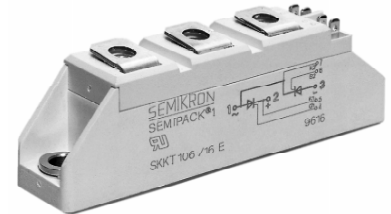


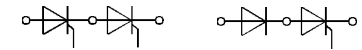
| | | | | | | |
|-----------|-----------|-----------------------|---|----------------------------|--------------|--------------|
| V_{RSM} | V_{RRM} | (dv/dt) _{cr} | I_{TRMS} (maximum value for continuous operation) | | | |
| | V_{DRM} | | 75 A | | | |
| V | V | V/μs | I_{TAV} (sin. 180; T _{case} = 68 °C) | | | |
| | | | 48 A | | | |
| 500 | 400 | 500 | – | – | SKKH 41/04 D | – |
| 700 | 600 | 500 | SKKT 41/06 D | SKKT 42/06 D | SKKH 41/06 D | SKKH 42/06 D |
| 900 | 800 | 500 | SKKT 41/08 D | SKKT 42/08 D ¹⁾ | SKKH 41/08 D | SKKH 42/08 D |
| 1300 | 1200 | 1000 | SKKT 41/12 E | SKKT 42/12 E ¹⁾ | SKKH 41/12 E | SKKH 42/12 E |
| 1500 | 1400 | 1000 | SKKT 41/14 E | SKKT 42/14 E ¹⁾ | SKKH 41/14 E | SKKH 42/14 E |
| 1700 | 1600 | 1000 | SKKT 41/16 E | SKKT 42/16 E ¹⁾ | SKKH 41/16 E | SKKH 42/16 E |
| 1900 | 1800 | 1000 | SKKT 41/18 E | SKKT 42/18 E ¹⁾ | SKKH 41/18 E | SKKH 42/18 E |
| 2100 | 2000 | 1000 | SKKT 41/20 E | SKKT 42/20 E ¹⁾ | – | – |
| 2300 | 2200 | 1000 | SKKT 41/22 E | SKKT 42/22 E ¹⁾ | – | – |

SEMIPACK® 1 Thyristor / Diode Modules

SKKT 41 SKKH 41
SKKT 42 SKKH 42
SKKT 42B SKKL 42²⁾



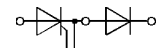
| Symbol | Conditions | SKKT 41 SKKH 41 | SKKT 42 SKKT 42B SKKH 42 | Units |
|-----------------------|--|---|--|------------------|
| I_{TAV} | sin. 180; T _{case} = 74 °C T _{case} = 85 °C | 48 | 40 | A |
| I_D | B2/B6 T _{amb} = 45 °C; P 3/180 T _{amb} = 35 °C; P 3/180 F | 50 / 60 | 85 / 110 | A |
| I_{RMS} | W1/W3 T _{amb} = 35 °C; P 3/180 F | 110 / 3 x 85 | | A |
| I_{TSM} | T _{vj} = 25 °C; 10 ms T _{vj} = 125 °C; 10 ms | 1 000 | 850 | A |
| i^2t | T _{vj} = 25 °C; 8,3 ... 10 ms T _{vj} = 125 °C; 8,3 ... 10 ms | 5 000 | 3 600 | 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} | 2 | | μs |
| (di/dt) _{cr} | T _{vj} = 125 °C | 150 | | A/μs |
| t_q | T _{vj} = 125 °C | typ. 80 | | μs |
| I_H | T _{vj} = 25 °C; typ./max. | 150 / 250 | | mA |
| I_L | T _{vj} = 25 °C; R _G = 33 Ω; typ./max. | 300 / 600 | | mA |
| V_T | T _{vj} = 25 °C; I _T = 200 A | max. 1,95 | | V |
| $V_{T(TO)}$ | T _{vj} = 125 °C | 1 | | V |
| r_T | T _{vj} = 125 °C | 4,5 | | mΩ |
| $I_{DD}; I_{RD}$ | T _{vj} = 125 °C; V _{RD} = V _{RRM} V _{DD} = V _{DRM} | max. 15 ³⁾ | | mA |
| V_{GT} | T _{vj} = 25 °C; d.c. | 3 | | V |
| I_{GT} | T _{vj} = 25 °C; d.c. | 150 | | mA |
| V_{GD} | T _{vj} = 125 °C; d.c. | 0,25 | | V |
| I_{GD} | T _{vj} = 125 °C; d.c. | 6 | | mA |
| R_{thjc} | cont. } per thyristor / sin. 180 } per module rec. 120 } | 0,65 / 0,33 0,69 / 0,35 0,73 / 0,37 | | °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 / 3000 | | V~ |
| M_1 | to heatsink } SI (US) units | 5 (44 lb. in.) ± 15 % ⁴⁾ | | Nm |
| M_2 | to terminals } | 3 (26 lb. in.) ± 15 % | | Nm |
| a | | 5 · 9,81 | | m/s ² |
| w | approx. | 95 | | g |
| Case | → page B 1 – 95 | SKKT 41: A 5 SKKH 41: A 6 SKKH 42: A 47 | SKKL 42: A 59 SKKT 42: A 46 SKKT 42B: A 48 | |



