

Thyristors

SKT 10
SKT 16
SKT 24



Features

- Hermetic metal cases with glass insulators
- Threaded studs ISO M5 and M6 or UNF 1/4-28
- International standard cases

Typical Applications

- DC motor control (e. g. for machine tools)
- Controlled rectifiers (e. g. for battery charging)
- AC controllers (e. g. for temperature control)

| V _{RSM} | V _{RRM} V _{DRM} | (dv/dt) _{cr} | I _T RMS (maximum values for continuous operation) | | |
|---|--------------------------------------|-----------------------|--|---------------------|---------------------|
| | | | 30 A | 40 A | 50 A |
| I _{TAV} (sin. 180; T _{case} = . . . °C) | | | | | |
| V | V | V/μs | 19 A (95 °C) | 25 A (74 °C) | 32 A (72 °C) |
| 500 | 400 | 500 | – | SKT 16/04 D | SKT 24/04 D |
| 700 | 600 | 500 | SKT 10/06 D | SKT 16/06 D* | – |
| 900 | 800 | 500 | SKT 10/08 D | SKT 16/08 D | SKT 24/08 D |
| 1100 | 1000 | 500 | SKT 10/10 D | – | – |
| 1300 | 1200 | 500 | SKT 10/12 D | – | – |
| | | 1000 | SKT 10/12 E | SKT 16/12 E* | SKT 24/12 E* |
| 1500 | 1400 | 1000 | – | SKT 16/14 E | SKT 24/14 E |
| 1700 | 1600 | 1000 | – | SKT 16/16 E | SKT 24/16 E* |

| Symbol | Conditions | SKT 10 | SKT 16 | SKT 24 | Units |
|-----------------------------------|--|--------------------|-----------------|-------------|------------------|
| I _{TAV} | sin. 180; (T _{case} = . . .) | 10 (106) | 16 (103) | 24 (94) | A °C |
| i ² t | T _{vj} = 25 °C; 10 ms | 250 | 370 | 450 | A |
| | T _{vj} = 130 °C; 10 ms | 210 | 330 | 380 | A |
| | T _{vj} = 25 °C; 8,35 ... 10 ms | 310 | 680 | 1000 | A ² s |
| | T _{vj} = 130 °C; 8,35 ... 10 ms | 220 | 550 | 720 | A ² s |
| t _{gd} | T _{vj} = 25 °C; I _G = 1 A; di _G /dt = 1 A/μs | typ. 1 | | | μs |
| t _{gr} | V _D = 0,67 · V _{DRM} | typ. 2 | | | μs |
| (di/dt) _{cr} | f = 50 ... 60 Hz | 50 | | | A/μs |
| I _H | T _{vj} = 25 °C | typ. 80; max. 150 | | | mA |
| I _L | T _{vj} = 25 °C | typ. 150; max. 300 | | | mA |
| t _q | T _{vj} = 130 °C; typ. | 80 | | | μs |
| V _T | T _{vj} = 25 °C; (I _T = ...); max. | 1,6 (30) | 2,4 (75) | 1,9 (75) | V A |
| V _{T(TO)} | T _{vj} = 130 °C | 1,0 | 1,0 | 1,0 | V |
| r _T | T _{vj} = 130 °C | 18 | 20 | 10 | mΩ |
| I _{DD} , I _{RD} | T _{vj} = 130 °C; V _{DD} = V _{DRM} ; V _{RD} = V _{RRM} | 4 | 8 | 8 | mA |
| V _{GT} | T _{vj} = 25 °C | 3 | | | V |
| I _{GT} | T _{vj} = 25 °C | 100 | | | mA |
| V _{GD} | T _{vj} = 130 °C | 0,25 | | | V |
| I _{GD} | T _{vj} = 130 °C | 3 | | | mA |
| R _{thjc} | cont. sin. 180/rec. 120 | 1,2 1,3/1,35 | 0,8 0,9/0,95 | | °C/W °C/W |
| R _{thch} | | 1,0 | 0,5 | | °C/W |
| T _{vj} | | – 40 ... +130 | | | °C |
| T _{stg} | | – 55 ... +150 | | | °C |
| M | SI units | 2,0 | 2,5 | | Nm |
| a | US units | 18 | 22 | | lb. in. |
| w | | 5 · 9,81 | 5 · 9,81 | | m/s ² |
| | | 7 | 12 | | g |
| Case | | B 1 | | B 2 | |

