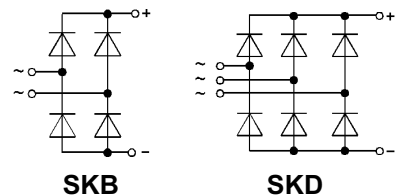


| V <sub>RSM</sub><br>V <sub>RRM</sub><br>V | I <sub>D</sub> (T <sub>case</sub> = . . .) |                  |                   |                   |
|---|--|------------------|-------------------|-------------------|
|   | 50 A (99 °C)                               | 70 A (101 °C)    | 60 A (110 °C)     | 80 A (110 °C)     |
| 400                                       | <b>SKB 52/04</b>                           | <b>SKB 72/04</b> | <b>SKD 62/04</b>  | <b>SKD 82/04</b>  |
| 800                                       | <b>SKB 52/08</b>                           | <b>SKB 72/08</b> | <b>SKD 62/08</b>  | <b>SKD 82/08</b>  |
| 1200                                      | <b>SKB 52/12</b>                           | <b>SKB 72/12</b> | <b>SKD 62/12</b>  | <b>SKD 82/12</b>  |
| 1400                                      | <b>SKB 52/14</b>                           | <b>SKB 72/14</b> | <b>SKD 62/14</b>  | <b>SKD 82/14</b>  |
| 1600                                      | <b>SKB 52/16</b>                           | <b>SKB 72/16</b> | <b>SKD 62/16</b>  | <b>SKD 82/16</b>  |
| 1800                                      | <b>SKB 52/18</b>                           | <b>SKB 72/18</b> | <b>SKD 62/18*</b> | <b>SKD 82/18*</b> |

## SEMIPONT® 3 Power Bridge Rectifiers

**SKB 52      SKD 62**  
**SKB 72      SKD 82**



| Symbol            | Conditions   | SKB 52         | SKD 62    | SKB 72 | SKD 82 | Units            |
|-------------------|--|----------------|-----------|--------|--------|------------------|
| I <sub>D</sub>    | T <sub>case</sub> = 110 °C; resistive/<br>inductive load     | 42             | 60        | 60     | 80     | A                |
|                   | T <sub>amb</sub> = 45 °C; isolated <sup>1)</sup>             | 9,5            | 10,5      | 10     | 12     | A                |
|                   | chassis <sup>2)</sup>  | 21,5           | 24        | 23,5   | 26     | A                |
|                   | P1A/120  | 40             | 46        | 48     | 54     | A                |
|                   | P1A/200  | 45             | 53        | 54     | 63     | A                |
| I <sub>FSM</sub>  | T <sub>vj</sub> = 25 °C; 10 ms                               | 500            |           | 750    |        | A                |
|                   | T <sub>vj</sub> = 150 °C; 10 ms                              | 425            |           | 640    |        | A                |
| i <sup>2</sup> t  | T <sub>vj</sub> = 25 °C; 8,3 ... 10 ms                       | 1250           |           | 2800   |        | A <sup>2</sup> s |
|                   | T <sub>vj</sub> = 150 °C; 8,3 ... 10 ms                      | 900            |           | 2000   |        | A <sup>2</sup> s |
| V <sub>F</sub>    | T <sub>vj</sub> = 25 °C; I <sub>F</sub> = 150 A              | 1,8            |           | 1,6    |        | V                |
| V <sub>(TO)</sub> | T <sub>vj</sub> = 150 °C                                     | 0,85           |           | 0,85   |        | V                |
| r <sub>T</sub>    | T <sub>vj</sub> = 150 °C                                     | 8              |           | 5      |        | mΩ               |
| I <sub>RD</sub>   | T <sub>vj</sub> = 25 °C; V <sub>RD</sub> = V <sub>RRM</sub>  | 0,5            |           | 0,5    |        | mA               |
|                   | T <sub>vj</sub> = 150 °C; V <sub>RD</sub> = V <sub>RRM</sub> | 5              |           | 6      |        | mA               |
| R <sub>thjc</sub> | per diode  | 1,5            |           | 1,1    |        | °C/W             |
|                   | total, SKB   | 0,375          |           | 0,275  |        | °C/W             |
|                   | total, SKD   | 0,25           |           | 0,183  |        | °C/W             |
| R <sub>thch</sub> | total  | 0,07           |           |        |        | °C/W             |
| T <sub>vj</sub>   |  | - 40 ... + 150 |           |        |        | °C               |
| T <sub>stg</sub>  |  | - 40 ... + 125 |           |        |        | °C               |
| V <sub>isol</sub> | a. c. 50... 60 Hz; r.m.s;<br>1s/1min                         | 3600 / 3000    |           |        |        | V~               |
| M <sub>1</sub>    | to heatsink  | SI units       | 5 ± 15 %  |        |        | Nm               |
|                   |  | US units       | 44 ± 15 % |        |        | lb. in.          |
| M <sub>2</sub>    | to terminals   | SI units       | 5 ± 15 %  |        |        | Nm               |
|                   |  | US units       | 44 ± 15 % |        |        | lb. in.          |
| w                 |  | 140            |           |        |        | g                |
| Case              |  | G 35           | G 36      | G 35   | G 36   |                  |