SKKT 41 SKKH 41



SKKT 42
SKKT 42B SKKH 42



SKKL 42

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⁾ Also available in SKKT 42 B configuration (case A 48)

²⁾ SKKL 42 available on request

³⁾ /20 E, /22 E max. 30 mA

⁴⁾ See the assembly instructions

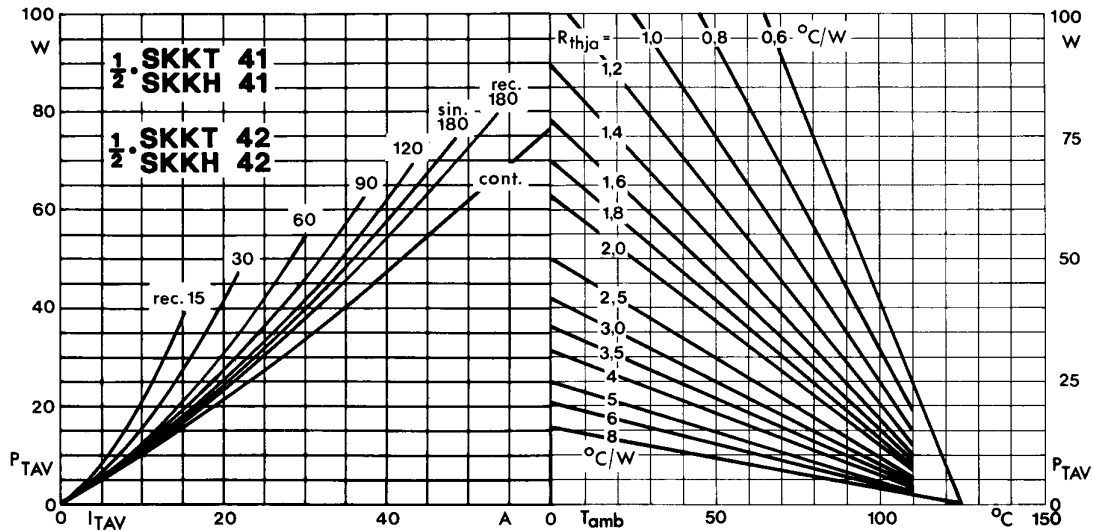


Fig. 1 Power dissipation per thyristor vs. on-state current and ambient temperature

