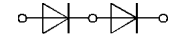


| V <sub>RSM</sub> | V <sub>RRM</sub> | I <sub>FRMS</sub> (maximum value for continuous operation) |                                    |                    |
|------------------|------------------|--|------------------------------------|--------------------|
|                  |                  | 175 A  | 310 A                              | 310 A              |
| V                | V                | I <sub>FAV</sub> (sin. 180; T <sub>case</sub> = . . .)     |                                    |                    |
|                  |                  | 100 A (85 °C)  | 160 A (95 °C)                      | 160 A (95 °C)      |
| 500              | 400              | <b>SKKD 100/04</b>   | –                                  | –                  |
| 900              | 800              | <b>SKKD 100/08</b>   | <b>SKKD 162/08</b>                 | <b>SKKE 162/08</b> |
| 1300             | 1200             | <b>SKKD 100/12</b>   | <b>SKKD 162/12</b>                 | <b>SKKE 162/12</b> |
| 1500             | 1400             | <b>SKKD 100/14</b>   | <b>SKKD 162/14</b>                 | <b>SKKE 162/14</b> |
| 1700             | 1600             | <b>SKKD 100/16</b>   | <b>SKKD 162/16</b>                 | <b>SKKE 162/16</b> |
| 1900             | 1800             | <b>SKKD 100/18</b>   | <b>SKKD 162/18</b>                 | <b>SKKE 162/18</b> |
| 2100             | 2000             | –  | <b>SKKD 162/20 H4<sup>4)</sup></b> | –                  |
| 2300             | 2200             | –  | <b>SKKD 162/22 H4<sup>4)</sup></b> | –                  |

## Rectifier Diode Modules

**SEMIPACK® 1**  
**SKKD 100**    **SKMD 100<sup>1)</sup>**

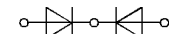
**SEMIPACK® 2**  
**SKKD 162**    **SKND 162<sup>1)</sup>**  
**SKKE 162**



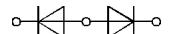
**SKKD**



**SKKE**



**SKMD**



**SKND**

| Symbol                       | Conditions  | SKKD 100                                     | SKKD 162<br>SKKE 162                               | Units            |
|------------------------------|---|--|--|------------------|
| I <sub>FAV</sub>             | sin. 180; T <sub>case</sub> = 85 °C   | 100  | 195  | A                |
| I <sub>D</sub> <sup>1)</sup> | B2/B6<br>T <sub>amb</sub> = 45 °C; P 3/180<br>T <sub>amb</sub> = 35 °C; P 3/180 F<br>P 16/200 F | 73 / 91                                      | 90 / 115   | A                |
|                              |   | 150 / 190                                    | 210 / 260  | A                |
|                              |   | –  | 320 / 425  | A                |
| I <sub>FSM</sub>             | T <sub>vj</sub> = 25 °C; 10 ms  | 2 500  | 6 000  | A                |
|                              | T <sub>vj</sub> = 125 °C; 10 ms   | 2 000  | 5 000  | A                |
| i <sup>2</sup> t             | T <sub>vj</sub> = 25 °C; 8,3 ... 10 ms  | 31 250                                       | 180 000  | A <sup>2</sup> s |
|                              | T <sub>vj</sub> = 125 °C; 8,3 ... 10 ms   | 20 000                                       | 125 000  | A <sup>2</sup> s |
| I <sub>RD</sub>              | T <sub>vj</sub> max.; V <sub>RD</sub> = V <sub>RRM</sub>  | 5  | 9  | mA               |
| V <sub>F</sub>               | T <sub>vj</sub> = 25 °C; (I <sub>F</sub> = . . .); max.   | 1,35 (300 A)                                 | 1,5 (500 A)  | V                |
| V <sub>(TO)</sub>            | T <sub>vj</sub> max   | 0,85   | 0,85   | V                |
| r <sub>T</sub>               | T <sub>vj</sub> max   | 1,3  | 1,2  | mΩ               |
| R <sub>thjc</sub>            | } per diode / per module <sup>2)</sup>  | 0,35 / 0,175                                 | 0,18 / 0,09  | °C/W             |
| R <sub>thch</sub>            |   | 0,2 / 0,1                                    | 0,10 / 0,05  | °C/W             |
| T <sub>vj</sub>              |   | – 40 ... + 125                               | – 40 ... + 135                                     | °C               |
| T <sub>stg</sub>             |   | – 40 ... + 125                               | – 40 ... + 135                                     | °C               |
| V <sub>isol</sub>            | a. c. 50 Hz; r.m.s.; 1 s/1 min<br>to heatsink }<br>to terminals } SI (US) units                 | 3600 / 3000                                  |  | V~               |
| M <sub>1</sub>               |   | 5 (44 lb. in.) ± 15 %                        |  | Nm               |
| M <sub>2</sub>               |   | 3 (26 lb. in.) ± 15 % <sup>3)</sup>          | 5 (44 lb. in.) ± 15 % <sup>3)</sup>                | Nm               |
| a                            |   | 5 · 9,81                                     | 5 · 9,81   | m/s <sup>2</sup> |
| w                            |   | approx.                                      | 95   | 165              |
| Case                         | → page B 1 – 95; 96   | SKKD 100: A 10<br>(B 1 – 38: SKMD 100: A 33) | SKKD 162: A 23<br>SKKE 162: A 24<br>SKND 162: A 57 |                  |

