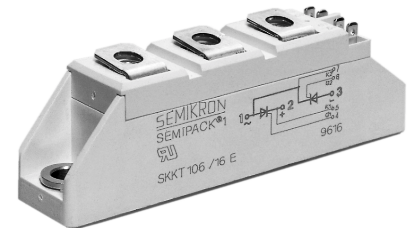


| V _{RSM} | V _{RRM} | (dv/dt) _{cr} | I _{TRMS} (maximum value for continuous operation) | | | |
|------------------|------------------|-----------------------|--|----------------------------|--------------|--------------|
| | | | 125 A | | | |
| V | V | V/μs | I _{TAV} (sin. 180; T _{case} = 78 °C) | | | |
| | | | 80 A | | | |
| 700 | 600 | 500 | SKKT 71/06 D | – | – | SKKH 72/06 D |
| 900 | 800 | 500 | SKKT 71/08 D | SKKT 72/08 D ¹⁾ | SKKH 71/08 D | SKKH 72/08 D |
| 1300 | 1200 | 1000 | SKKT 71/12 E | SKKT 72/12 E ¹⁾ | SKKH 71/12 E | SKKH 72/12 E |
| 1500 | 1400 | 1000 | SKKT 71/14 E | SKKT 72/14 E ¹⁾ | SKKH 71/14 E | SKKH 72/14 E |
| 1700 | 1600 | 1000 | SKKT 71/16 E | SKKT 72/16 E ¹⁾ | SKKH 71/16 E | SKKH 72/16 E |
| 1900 | 1800 | 1000 | SKKT 71/18 E | SKKT 72/18 E ¹⁾ | SKKH 71/18 E | SKKH 72/18 E |
| 2100 | 2000 | 1000 | – | SKKT 72/20 E | – | SKKH 72/20 E |
| 2300 | 2200 | 1000 | – | SKKT 72/22 E | – | SKKH 72/22 E |