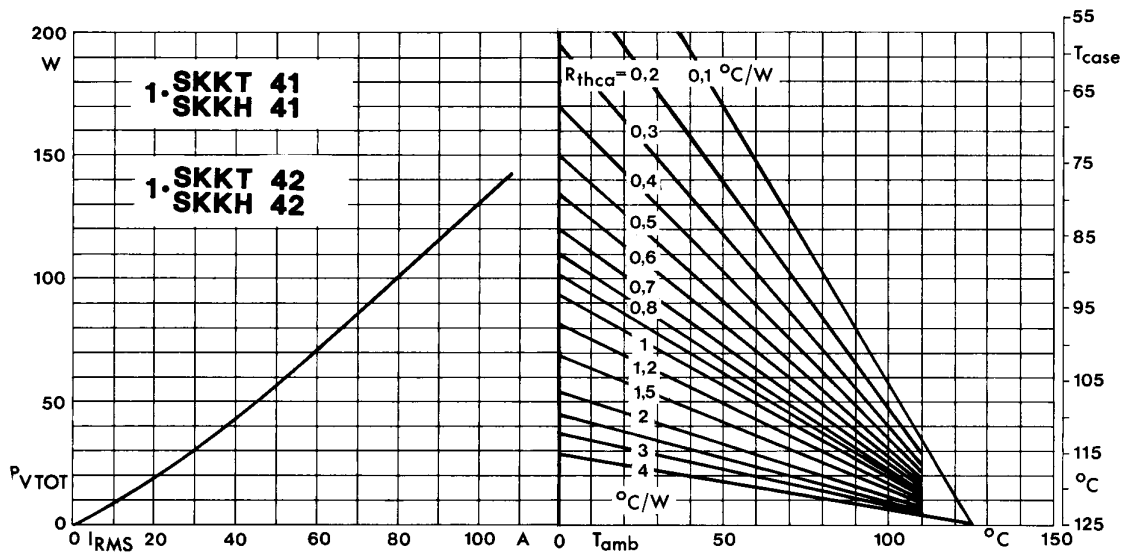


Fig. 2 Power dissipation per module vs. rms current and case temperature

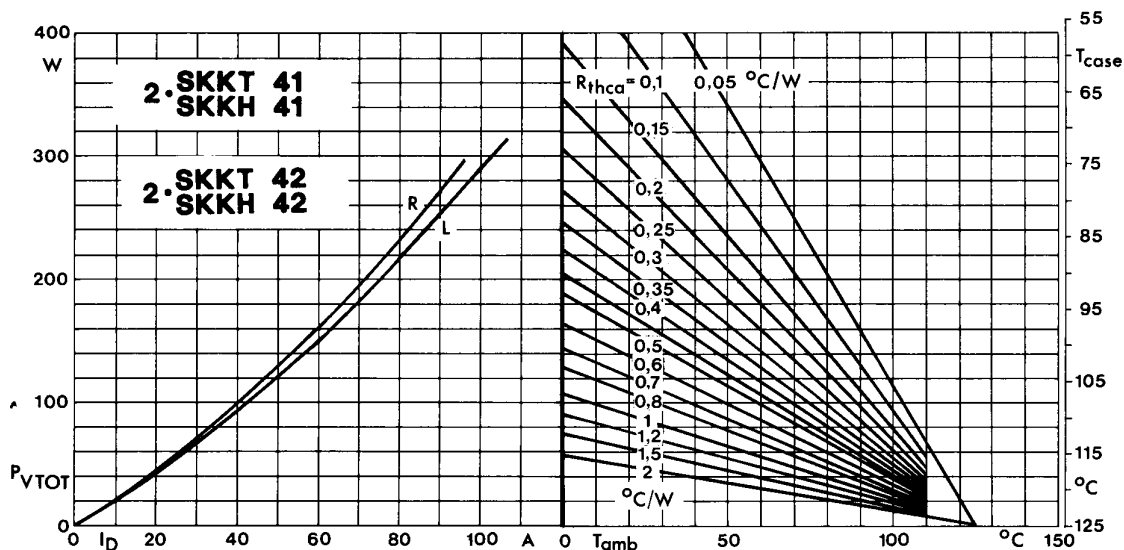


Fig. 3 Power dissipation of two modules vs. direct current and case temperature

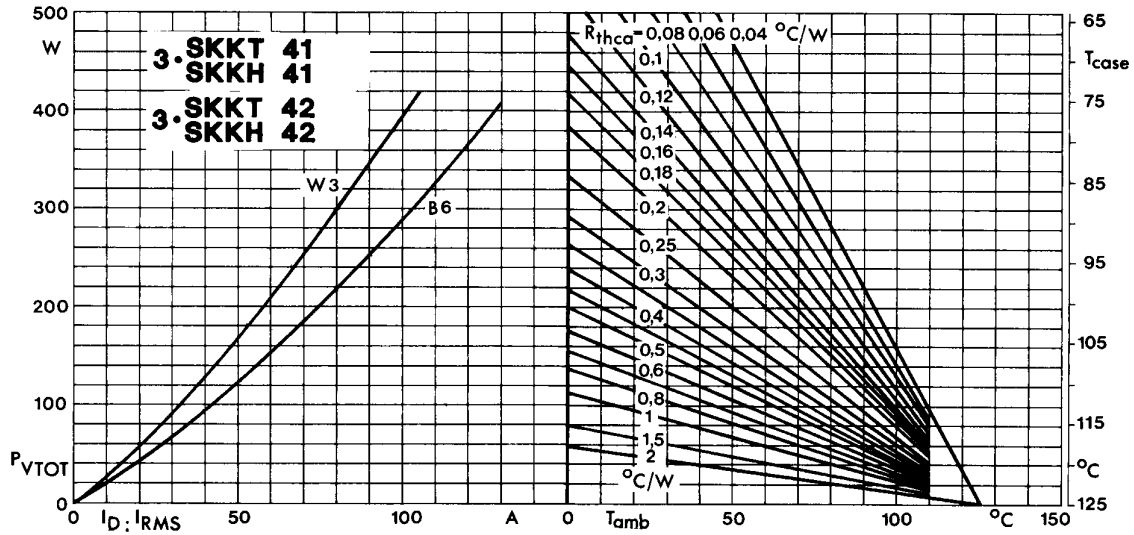


Fig. 4 Power dissipation of three modules vs. direct and rms current and case temperature