* Available with UNF thread 1/4-28 UNF2A, e.g. SKT 16/06 D UNF

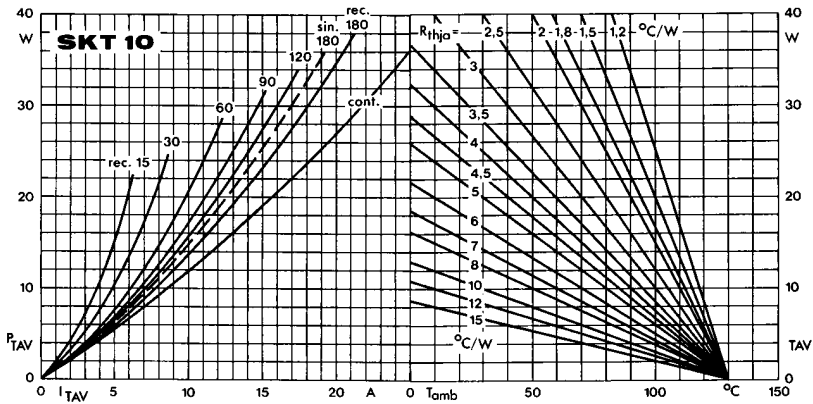


Fig. 1 a Power dissipation vs. on-state current and ambient temperature

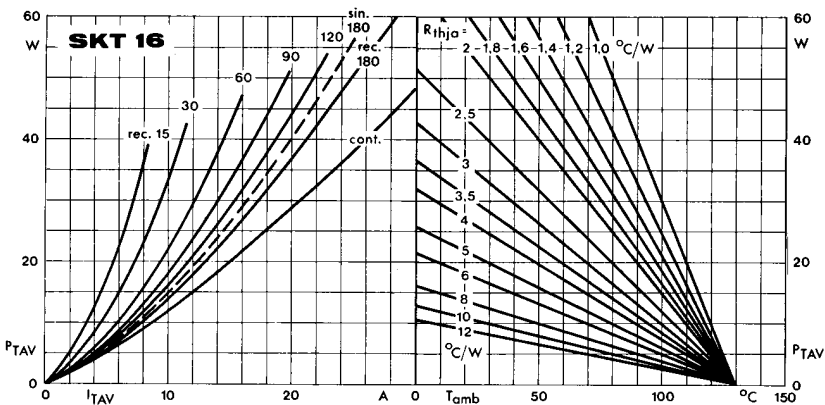


Fig. 1 b Power dissipation vs. on-state current and ambient temperature

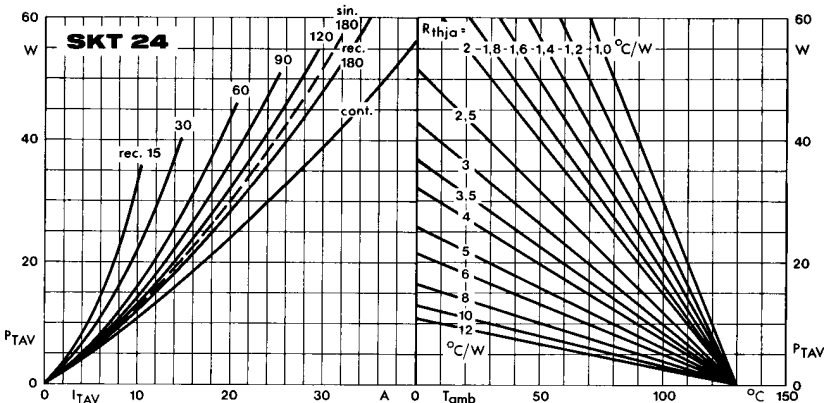


Fig. 1 c Power dissipation vs. on-state current and ambient temperature

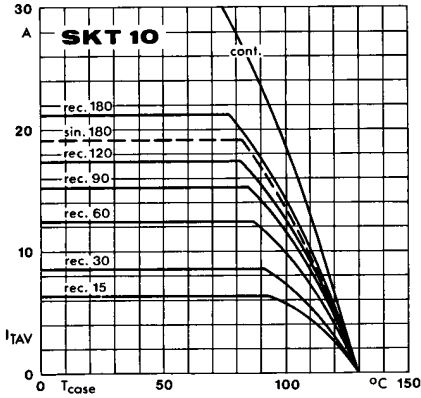


Fig. 2 a Rated on-state current vs. case temperature

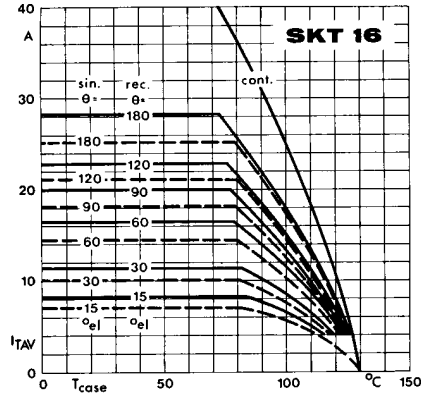


Fig. 2 b

Fig. 2 b Rated on-state current vs. case temperature