SEMIPACK® 1 Thyristor / Diode Modules

SKKT 71 **SKKH 71**
SKKT 72 **SKKH 72**
SKKT 72B



| Symbol | Conditions | SKKT 71 SKKH 71 | SKKT 72 SKKT 72B SKKH 72 | Units |
|-----------------------------------|--|-------------------------------------|--|------------------|
| I _{TAV} | sin. 180; T _{case} = 78 °C T _{case} = 85 °C | 80 | 80 | A |
| I _D | B2/B6 T _{amb} = 45 °C; P 3/180 | 62 / 75 | 62 / 75 | A |
| I _{RMS} | W1/W3 T _{amb} = 35 °C; P 3/180 F T _{amb} = 45 °C; P 3/180 F | 115 / 145 | 115 / 145 | A |
| I _{TSM} | T _{vj} = 25 °C; 10 ms | 1 600 | 1 600 | A |
| | T _{vj} = 125 °C; 10 ms | 1 450 | 1 450 | A |
| i ² t | T _{vj} = 25 °C; 8,3 ... 10 ms | 13 000 | 13 000 | A ² s |
| | T _{vj} = 125 °C; 8,3 ... 10 ms | 10 500 | 10 500 | A ² s |
| t _{gd} | T _{vj} = 25 °C; I _G = 1 A di _G /dt = 1 A/μs | 1 | 1 | μs |
| t _{gr} | V _D = 0,67 · V _{DRM} | 1 | 1 | μs |
| (di/dt) _{cr} | T _{vj} = 125 °C | 150 | 150 | A/μs |
| t _q | T _{vj} = 125 °C | typ. 80 | typ. 80 | μs |
| I _H | T _{vj} = 25 °C; typ./max. | 150 / 250 | 150 / 250 | mA |
| I _L | T _{vj} = 25 °C; R _G = 32 Ω; typ./max. | 300 / 600 | 300 / 600 | mA |
| V _T | T _{vj} = 25 °C; I _T = 300A | max. 1,9 | max. 1,9 | V |
| V _{T(TO)} | T _{vj} = 125 °C | 0,9 | 0,9 | V |
| r _T | T _{vj} = 125 °C | 3,5 | 3,5 | mΩ |
| I _{DD} ; I _{RD} | T _{vj} = 125 °C; V _{RD} = V _{RRM} V _{DD} = V _{DRM} | max. 20 ³⁾ | max. 20 ³⁾ | mA |
| V _{GT} | T _{vj} = 25 °C; d.c. | 3 | 3 | V |
| I _{GT} | T _{vj} = 25 °C; d.c. | 150 | 150 | mA |
| V _{GD} | T _{vj} = 125 °C; d.c. | 0,25 | 0,25 | V |
| I _{GD} | T _{vj} = 125 °C; d.c. | 6 | 6 | mA |
| R _{thjc} | cont. } sin. 180 } per thyristor / rec. 120 } per module | 0,35 / 0,18 | 0,35 / 0,18 | °C/W |
| | | 0,37 / 0,19 | 0,37 / 0,19 | °C/W |
| | | 0,39 / 0,20 | 0,39 / 0,20 | °C/W |
| R _{thch} | | 0,2 / 0,1 | 0,2 / 0,1 | °C/W |
| T _{vj} | | – 40 ... + 125 | – 40 ... + 125 | °C |
| T _{stg} | | – 40 ... + 125 | – 40 ... + 125 | °C |
| V _{isol} | a. c. 50 Hz; r.m.s.; 1 s/1 min | 3600 / 3000 | 3600 / 3000 | V~ |
| M ₁ | to heatsink } SI (US) units | 5 (44 lb. in.) ± 15 % ²⁾ | 5 (44 lb. in.) ± 15 % ²⁾ | Nm |
| M ₂ | to terminals } | 3 (26 lb. in.) ± 15 % | 3 (26 lb. in.) ± 15 % | Nm |
| a | | 5 · 9,81 | 5 · 9,81 | m/s ² |
| w | approx. | 120 | 120 | g |
| Case | → page B 1 – 95 | SKKT 71: A 5 SKKH 71: A 6 | SKKT 72: A 46 SKKT 72B: A 48 SKKH 72: A 47 | |



SKKT 71 **SKKH 71**



SKKT 72
SKKT 72B **SKKH 72**

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 72 B configuration (case A 48)

²⁾ See the assembly instructions

³⁾ /20 E, /22 E max. 30 mA

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

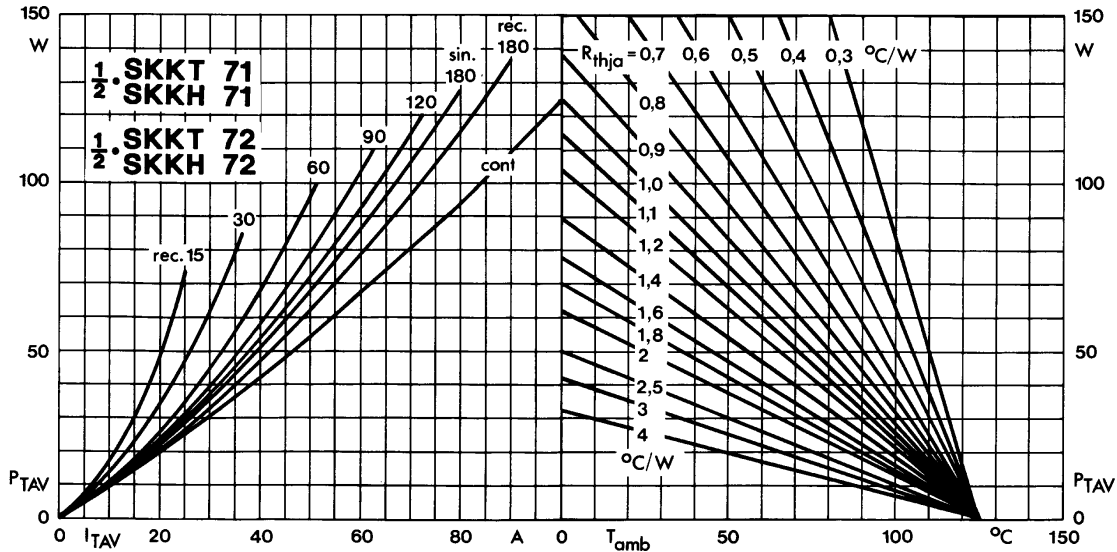


Fig. 1 Power dissipation per thyristor vs. on-state current and ambient temperature