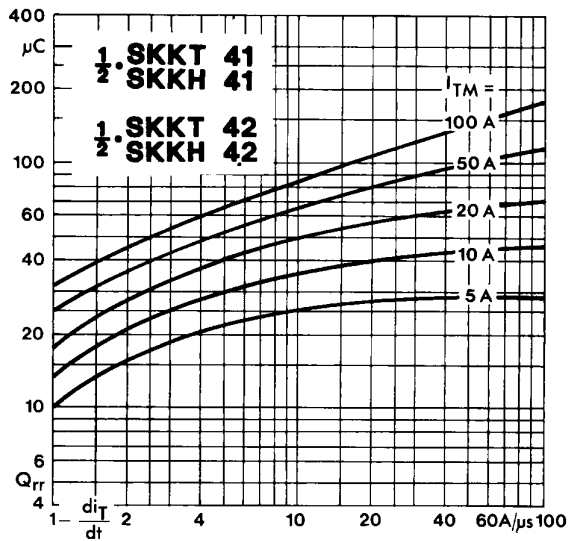


Fig. 5 Recovered charge vs. current decrease

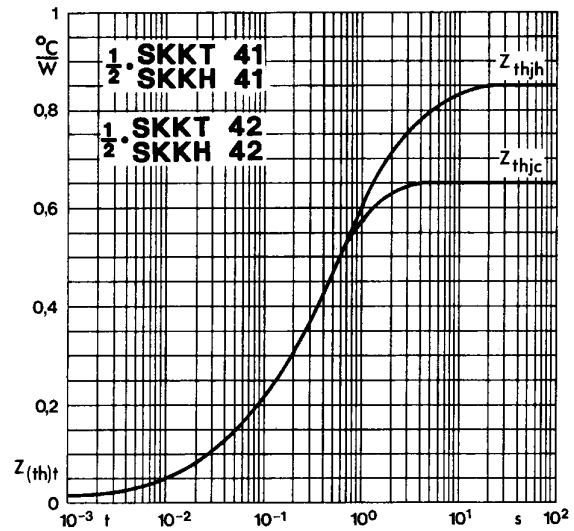


Fig. 6 Transient thermal impedance vs. time

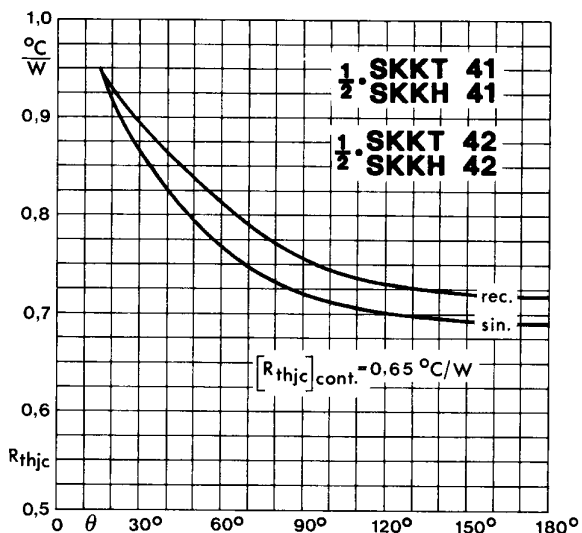


Fig. 7 Thermal resistance vs. conduction angle

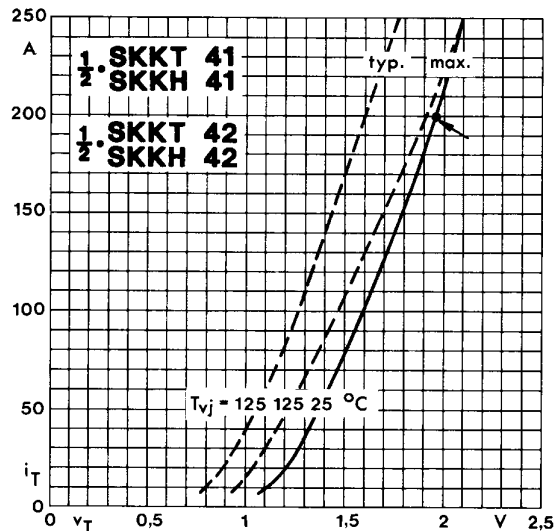


Fig. 8 On-state characteristics

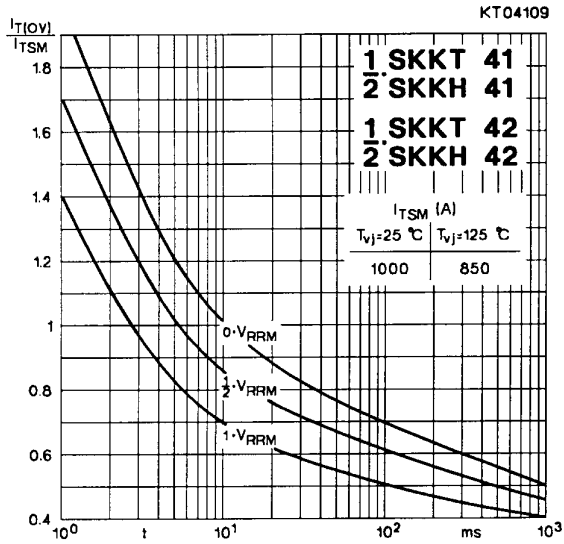


Fig. 9 Surge overload current vs. time