\* Available in limited quantities

<sup>1)</sup> Freely suspended or mounted on an isolator

<sup>2)</sup> Mounted on a painted metal sheet of min. 250 x 250 x 1 mm; R<sub>thha</sub> = 1,8 °C/W

### Features

- Robust plastic case with screw terminals
- Large, isolated base plate
- Blocking voltage up to 1800 V
- High surge currents
- **SKB** = single phase bridge rectifier
- **SKD** = three phase bridge rectifier
- Easy chassis mounting
- UL recognized, file no. E 63 532

### Typical Applications

- Single and three phase rectifiers for power supplies
- Input rectifiers for variable frequency drives
- Rectifiers for DC motor field supplies
- Battery charger rectifiers

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

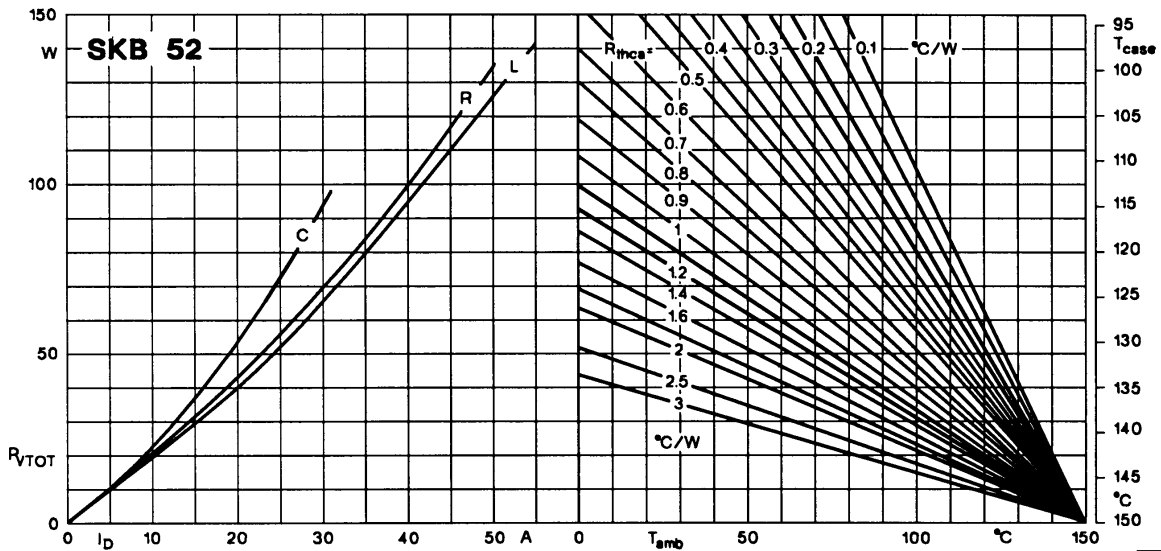


Fig. 3 a Power dissipation vs. output current and case temperature

|        | $R_{thca}$ |
|--------|------------|
| P1/120 | 0,65 °C/W  |
| P1/200 | 0,52 °C/W  |

