



**SEMIPACK® 5**

## Rectifier Diode Modules

### SKKD 700

#### Features

- Heat transfer through aluminium nitride ceramic isolated metal baseplate
- Precise metal pressure contacts for high reliability
- UL recognized, file no. E 63 532

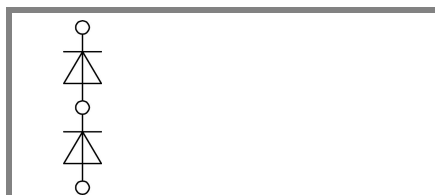
#### Typical Applications

- Uncontrolled rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers

1) The screws must be lubricated

| $V_{RSM}$<br>V | $V_{RRM}$<br>V | $I_{FRMS} = 1100$ A (maximum value for continuous operation)<br>$I_{FAV} = 700$ A (sin. 180; $T_c = 100$ °C) |  |
|----------------|----------------|--|--|
| 900            | 800            | SKKD 700/08  |  |
| 1300           | 1200           | SKKD 700/12  |  |
| 1500           | 1400           | SKKD 700/14  |  |
| 1700           | 1600           | SKKD 700/16  |  |
| 1900           | 1800           | SKKD 700/18  |  |
| 2100           | 2000           | SKKD 700/20 H4   |  |
| 2300           | 2200           | SKKD 700/22 H4   |  |

| Symbol        | Conditions                                       | Values                  | Units            |
|---------------|--|-------------------------|------------------|
| $I_{FAV}$     | sin. 180; $T_c = 100$ °C                         | 700                     | A                |
| $I_{FSM}$     | $T_{vj} = 25$ °C; 10 ms                          | 25000                   | A                |
|               | $T_{vj} = 125$ °C; 10 ms                         | 22000                   | A                |
| $i^2t$        | $T_{vj} = 25$ °C; 8,3 ... 10 ms                  | 3125000                 | A <sup>2</sup> s |
|               | $T_{vj} = 125$ °C; 8,3 ... 10 ms                 | 2420000                 | A <sup>2</sup> s |
| $V_F$         | $T_{vj} = 25$ °C; $I_F = 2000$ A                 | max. 1,3                | V                |
| $V_{(TO)}$    | $T_{vj} = 150$ °C                                | max. 0,75               | V                |
| $r_T$         | $T_{vj} = 150$ °C                                | max. 0,2                | mΩ               |
| $I_{RD}$      | $T_{vj} = 150$ °C; $V_{RD} = V_{RRM}$            | max. 20                 | mA               |
| $R_{th(j-c)}$ | cont.; per diode / per module                    | 0,062 / 0,031           | K/W              |
|               | sin. 180; per diode / per module                 | 0,065 / 0,0325          | K/W              |
|               | rec. 120; per diode / per module                 | 0,07 / 0,035            | K/W              |
| $R_{th(c-s)}$ | per diode / per module                           | 0,02 / 0,01             | K/W              |
| $T_{vj}$      |  | - 40 ... + 150          | °C               |
| $T_{stg}$     |  | - 40 ... + 130          | °C               |
| $V_{isol}$    | a. c. 50 Hz; r.m.s.; 1 s / 1 min.                | 3600 / 3000             | V~               |
| $V_{isol}$    | a. c. 50 Hz; r.m.s.; 1 s / 1 min. for SKKD ...H4 | 4800 / 4000             | V~               |
| $M_s$         | to heatsink                                      | 5 ± 15 %                | Nm               |
| $M_t$         | to terminals                                     | 12 ± 15 % <sup>1)</sup> | Nm               |
| $a$           |  | 5 * 9,81                | m/s <sup>2</sup> |
| $m$           | approx.  | 1420                    | g                |
| Case          |  | A 75a                   |                  |