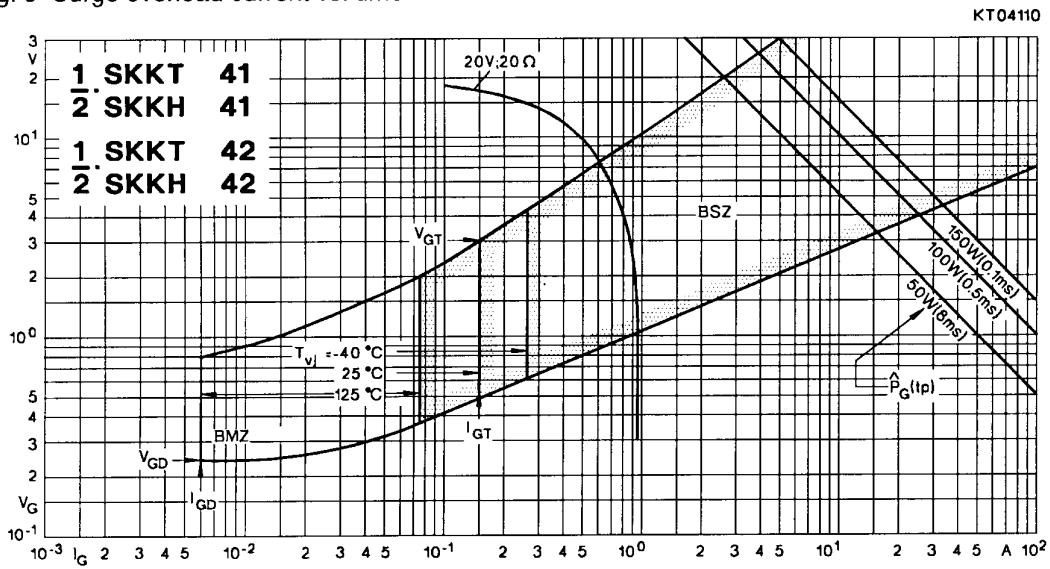


Fig. 10 Gate trigger characteristics

SKKT 19 ... 105

Case A 5

IEC 192-2: A 77 A

JEDEC: TO-240 AA

SEMIPACK® 1

UL recognized, file no. E 63 532



Dimensions in mm

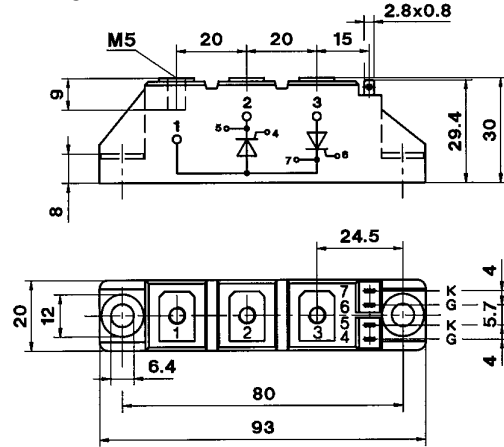
SKKT 20/ ... 106/

Case A 46

IEC 192-2: A 77 A

JEDEC: TO-240 AA

SEMIPACK® 1



Dimensions in mm

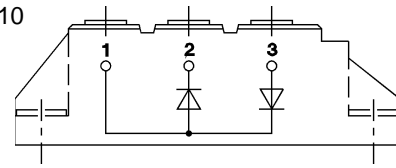
SKKH 26 ... 105

Case A 6



SKKD 26 ... 100