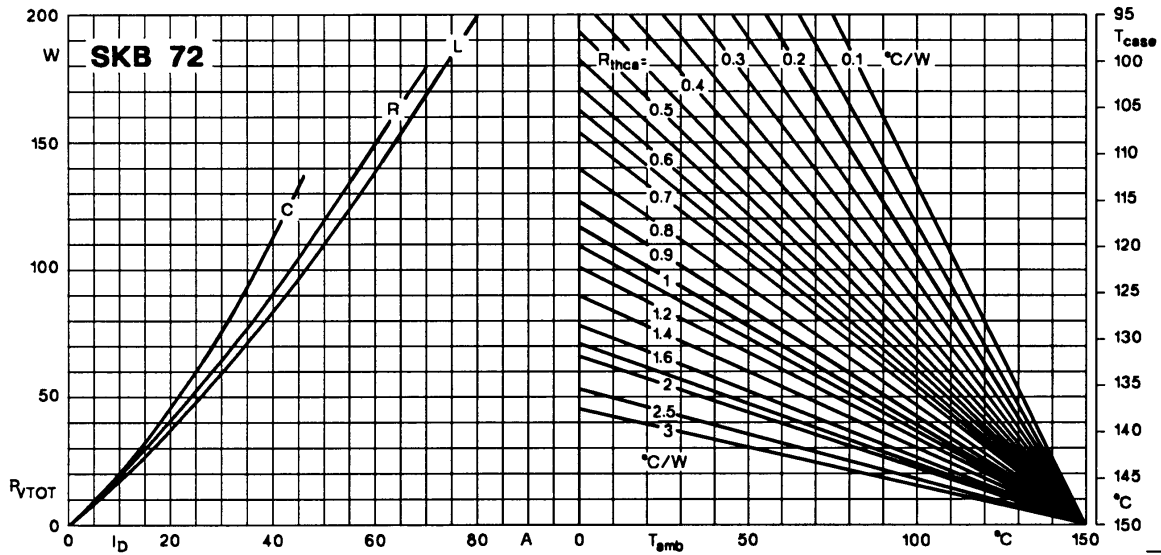


Fig. 3 b Power dissipation vs. output current and case temperature

|        | $R_{thca}$ |
|--------|------------|
| P1/120 | 0,65 °C/W  |
| P1/200 | 0,52 °C/W  |

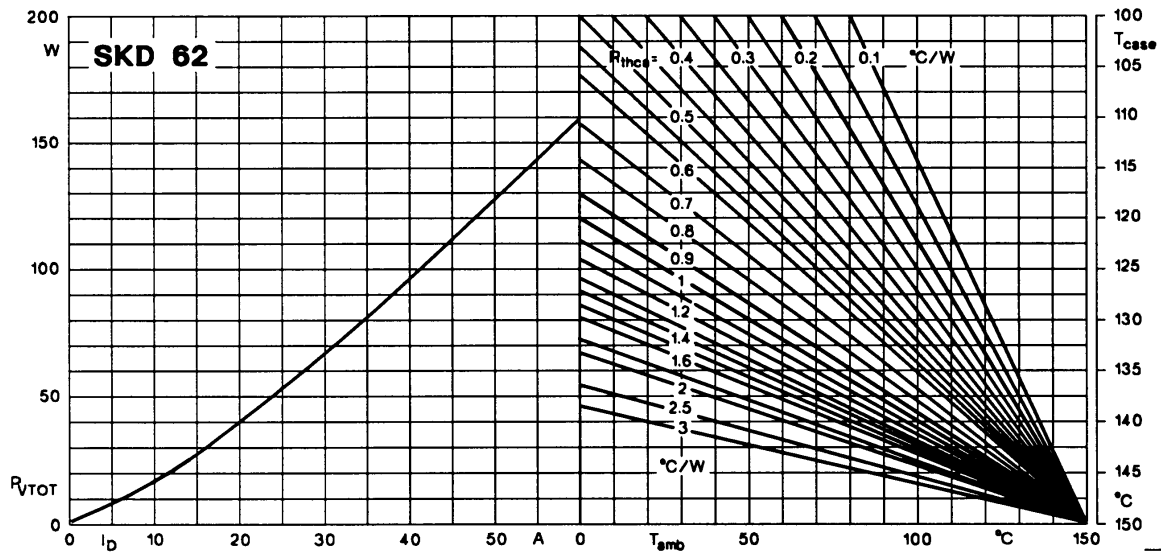


Fig. 3 c Power dissipation vs. output current and case temperature

|        | $R_{thca}$ |
|--------|------------|
| P1/120 | 0,65 °C/W  |
| P1/200 | 0,52 °C/W  |