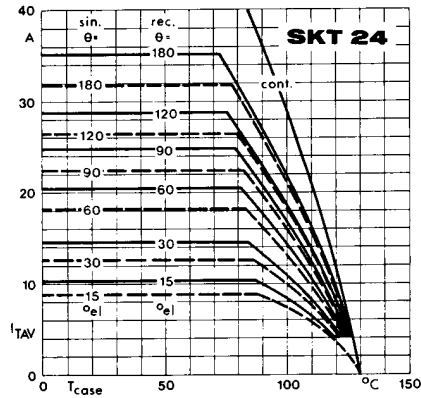


Fig. 2 c Rated on-state current vs. case temperature

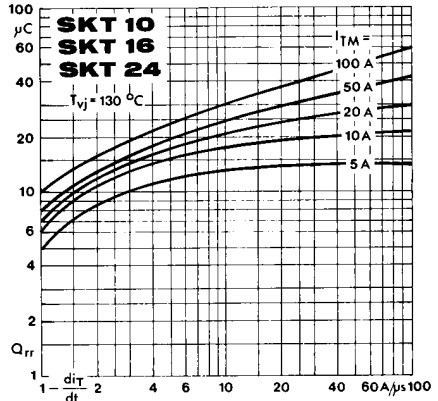


Fig. 3 Recovered charge vs. current decrease

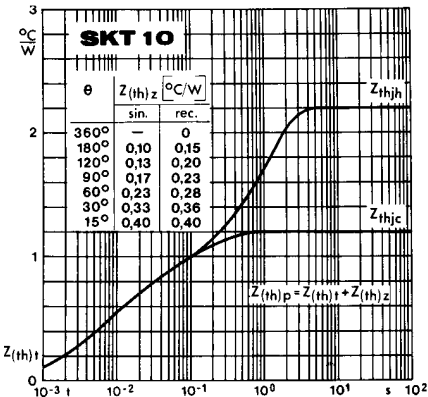


Fig. 4 a Transient thermal impedance vs. time

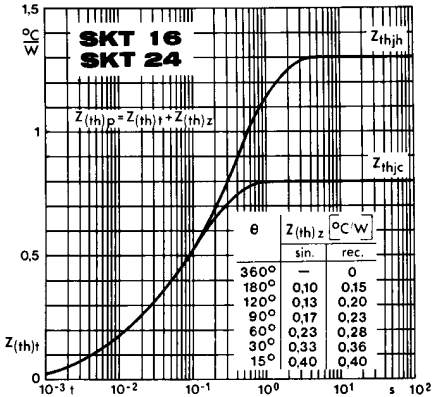


Fig. 4 b

Fig. 4 b Transient thermal impedance vs. time

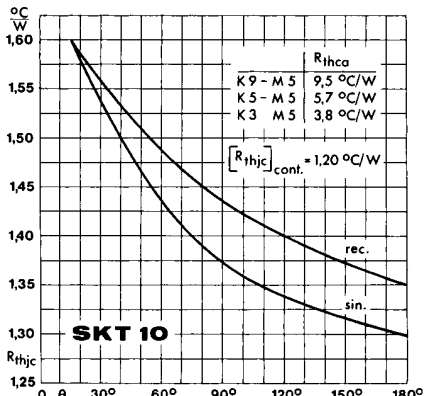


Fig. 5 a Thermal resistance vs. conduction angle

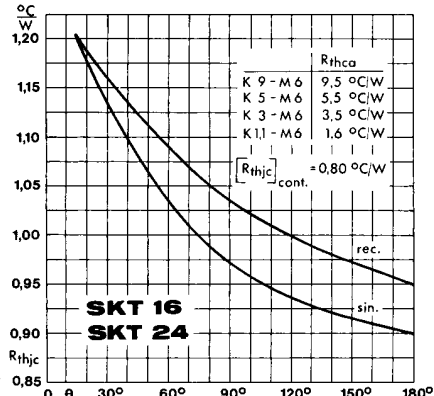


Fig. 5 b Thermal resistance vs. conduction angle

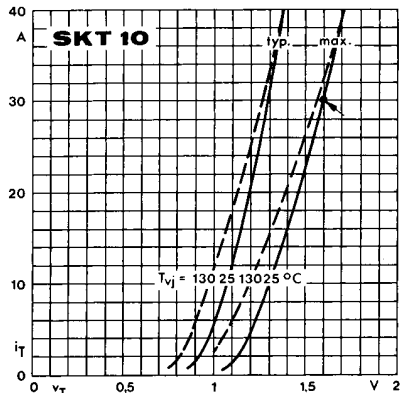


