

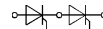
SEMPACK® 0 Thyristor/ Diode Modules

SKKT 15
SKKH 15

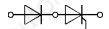


| V _{RSM} | V _{RRM} V _{DRM} | (dv/dt) _{cr} | I _{T(RMS)} (maximum values for continuous operation) | |
|------------------|--------------------------------------|-----------------------|--|---|
| | | | 24 A ¹⁾ ; 28 A ²⁾ | 24 A ¹⁾ ; 28 A ²⁾ |
| V | V | V/μs | I _{TAV} (sin. 180; T _{case} = 65 °C) 17,5 A ²⁾ | |
| 500 | 400 | 500 | SKKT 15/04 | SKKH 15/04 |
| 700 | 600 | 500 | SKKT 15/06 | SKKH 15/06 |
| 900 | 800 | 500 | SKKT 15/08 | SKKH 15/08 |
| 1300 | 1200 | 500 | SKKT 15/12 | SKKH 15/12 |
| 1500 | 1400 | 500 | SKKT 15/14 | SKKH 15/14 |
| 1700 | 1600 | 500 | SKKT 15/16 | SKKH 15/16 |

| Symbol | Conditions | SKKT 15 SKKH 15 | |
|-----------------------------------|---|--|--------------|
| I _{TAV} | sin. 180; T _{case} = 65 °C T _{case} = 75 °C | 17,5 A ²⁾ 15 A ¹⁾ | |
| I _D | B2/B6 T _{amb} = 45 °C; P 13A/100 | 14 A/17 A | |
| I _{RMS} | W1/W3 T _{amb} = 45 °C; P 13A/100 | 21 A/3 x 12 A | |
| I _{TSM} | T _{vj} = 25 °C; 10 ms T _{vj} = 125 °C; 10 ms | 320 A 280 A | |
| i ² t | T _{vj} = 25 °C; 8,3 ... 10 ms T _{vj} = 125 °C; 8,3 ... 10 ms | 510 A ² s 390 A ² s | |
| 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 | 100 A/μs | |
| t _q | T _{vj} = 125 °C | typ. 80 μs | |
| I _H | T _{vj} = 25 °C; typ./max. | 80 mA/150 mA | |
| I _L | T _{vj} = 25 °C; R _G = 33 Ω; typ./max. | 150 mA/300 mA | |
| V _T | T _{vj} = 25 °C; I _T = 75 A | max. 2,45 V | |
| V _{T(TO)} | T _{vj} = 125 °C | 1,1 V | |
| r _T | T _{vj} = 125 °C | 20 mΩ | |
| I _{DD} ; I _{RD} | T _{vj} = 125 °C; V _{DD} = V _{DRM} ; V _{RD} = V _{RRM} | max. 8 mA | |
| V _{GT} | T _{vj} = 25 °C; d. c. | 3 V | |
| I _{GT} | T _{vj} = 25 °C; d. c. | 100 mA | |
| V _{GD} | T _{vj} = 125 °C; d. c. | 0,25 V | |
| I _{GD} | T _{vj} = 125 °C; d. c. | 5 mA | |
| R _{thjc} | cont. | } per thyristor/per module | |
| | sin. 180 | | 1,6/0,8 °C/W |
| | rec.120 | | 1,7/0,9 °C/W |
| | | | 1,8/0,9 °C/W |
| | | | 0,2/0,1 °C/W |
| R _{thch} | | 0,2/0,1 °C/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 V-/3000 V- | |
| M ₁ | Case to heatsink; SI units/US units | 1,5 Nm/13 lb. in. ± 15 % ³⁾ | |
| a | | 5 · 9,81 m/s ² | |
| w | approx. | 50 g | |
| Case | → page B 1 – 30 | SKKT 15: A1 SKKH 15: A2 | |



SKKT



SKKH

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⁾ Using tin plated connectors with flexible leads of 6 mm² for the main terminals