## Features

- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- **SKKD** half bridge connection  
center-tap connections:  
**SKMD** common cathode  
**SKND** common anode
- UL recognized, file no. E 63 532

## Typical Applications

- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors
- **SKKE**: Free-wheeling diodes

<sup>1)</sup> SKMD 100, SKND 162 available on request

<sup>2)</sup> SKKD types only

<sup>3)</sup> See the assembly instructions

<sup>4)</sup> V<sub>isol</sub> 1 s/1 min. = 4800/4000 V~

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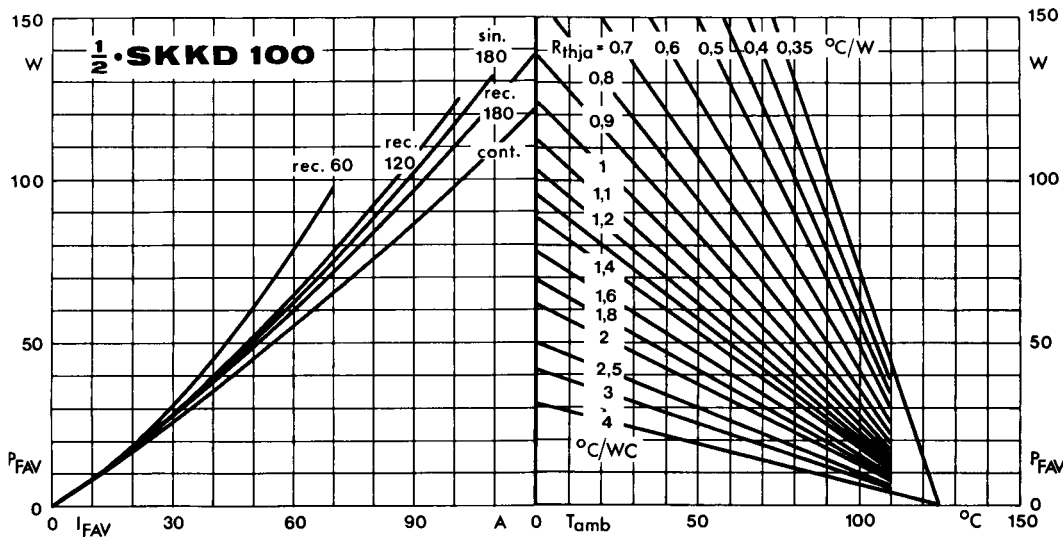


Fig. 11 a Power dissipation per diode vs. forward current and ambient temperature