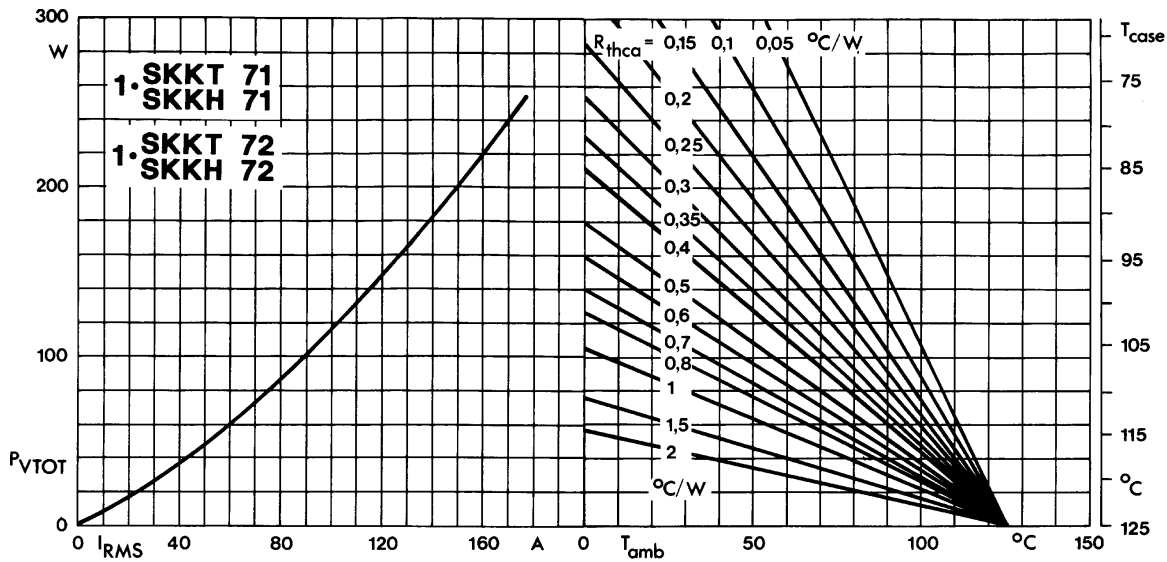


Fig. 2 Power dissipation per module vs. rms current and case temperature

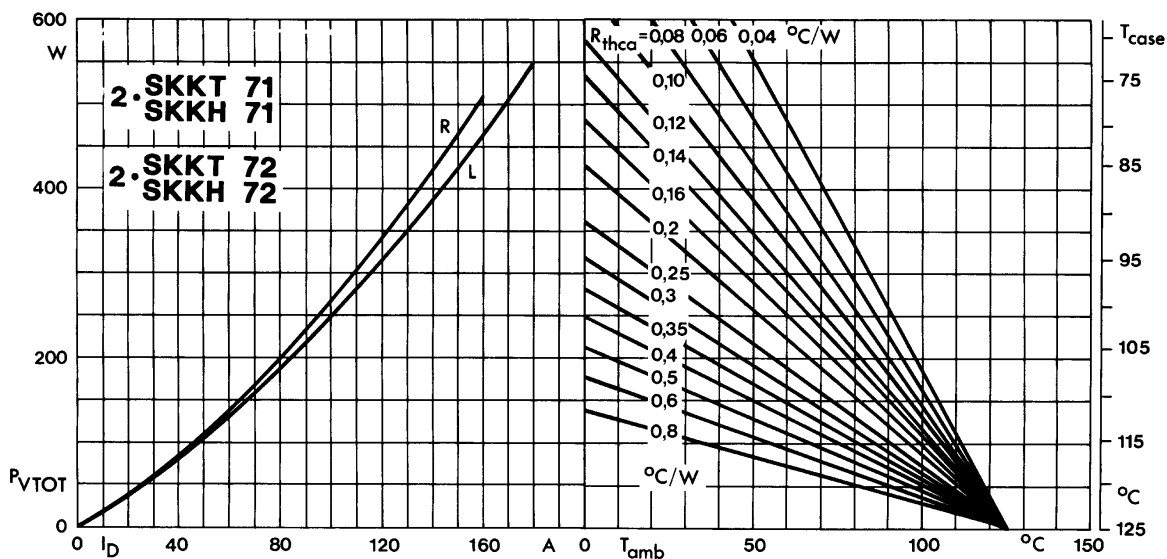


