

# SKKD 100, SKMD 100



## SEMIPACK<sup>®</sup> 1

### Rectifier Diode Modules

**SKKD 100**

**SKMD 100**

#### Features

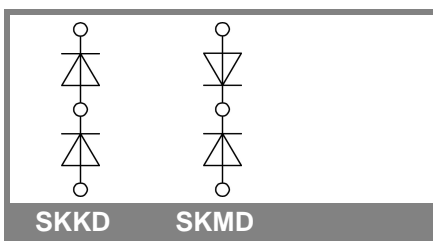
- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- SKKD half bridge connection  
center-tap connections
- SKMD common cathode
- UL recognized, file no. E 63 532

#### Typical Applications

- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors

| $V_{RSM}$<br>V | $V_{RRM}$<br>V | $I_{FRMS} = 175$ A (maximum value for continuous operation)<br>$I_{FAV} = 100$ A (sin. 180; $T_c = 85$ °C) |             |
|----------------|----------------|--|-------------|
| 500            | 400            | SKKD 100/04  | SKMD 100/04 |
| 900            | 800            | SKKD 100/08  | SKMD 100/08 |
| 1300           | 1200           | SKKD 100/12  |             |
| 1500           | 1400           | SKKD 100/14  | SKMD 100/14 |
| 1700           | 1600           | SKKD 100/16  | SKMD 100/16 |
| 1900           | 1800           | SKKD 100/18  |             |

| Symbol        | Conditions                            | Values         | Units            |
|---------------|---------------------------------------|----------------|------------------|
| $I_{FAV}$     | sin. 180; $T_c = 85$ (100) °C         | 100 (67)       | A                |
| $I_D$         | P3/180; $T_a = 45$ °C; B2 / B6        | 73 / 91        | A                |
|               | P3/180F; $T_a = 35$ °C; B2 / B6       | 150 / 190      | A                |
| $I_{FSM}$     | $T_{vj} = 25$ °C; 10 ms               | 2500           | A                |
|               | $T_{vj} = 125$ °C; 10 ms              | 2000           | A                |
| $i^2t$        | $T_{vj} = 25$ °C; 8,3 ... 10 ms       | 31250          | A <sup>2</sup> s |
|               | $T_{vj} = 125$ °C; 8,3 ... 10 ms      | 20000          | A <sup>2</sup> s |
| $V_F$         | $T_{vj} = 25$ °C; $I_F = 300$ A       | max. 1,35      | V                |
| $V_{(TO)}$    | $T_{vj} = 125$ °C                     | 0,85           | V                |
| $r_T$         | $T_{vj} = 125$ °C                     | 1,3            | mΩ               |
| $I_{RD}$      | $T_{vj} = 125$ °C; $V_{RD} = V_{RRM}$ | max. 5         | mA               |
| $R_{th(j-c)}$ | per diode / per module                | 0,35 / 0,175   | K/W              |
| $R_{th(c-s)}$ | per diode / per module                | 0,2 / 0,1      | K/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~               |
| $M_s$         | to heatsink                           | 5 ± 15 %       | Nm               |
| $M_t$         | to terminals                          | 3 ± 15 %       | Nm               |
| a             |                                       | 5 * 9,81       | m/s <sup>2</sup> |
| m             | approx.                               | 95             | g                |
| Case          | SKKD                                  | A 10           |                  |
|               | SKMD                                  | A 33           |                  |



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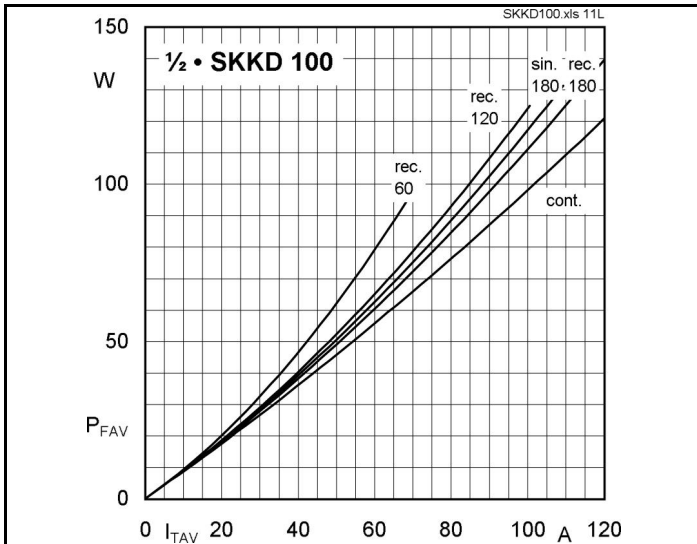