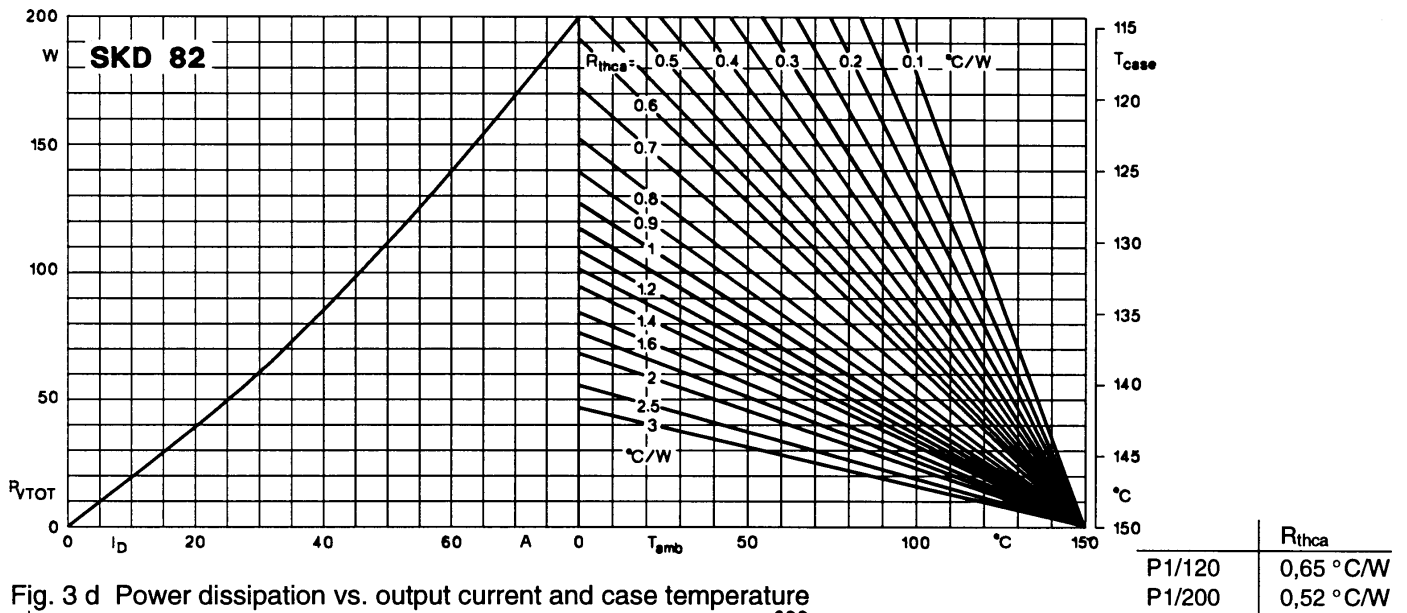


Fig. 3 d Power dissipation vs. output current and case temperature

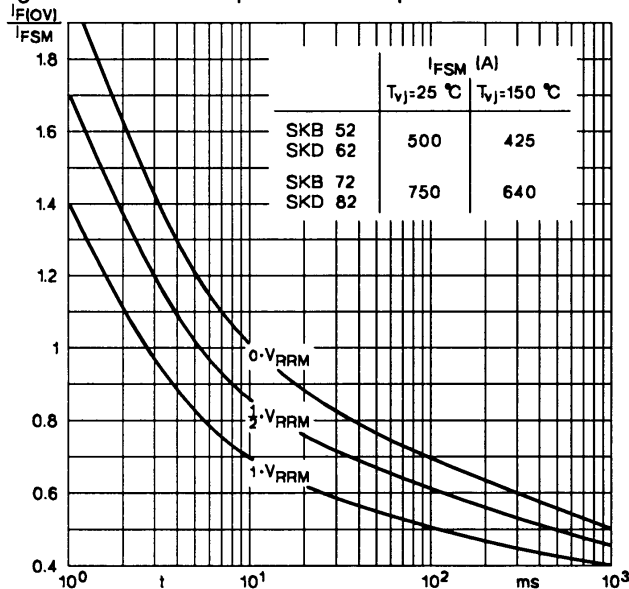


Fig. 5 Surge overload current vs. time

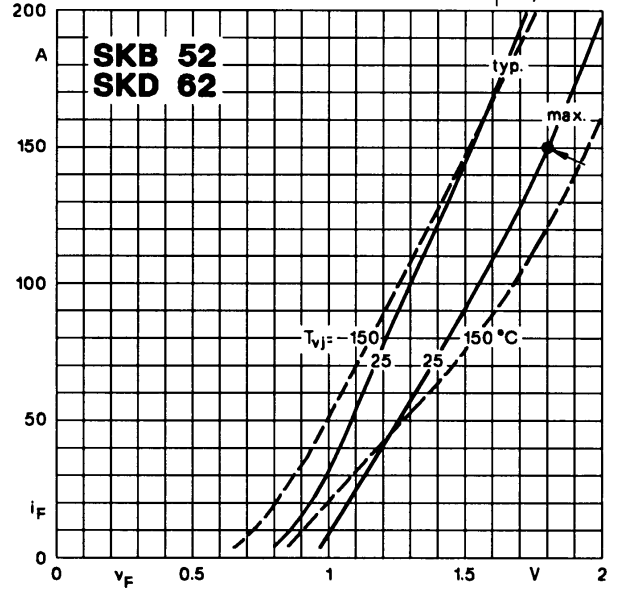


Fig. 9 a Forward characteristics of a single diode