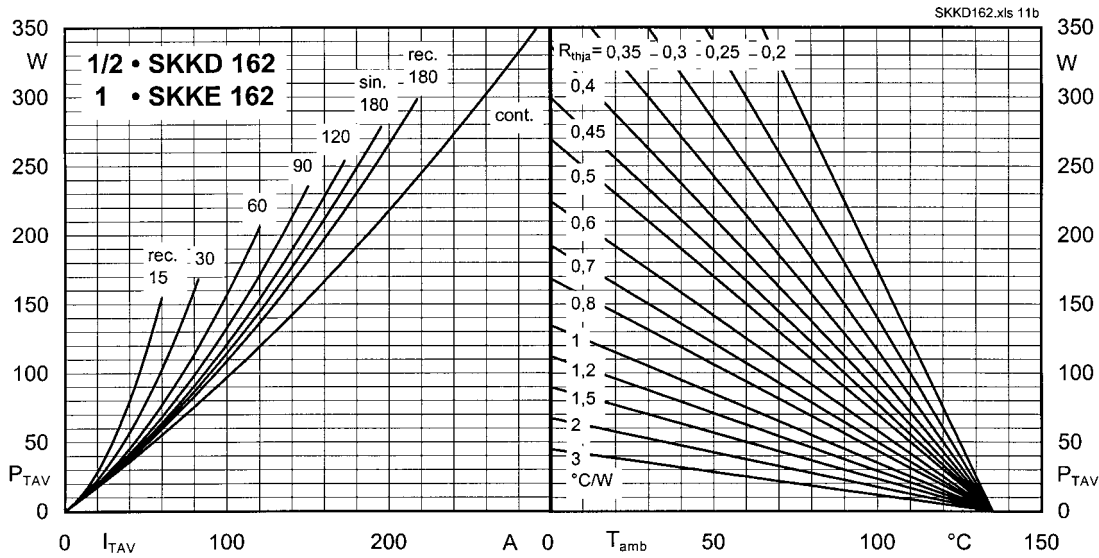


Fig. 11 b Power dissipation per diode vs. forward current and ambient temperature

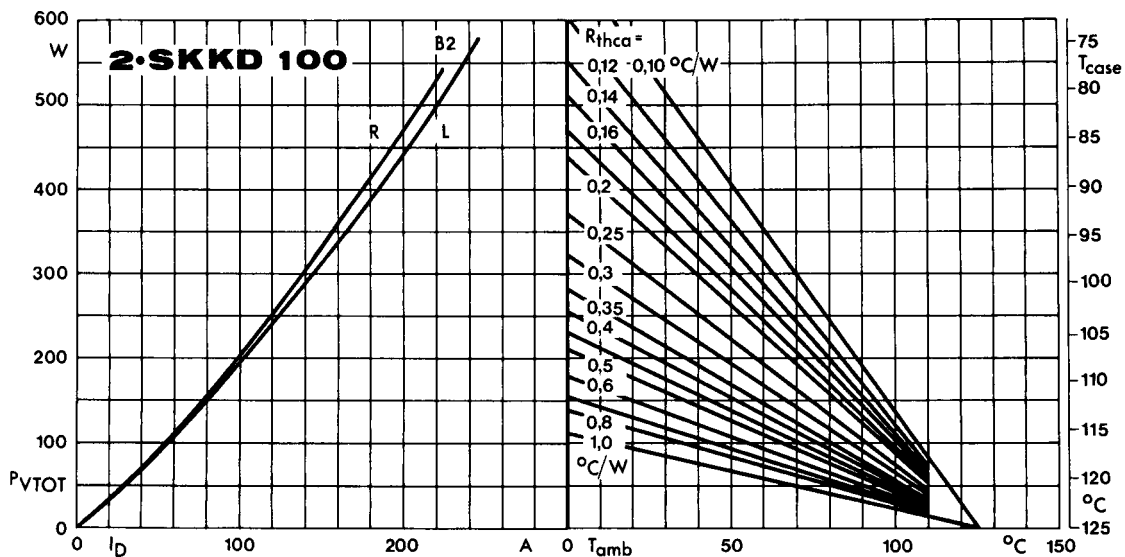


Fig. 12 a Power dissipation of two module vs. direct current and case temperature

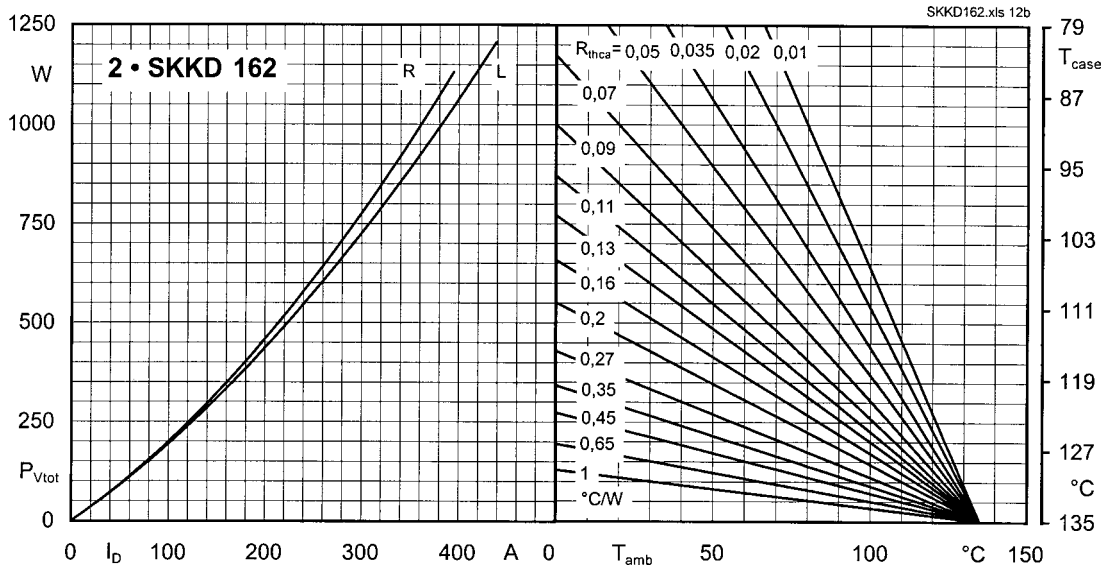


Fig. 12 b Power dissipation of two modules vs. direct current and case temperature