²⁾ Flexible leads of 6 mm² soldered to the main terminals

³⁾ See the assembly instructions

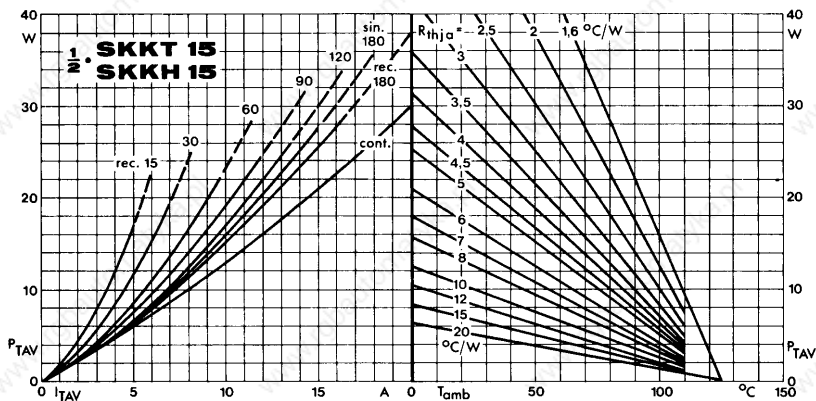


Fig. 1 Power dissipation per thyristor vs. on-state current and ambient temperature

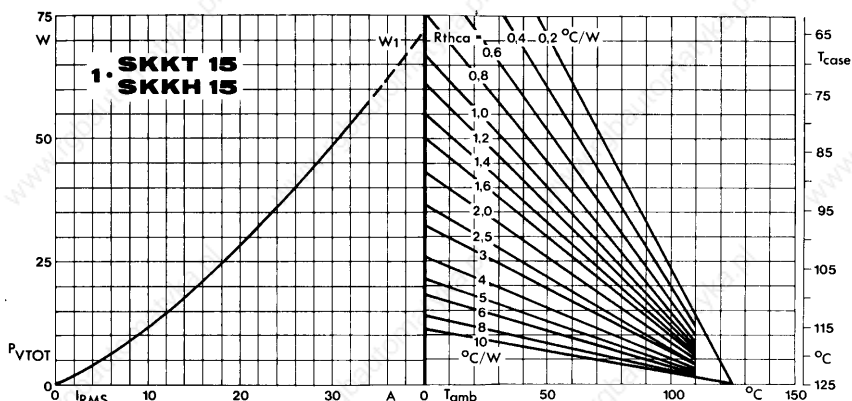


Fig. 2 Power dissipation per module vs. rms current and case temperature

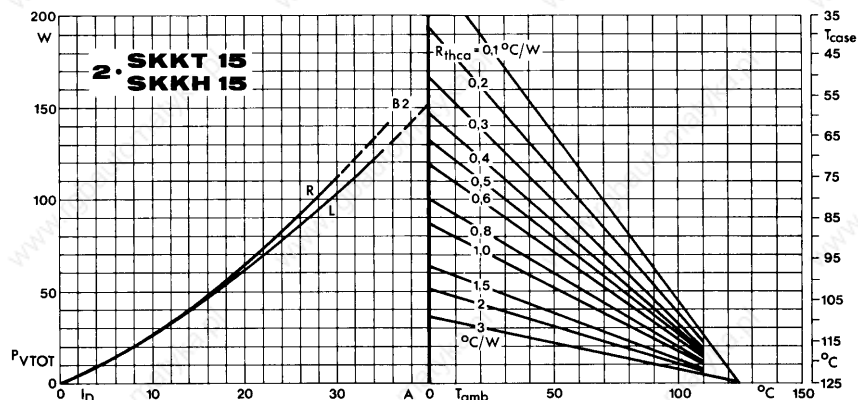


Fig. 3 Power dissipation of two modules vs. direct current and case temperature

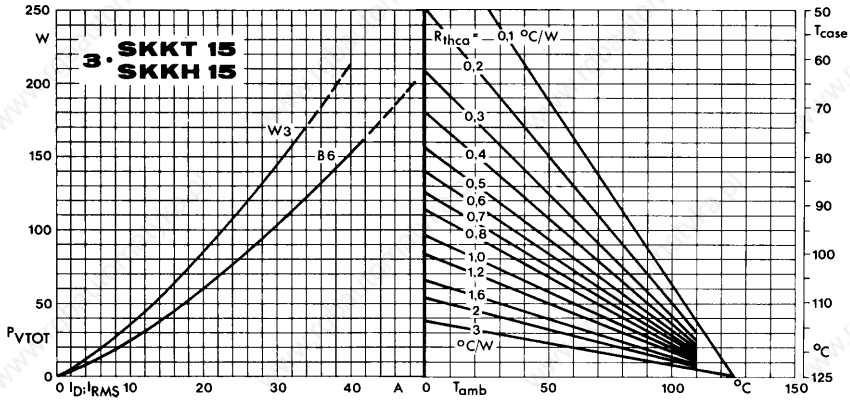


Fig. 4 Power dissipation of three modules vs. direct and rms current and case temperature

