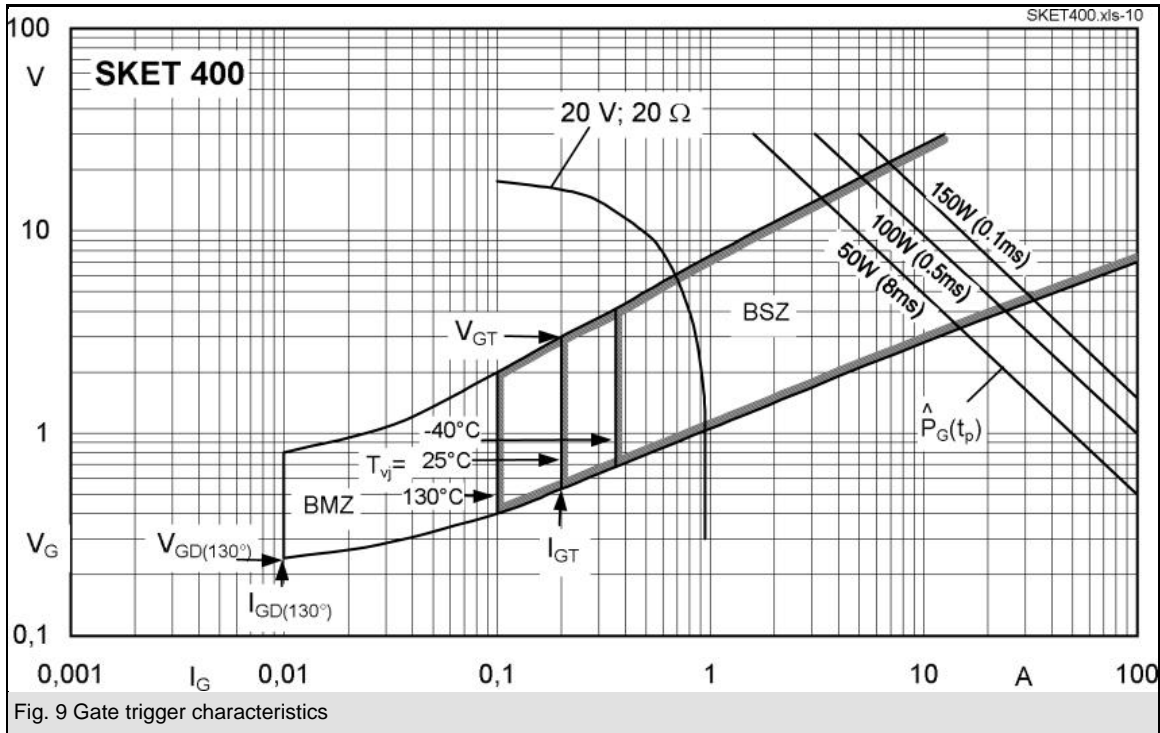


Fig. 8 Surge overload current vs. time

SKET 400



This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.