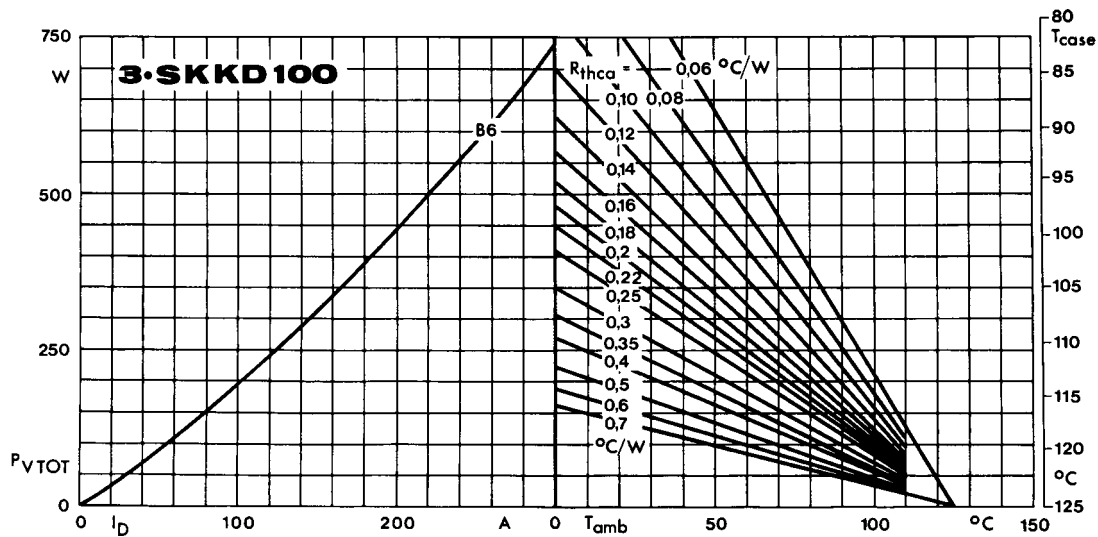


Fig. 13 a Power dissipation of three modules vs. direct current and case temperature

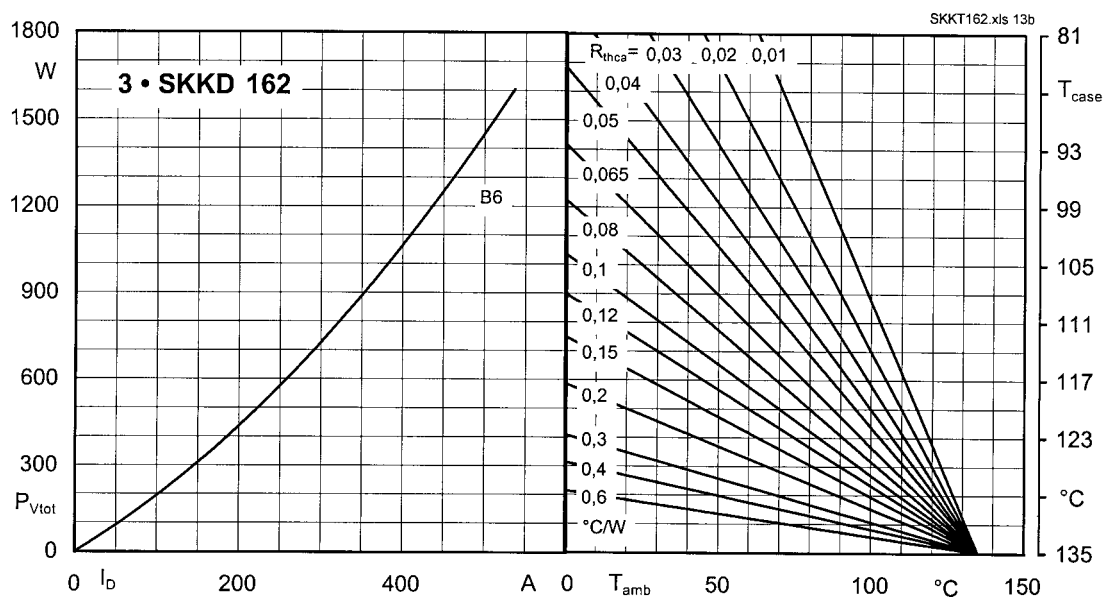


Fig. 13 b Power dissipation of three modules vs. direct current and case temperature