Fig. 11L Power dissipation per diode vs. forward current

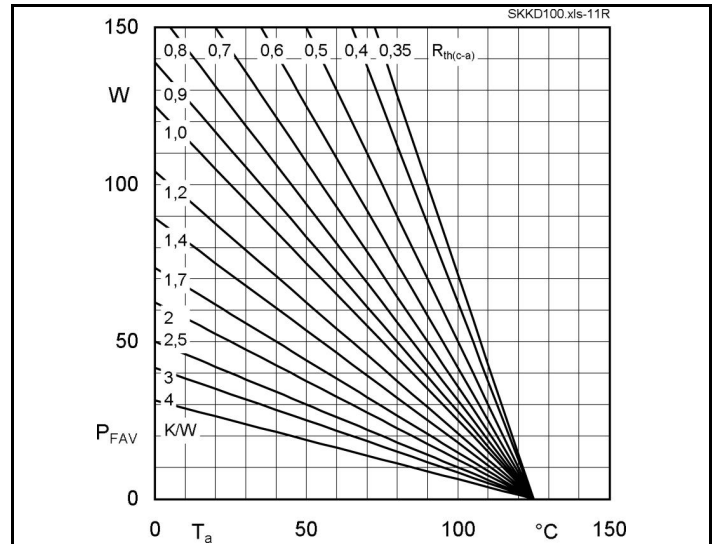


Fig. 11R Power dissipation per diode vs. ambient temperature

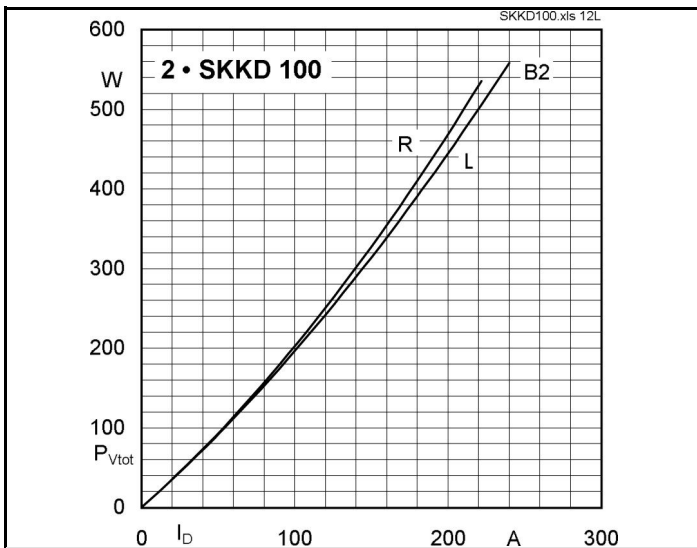


Fig. 12L Power dissipation of two modules vs. direct current