Fig. 3 Power dissipation of two modules vs. direct current and case temperature

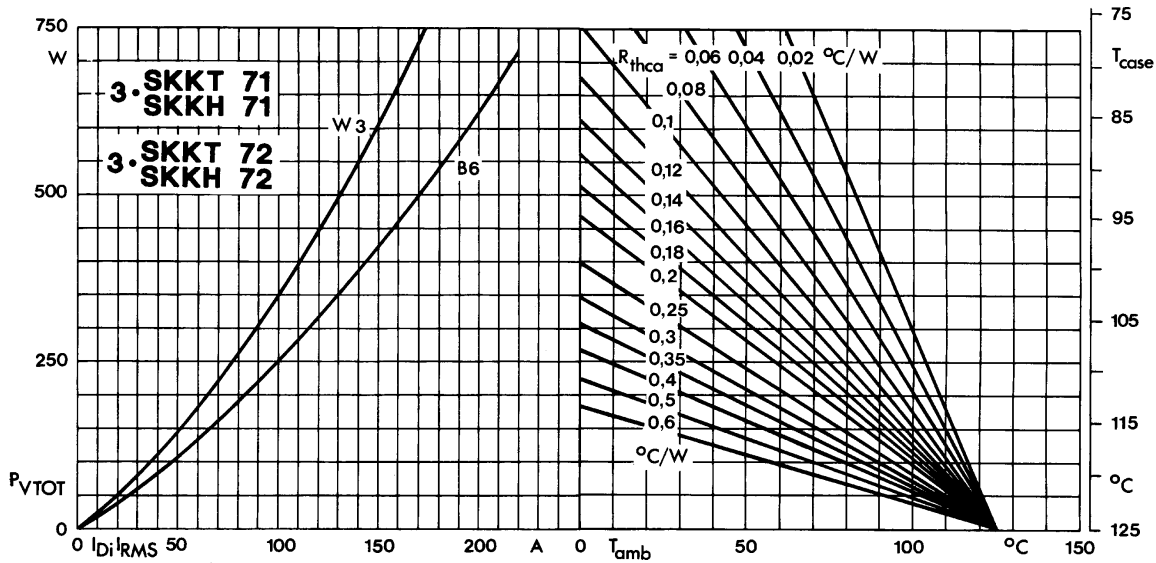


Fig. 4 Power dissipation of three modules vs. direct and rms current and case temperature