SKKD

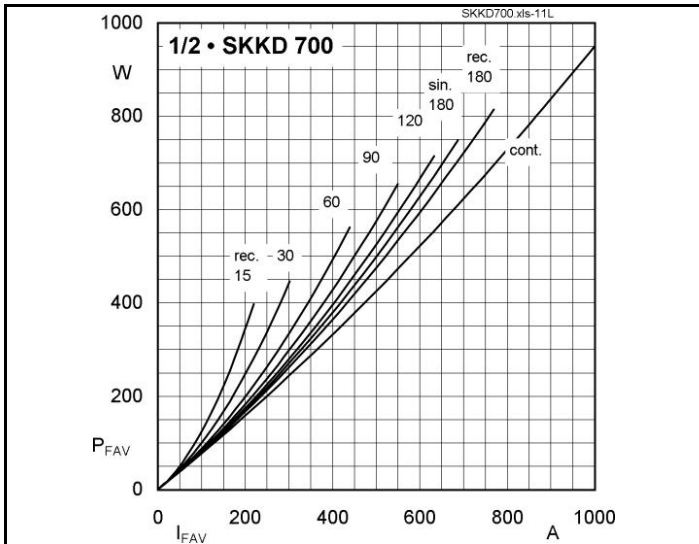


Fig. 11L Power dissipation per diode vs. forward current

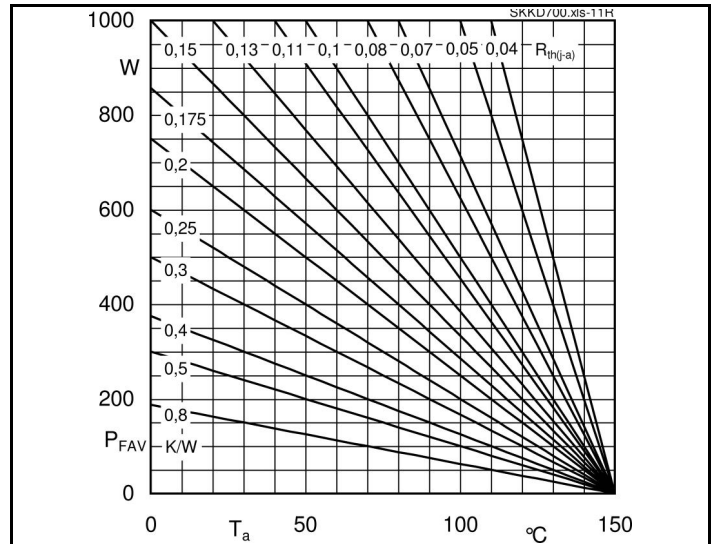


Fig. 11R Power dissipation per diode vs. ambient temperature

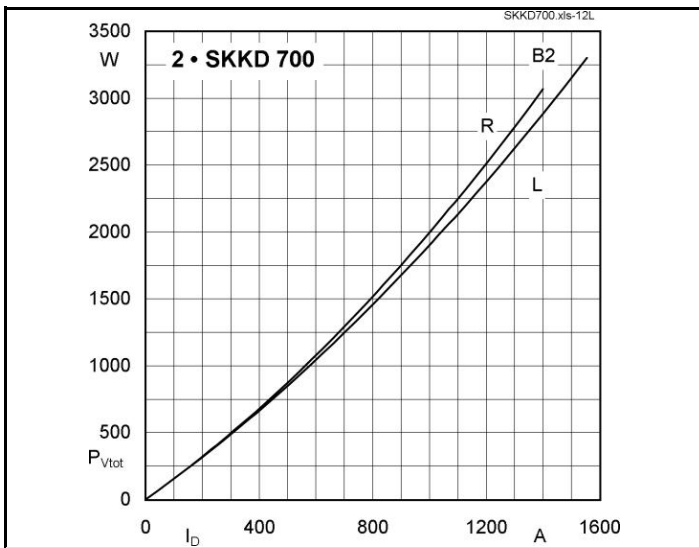


Fig. 12L Power dissipation of two modules vs. direct current