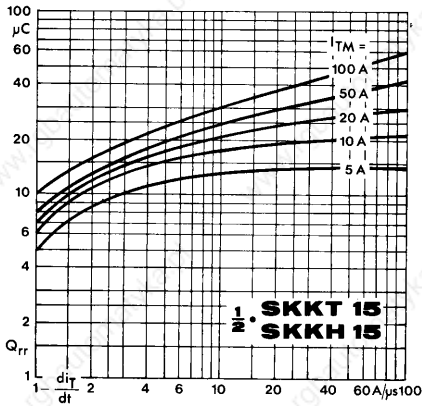


Fig. 5 Recovered charge vs. current decrease

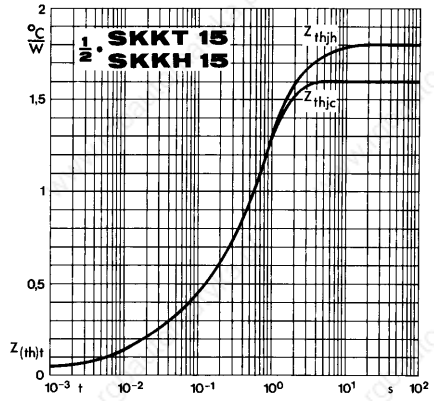


Fig. 6 Transient thermal impedance vs. time

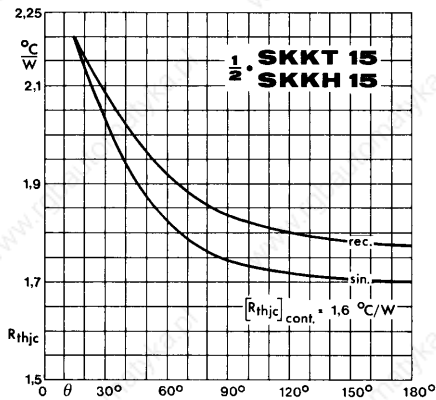


Fig. 7 Thermal resistance vs. conduction angle

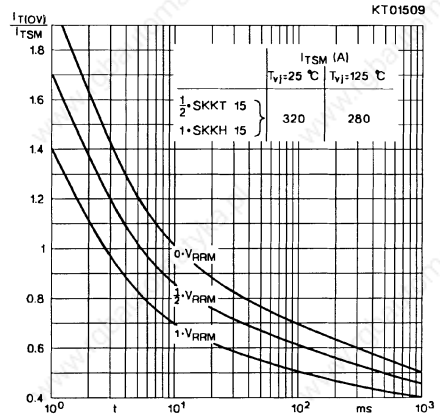
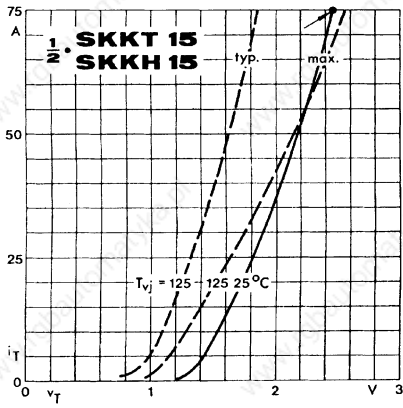


Fig. 8 On-state characteristics

Fig. 9 Surge overload current vs. time

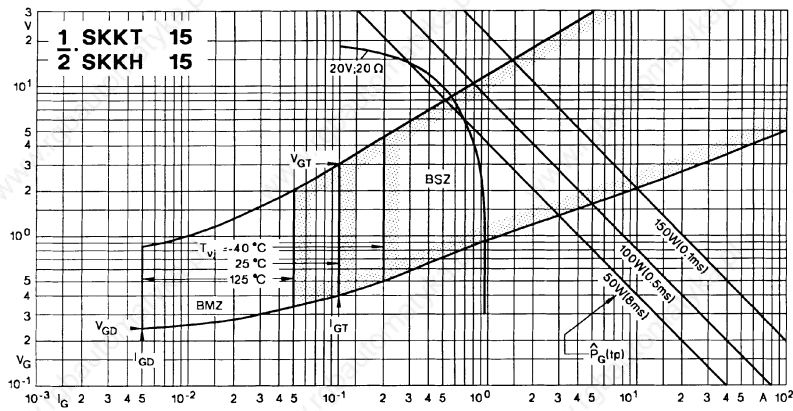


Fig. 10 Gate trigger characteristics