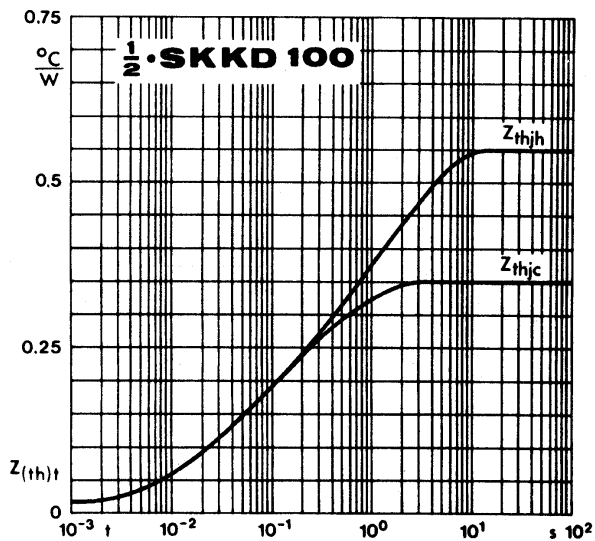


Fig. 14 a Transient thermal impedance vs. time

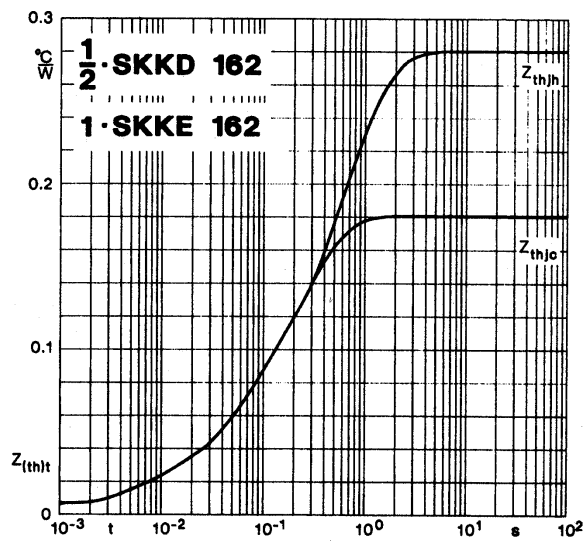


Fig. 14 b Transient thermal impedance vs. time

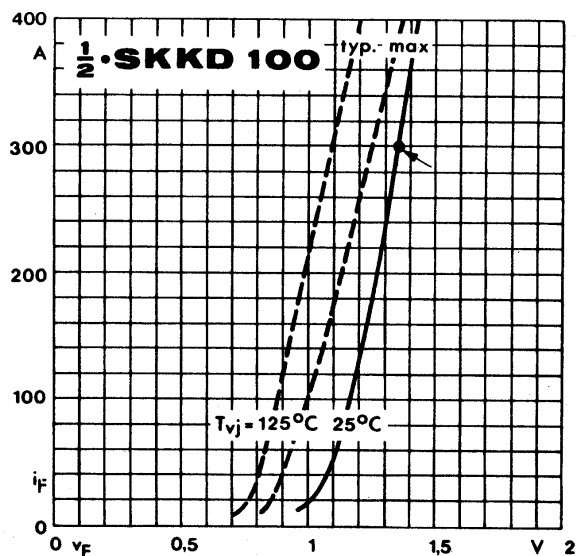


Fig. 15 a Forward characteristics

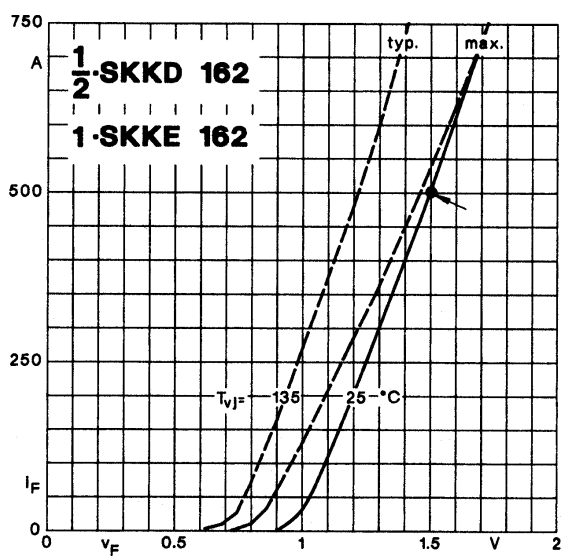


Fig. 15 b Forward characteristics

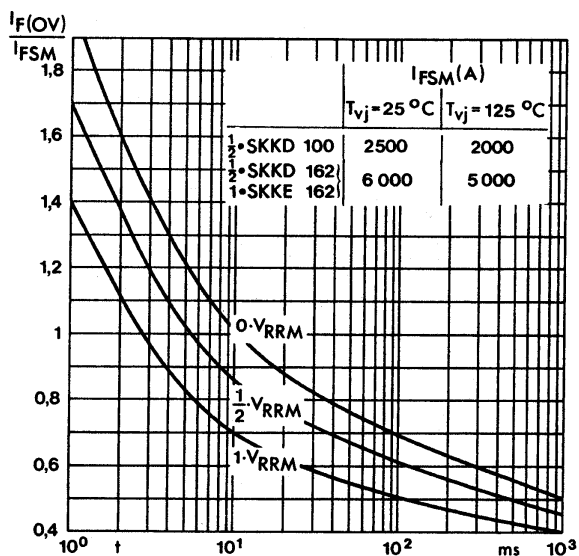


Fig. 16 Surge overload current vs. time

## 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

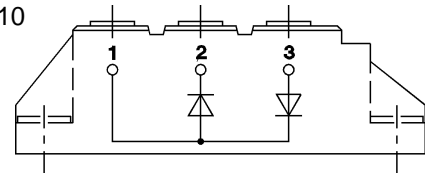
## SKKH 26 ... 105

Case A 6