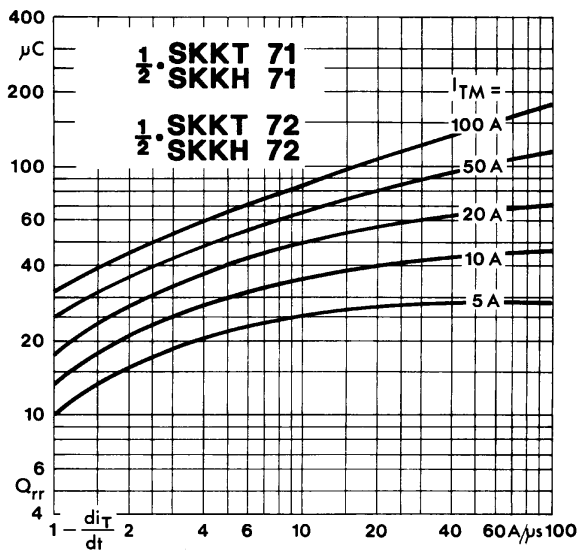


Fig. 5 Recovered charge vs. current decrease

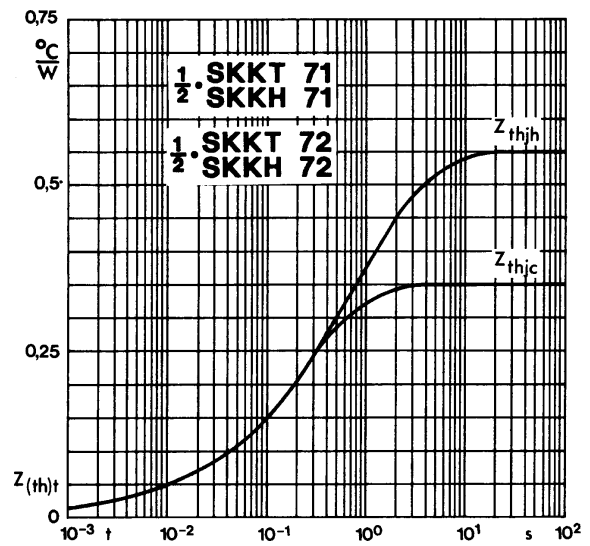


Fig. 6 Transient thermal impedance vs. time

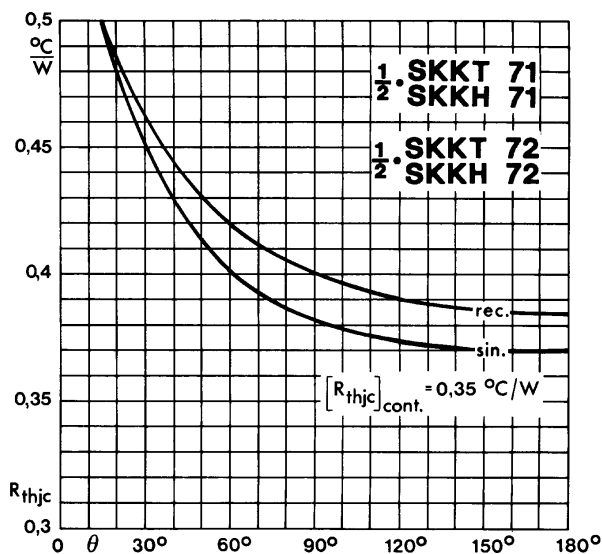


Fig. 7 Thermal resistance vs. conduction angle

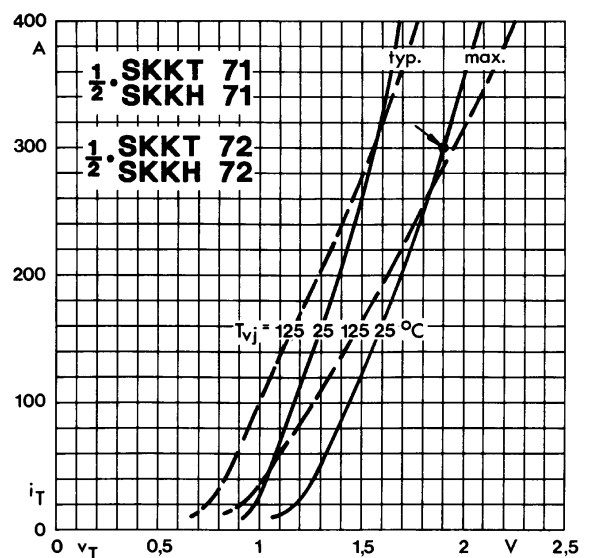


Fig. 8 On-state characteristics

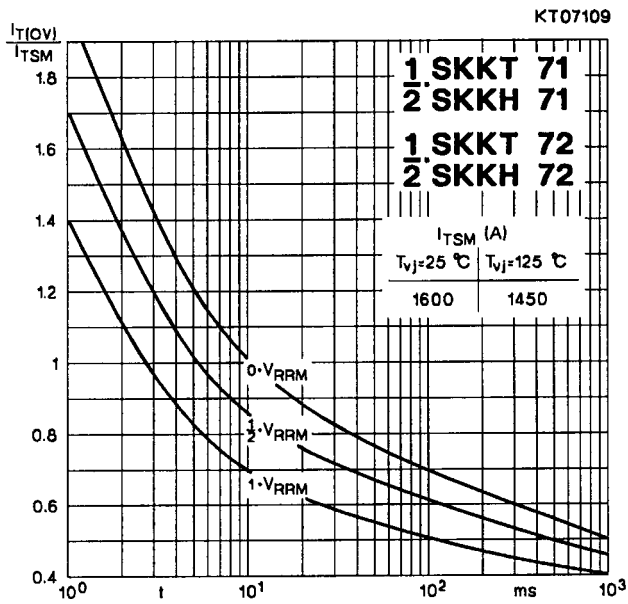


Fig. 9 Surge overload current vs. time

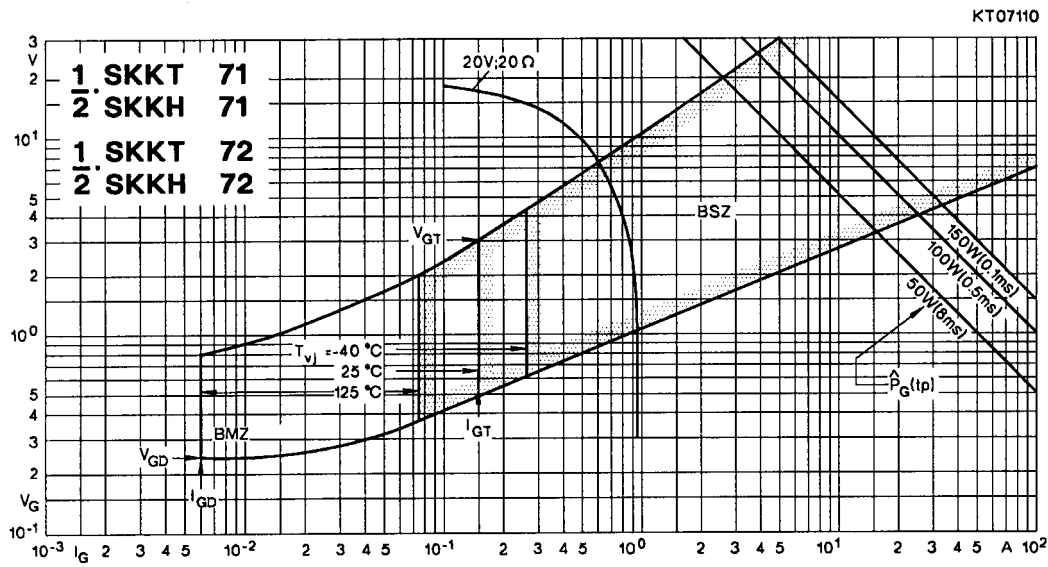


Fig. 10 Gate trigger characteristics