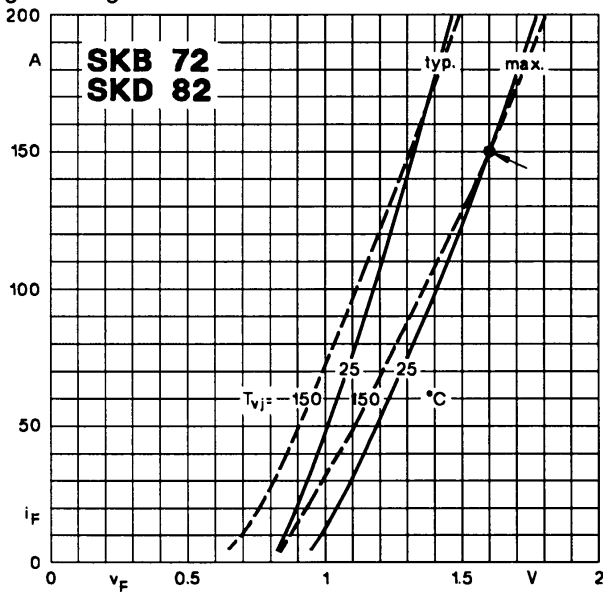


Fig. 9 b Forward characteristics of a single diode

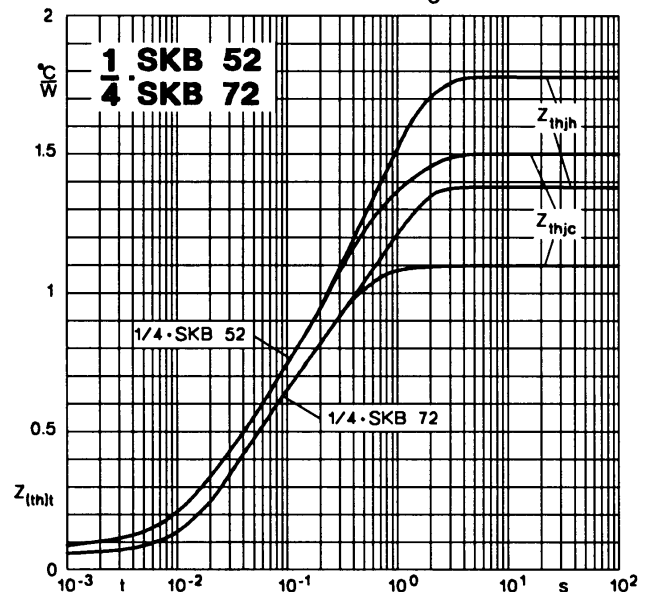


Fig. 12 a Transient thermal impedance vs. time

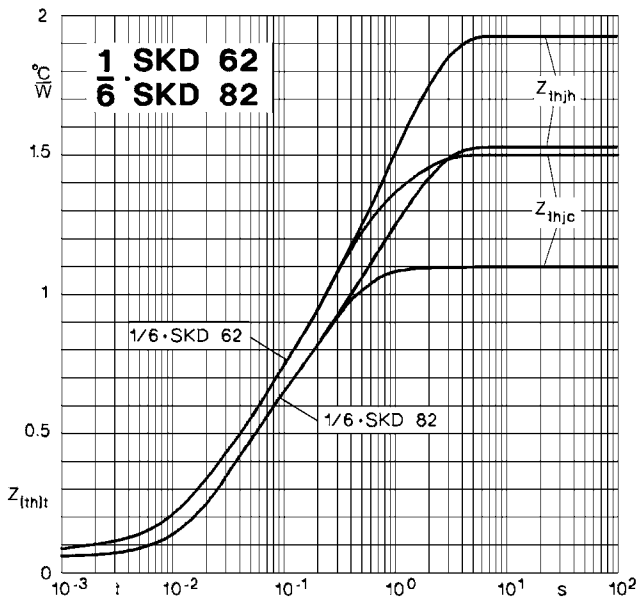


Fig. 12 b Transient thermal impedance vs. time