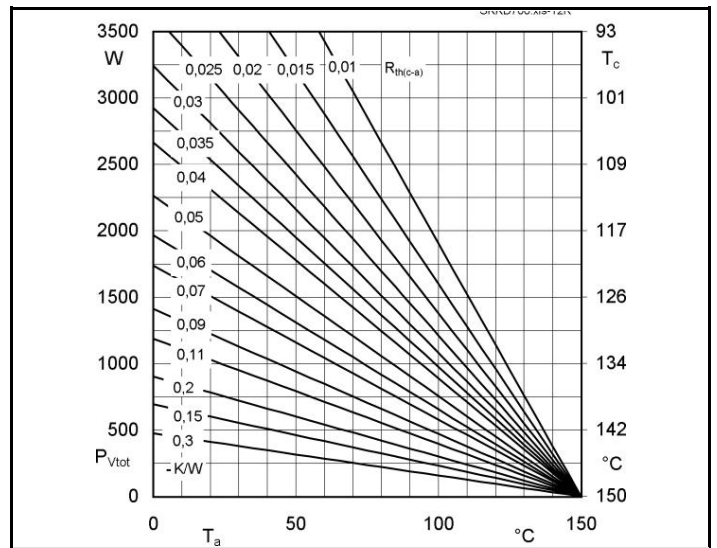


Fig. 12R Power dissipation of two modules vs. case temperature

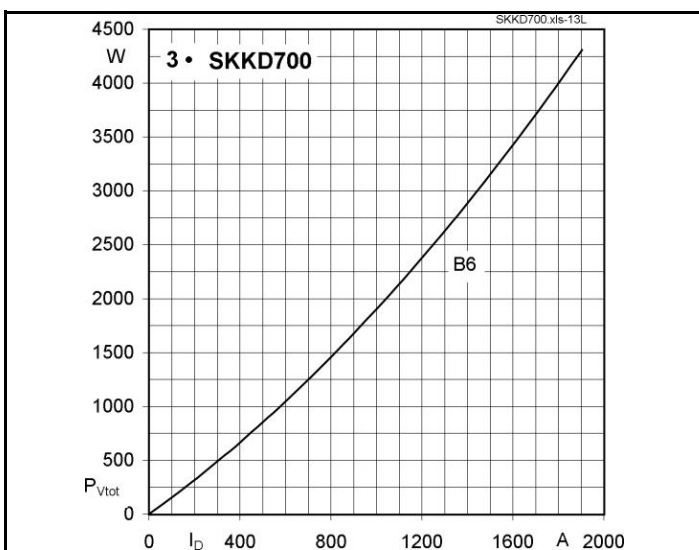


Fig. 13L Power dissipation of three modules vs. direct current

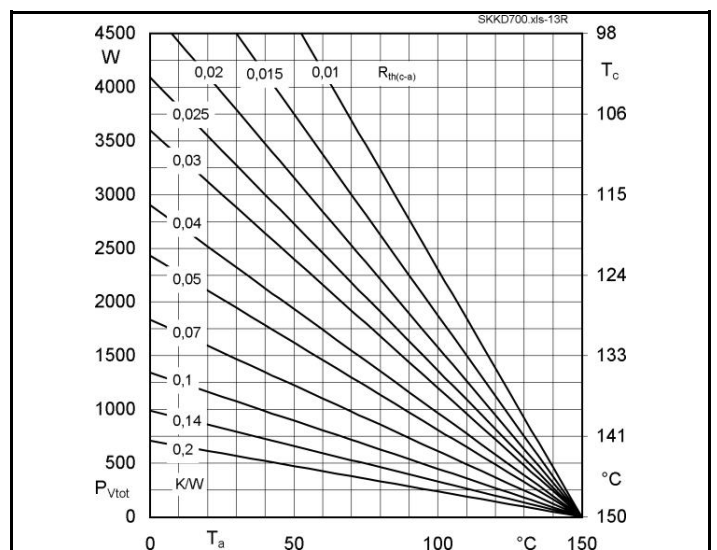