Fig. 6 a On-state characteristics

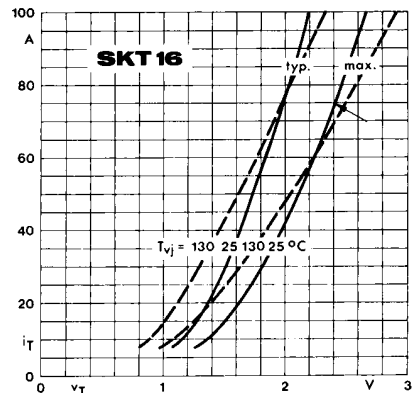


Fig. 6 b On-state characteristics

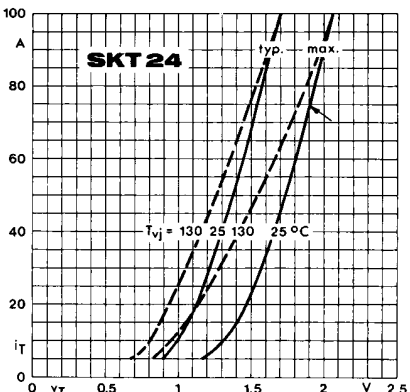


Fig. 6 c On-state characteristics

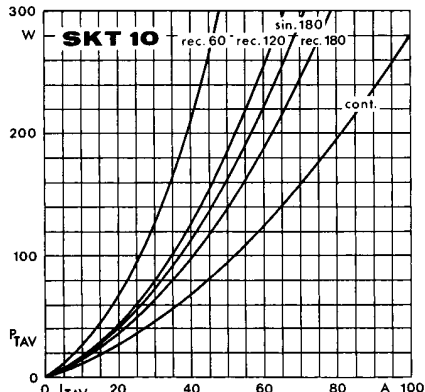


Fig. 7 a Power dissipation vs. on-state current

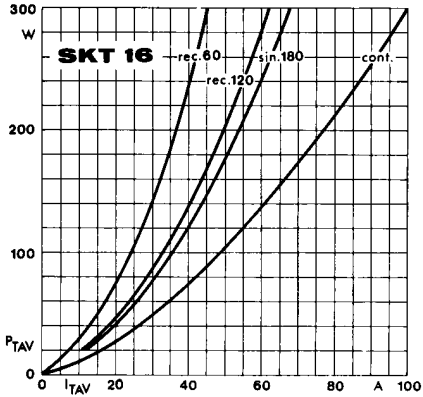


Fig. 7 b Power dissipation vs. on-state current

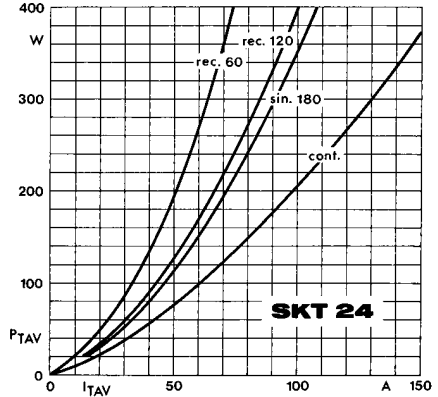


Fig. 7 c Power dissipation vs. on-state current

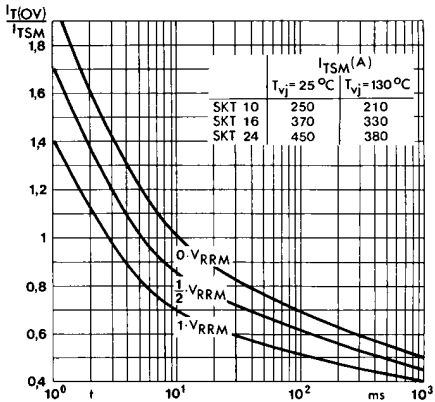


Fig. 8 Surge overload current vs. time

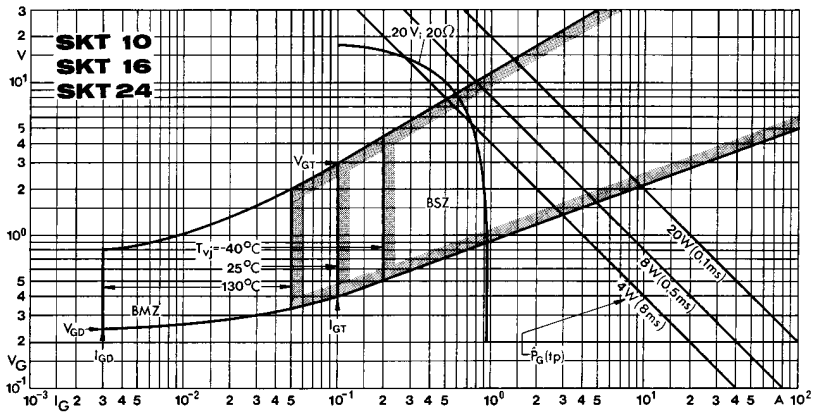