## SKKD 26 ... 100

Case A 10



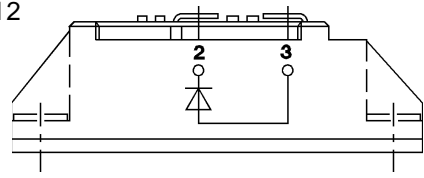
## SKNH 56 ... 91

Case A 7



## SKKE 81

Case A 12



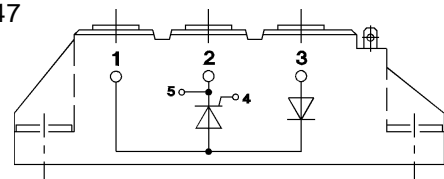
## SKKL 56 ... 105

Case A 9



## SKKH 27 ... 106

Case A 47



## SKND 46 ... 81

Case A 19



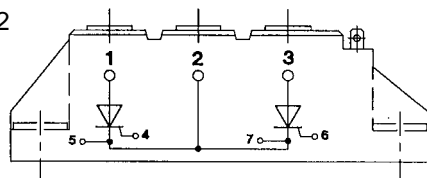
## SKKT 20 B ... 106 B

Case A 48



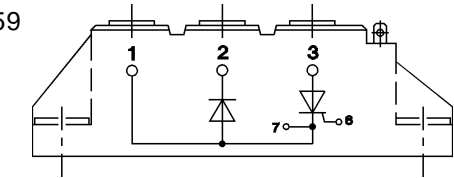
## SKMT 92

Case A 72



## SKKL 42 ... 106

Case A 59

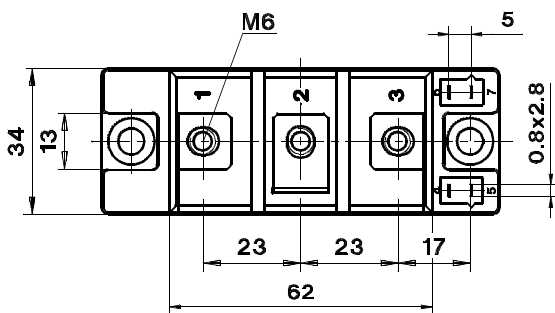
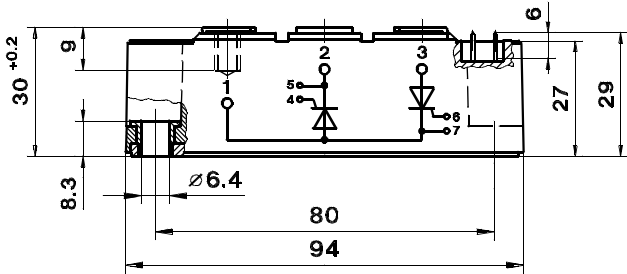