SKKT 19 ... 105

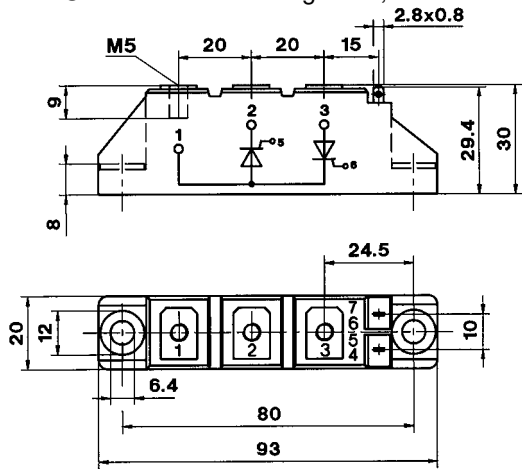
Case A 5

IEC 192-2: A 77 A

JEDEC: TO-240 AA

SEMIPACK® 1

UL recognized, file no. E 63 532



Dimensions in mm

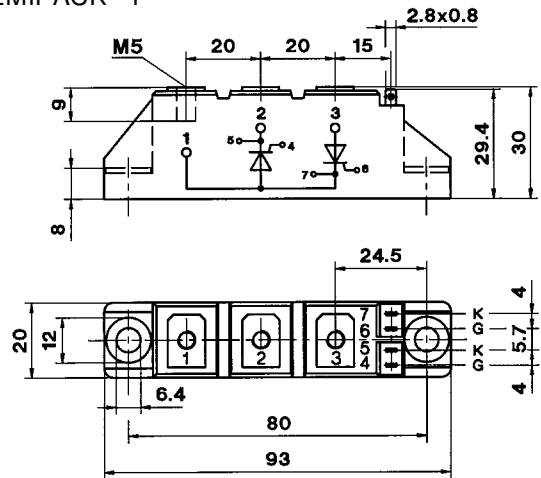
SKKT 20/ ... 106/

Case A 46

IEC 192-2: A 77 A

JEDEC: TO-240 AA

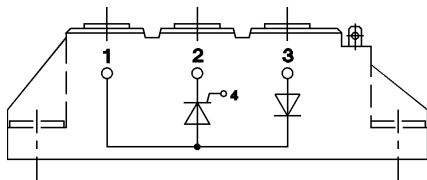
SEMIPACK® 1



Dimensions in mm

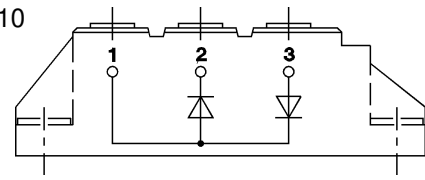
SKKH 26 ... 105

Case A 6



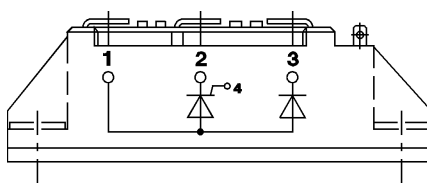