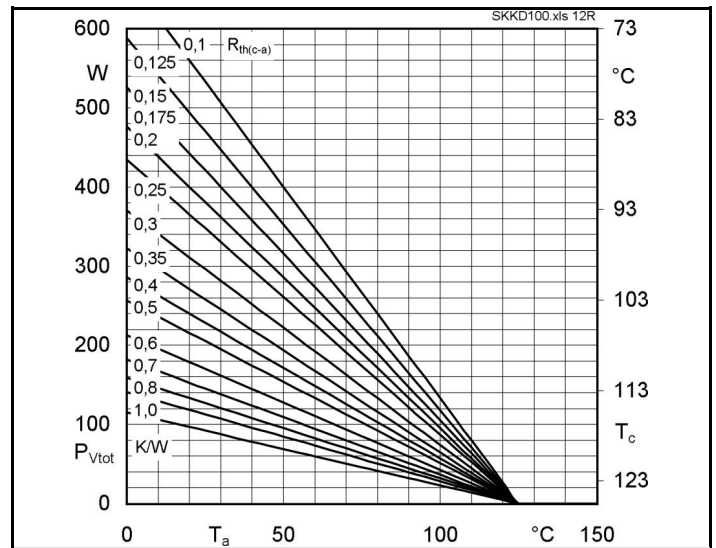


Fig. 12R Power dissipation of two modules vs case temperature

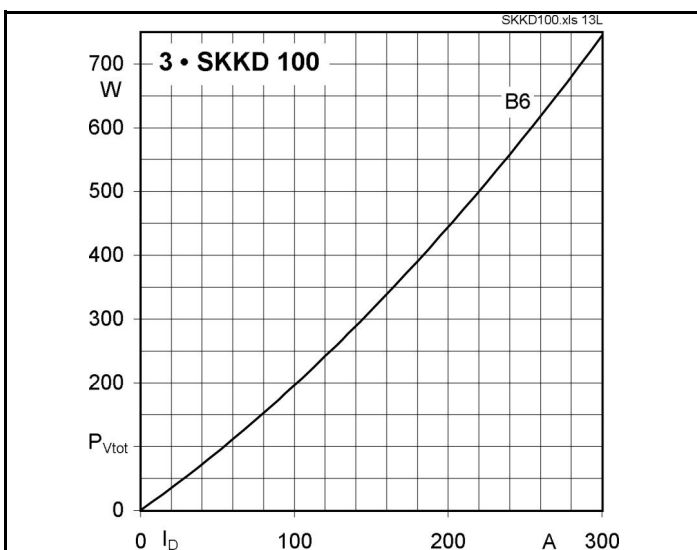


Fig. 13L Power dissipation of three modules vs. direct current

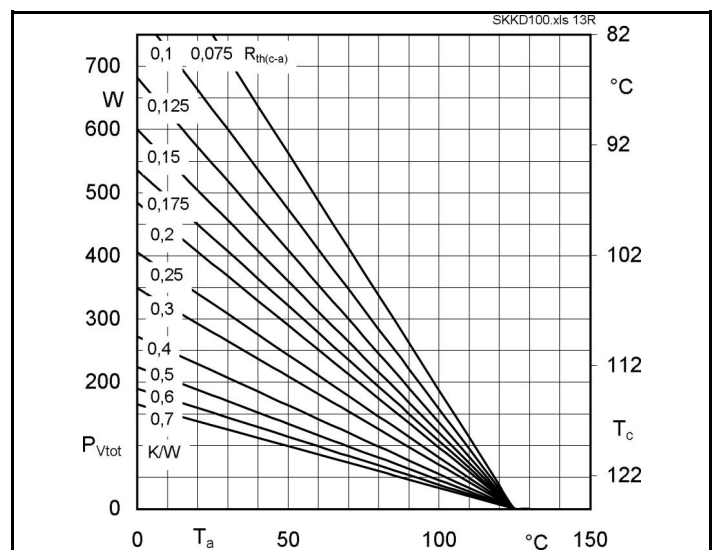
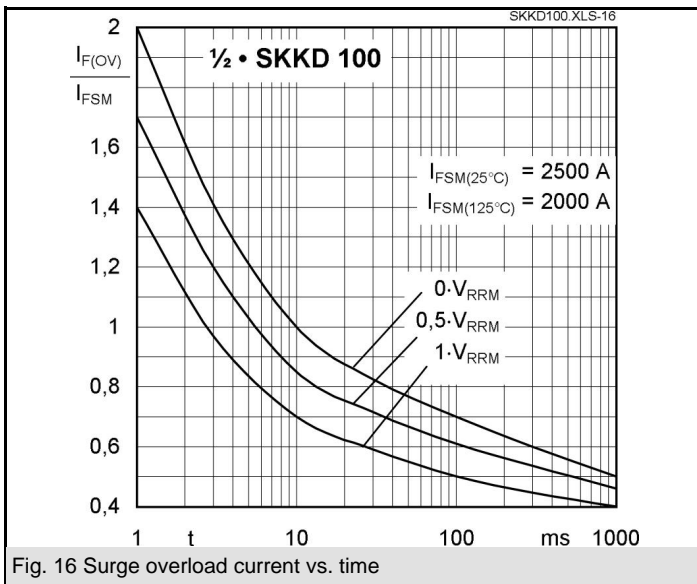