**SKKT 122, 132, 162**

Case A 21

SEMIPACK® 2

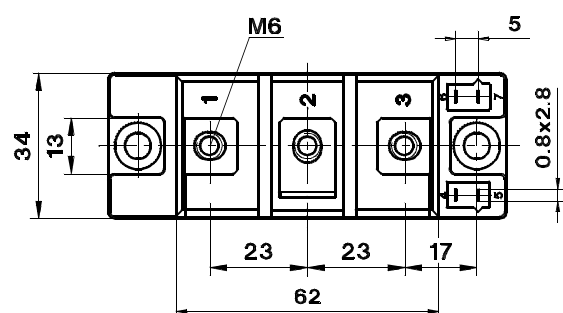
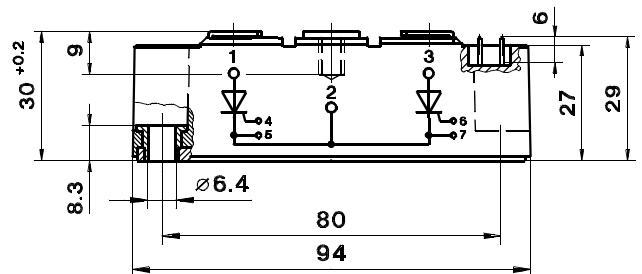
UL recognized, file no. E 63 532