SKKD 26 ... 100

Case A 10



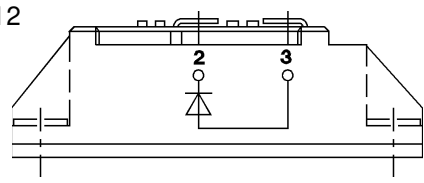
SKNH 56 ... 91

Case A 7



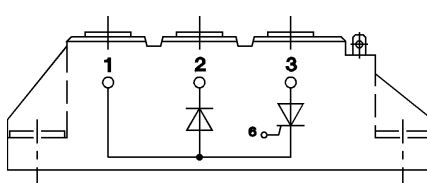
SKKE 81

Case A 12



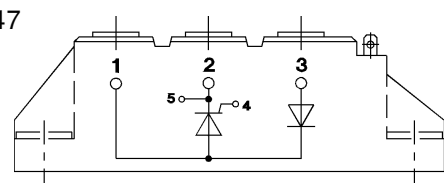
SKKL 56 ... 105

Case A 9



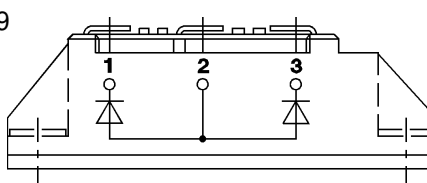
SKKH 27 ... 106

Case A 47



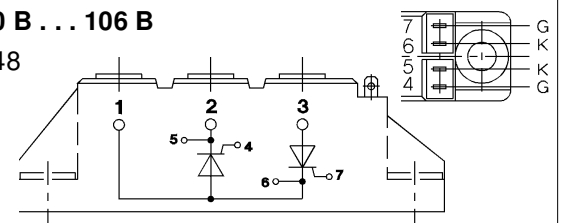
SKND 46 ... 81

Case A 19



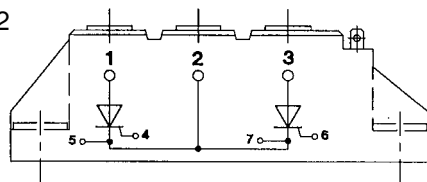
SKKT 20 B ... 106 B

Case A 48



SKMT 92

Case A 72



SKKL 42 ... 106

Case A 59