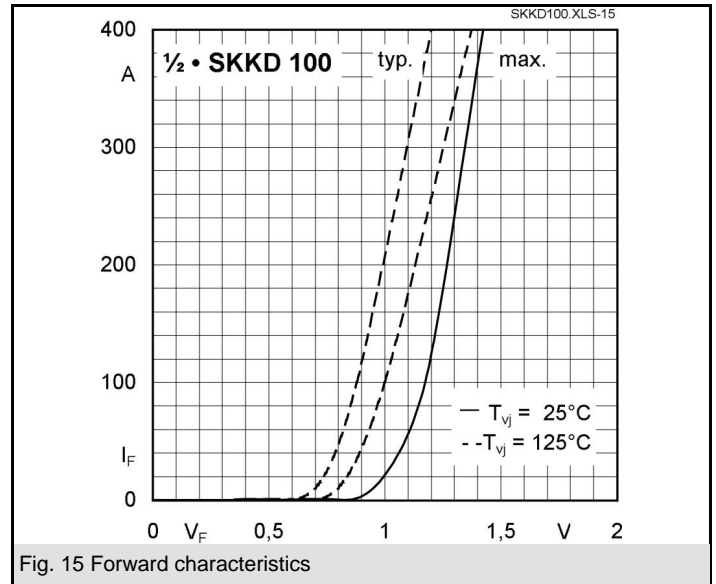
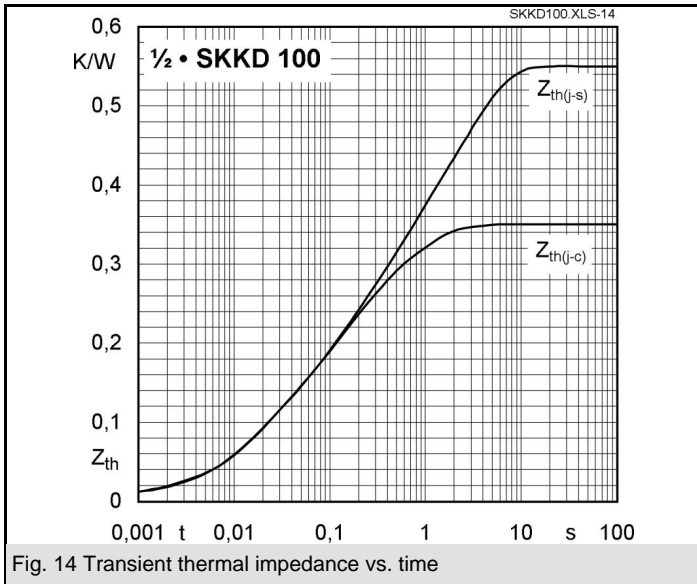
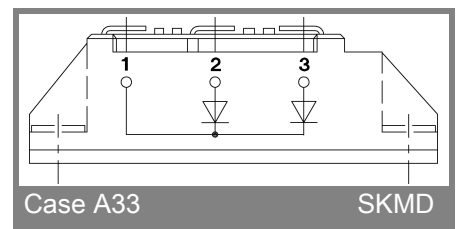
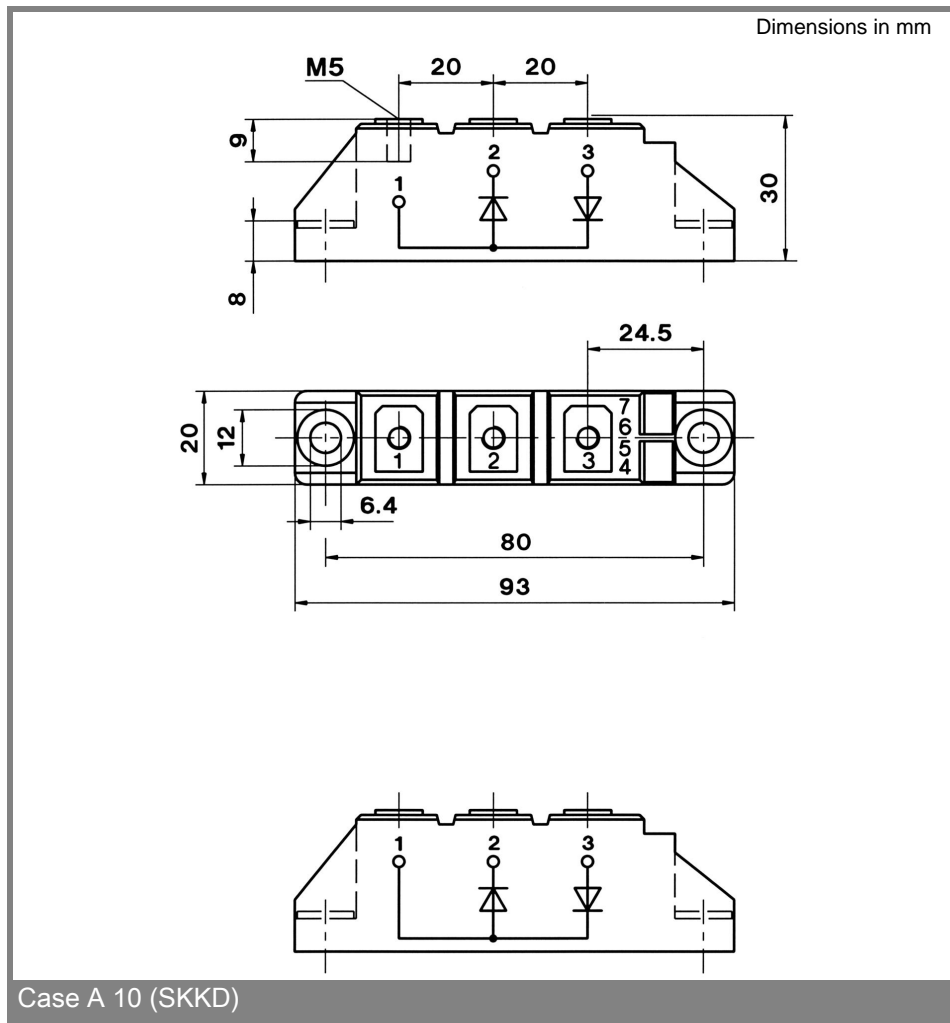


Fig. 13R Power dissipation of three modules vs. case temperature



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