Fig. 9 Gate trigger characteristics

SKT 10

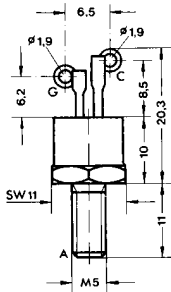
Case B 1

IEC-Publ. 191-2: A 13 M

DIN 41891: 200 B 3

BS 3934: SO-35 A

JEDEC: TO-208 AB (TO-64) metric

**SKT 16**
SKT 24

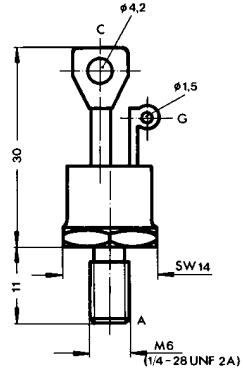
Case B 2

IEC-Publ. 191-2: A 11 M, A 11 U

DIN 41892: 201 C 3

BS 3934: SO-36

JEDEC: TO-208 AA (TO-48)

**SKT 40****SKT 50**

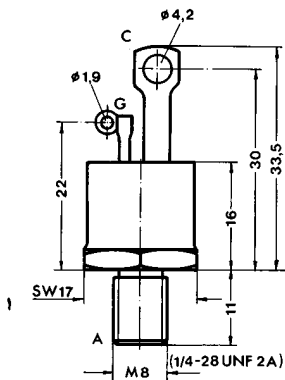
Case B 3

IEC-Publ. 191-2: A 38 MA, A 14 U

DIN 41892: 202 C 3

BS 3934: SO-28

JEDEC: TO-208 AC (TO-65)



C: Cathode terminal
A: Anode terminal
G: Gate terminal

Dimensions in mm