Case A 10



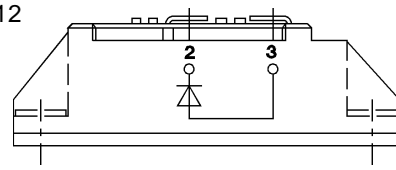
SKNH 56 ... 91

Case A 7



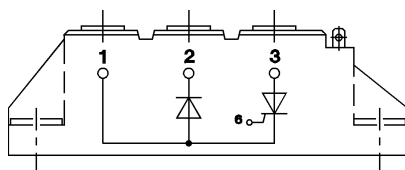
SKKE 81

Case A 12



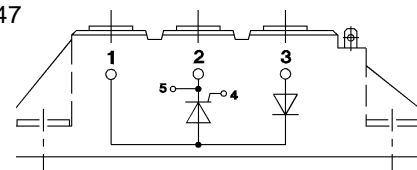
SKKL 56 ... 105

Case A 9



SKKH 27 ... 106

Case A 47



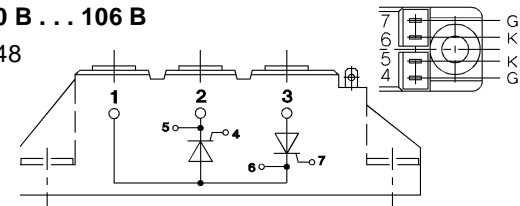
SKND 46 ... 81

Case A 19



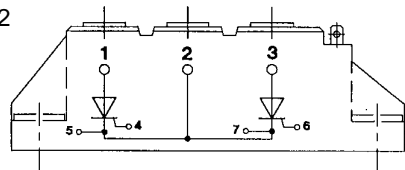
SKKT 20 B ... 106 B

Case A 48



SKMT 92

Case A 72



SKKL 42 ... 106

Case A 59