**SKMT 132**

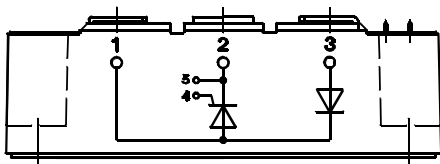
Case A 50

SEMIPACK® 2

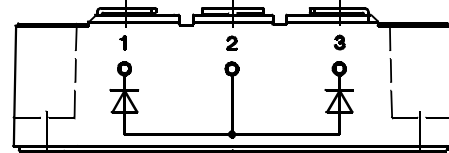
UL recognized, file no. E 63 532

**SKKH 122, 132, 162**

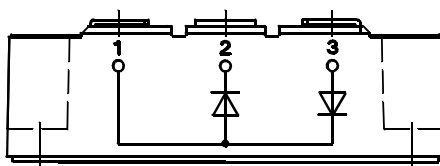
Case A 22

**SKND 165**

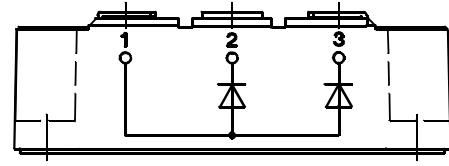
Case A 52

**SKKD 162**

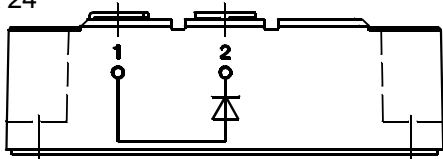
Case A 23

**SKND 162**

Case A 57

**SKKE 162**

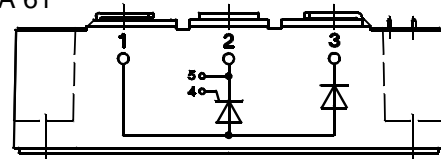
Case A 24



Dimensions in mm

**SKNH 132**

Case A 61



Dimensions in mm

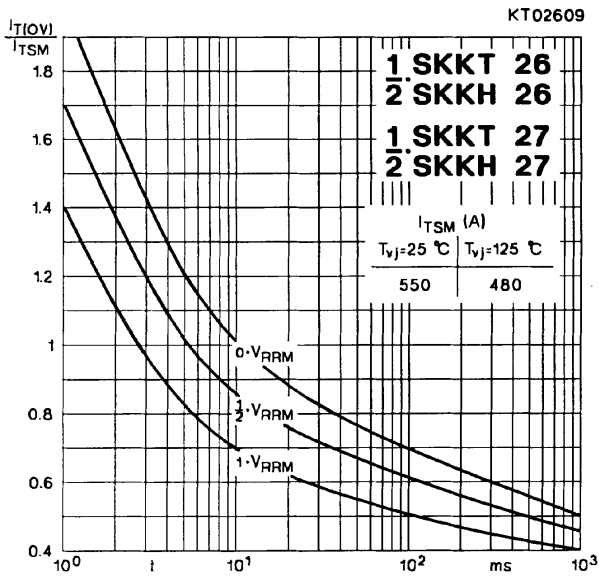


Fig. 9 Surge overload current vs. time

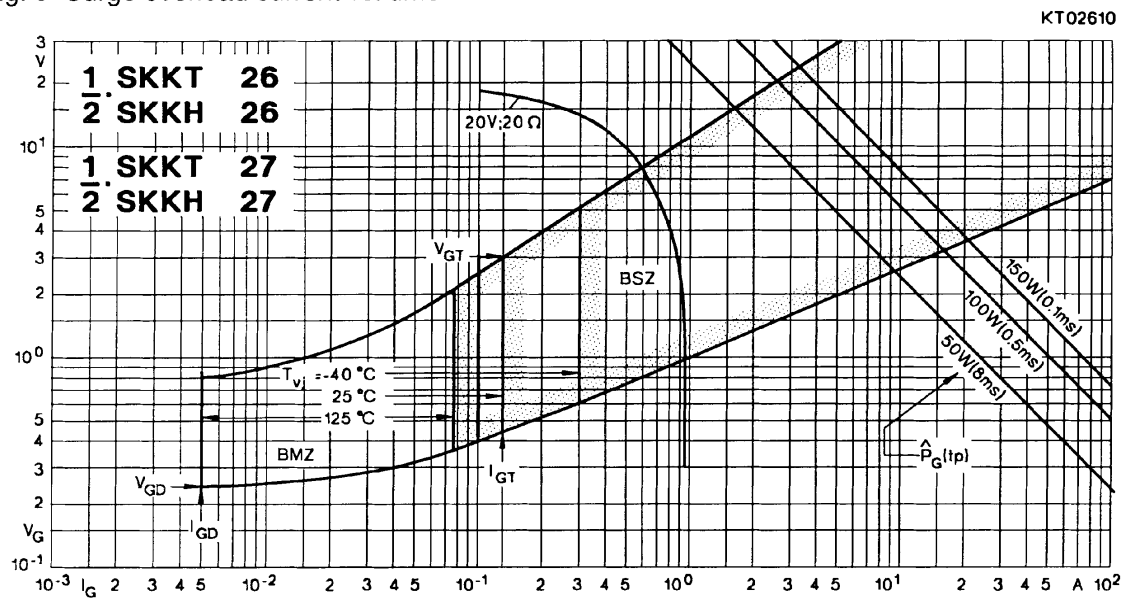
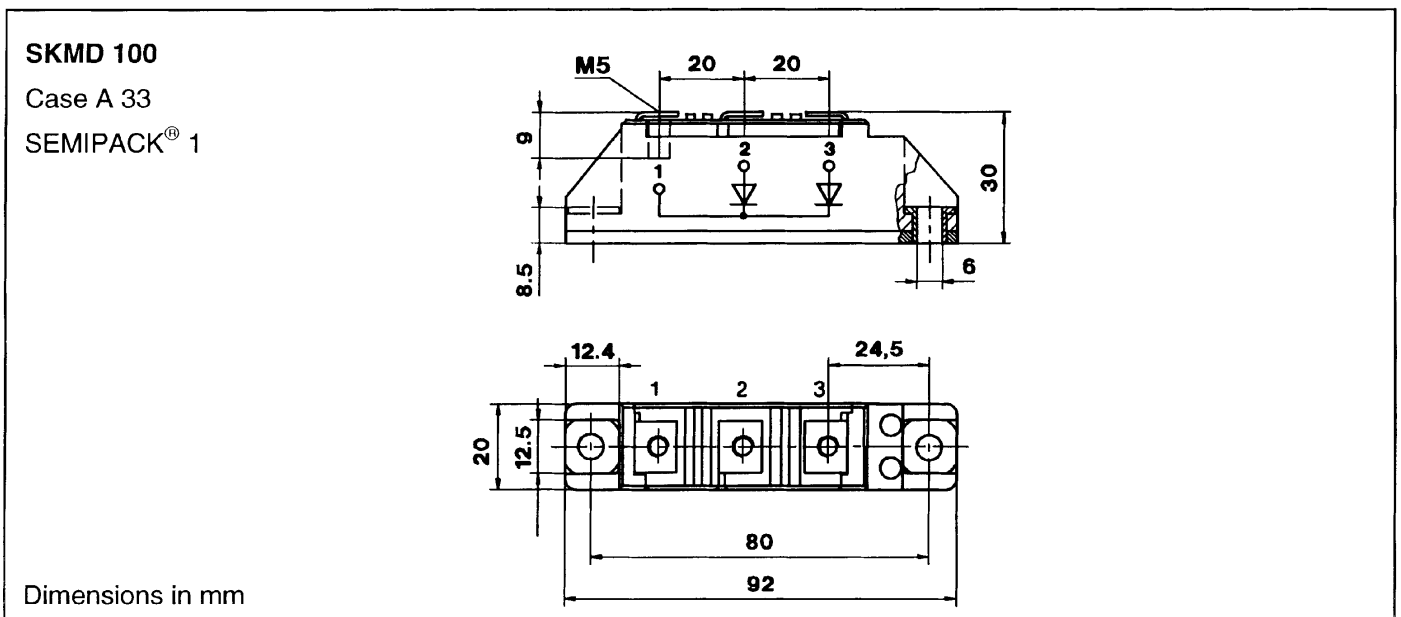


Fig. 10 Gate trigger characteristics



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