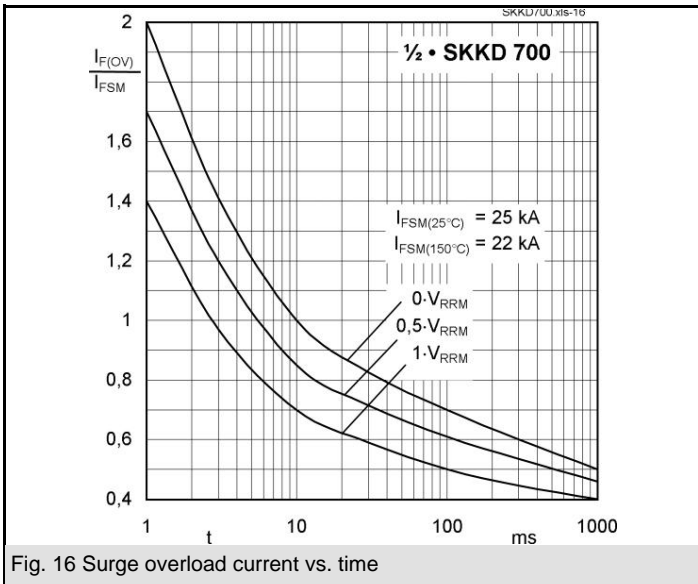
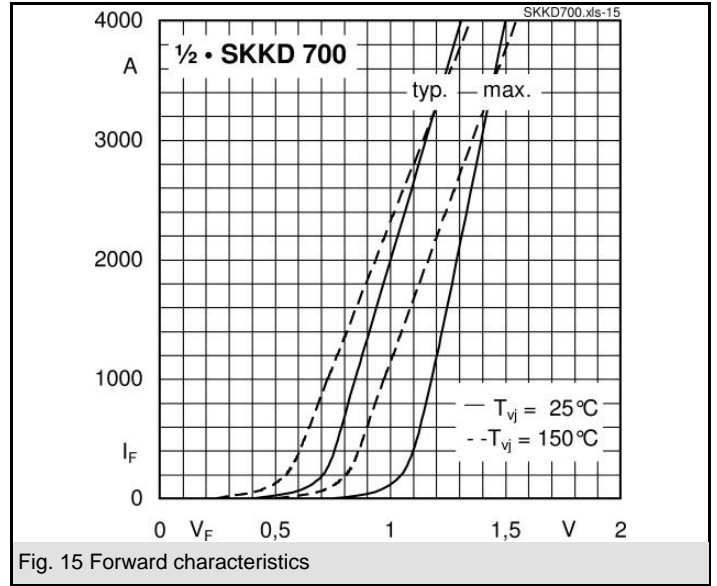
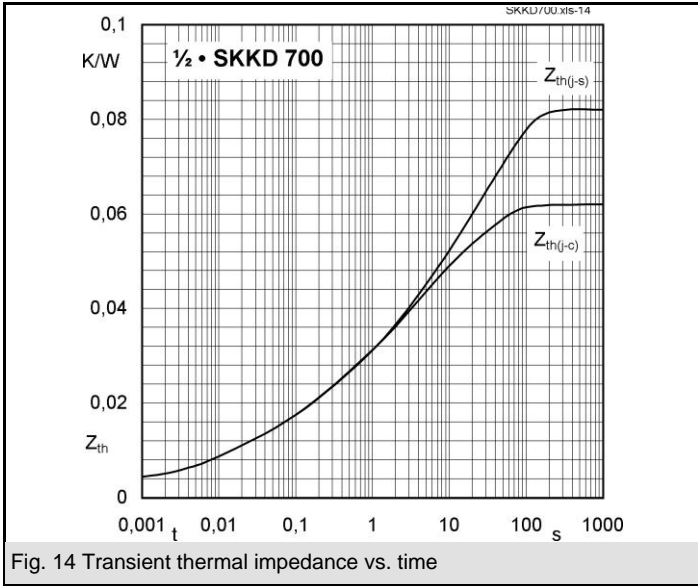
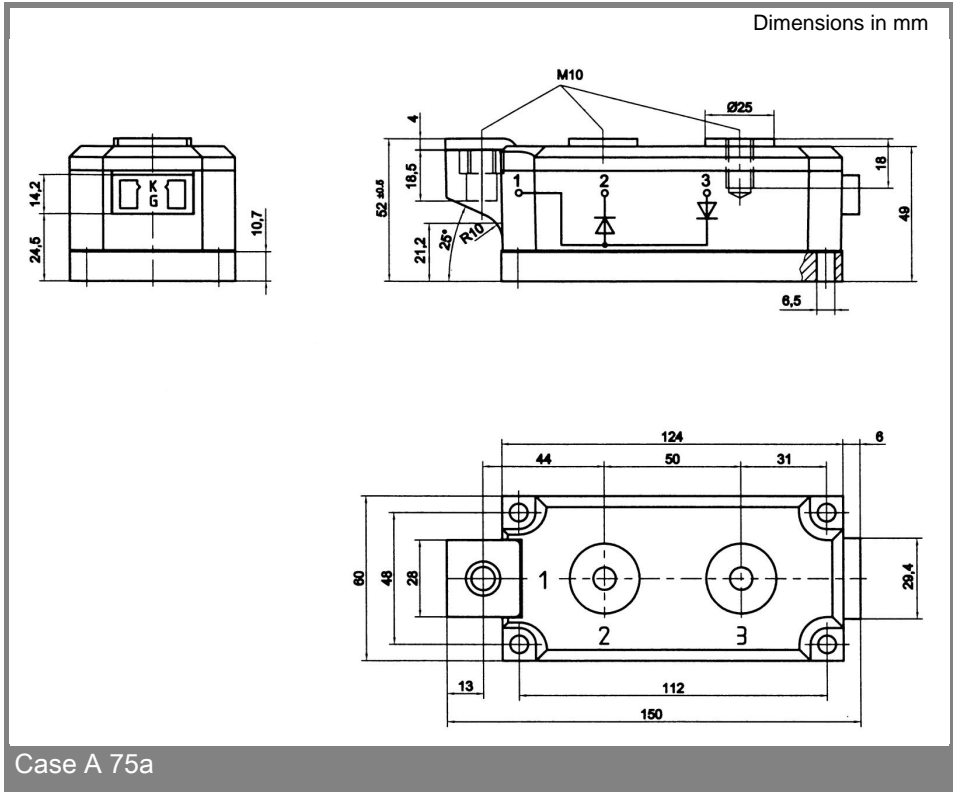


Fig. 13R Power dissipation of three modules vs. case temperature





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