# SKKD 701

**SEMIPACK®5**

## Rectifier Diode Modules

**SKKD 701**

### Features

- Heat transfer through aluminium nitride ceramic insulated metal baseplate
- Precisious metal pressure contacts for high reliability
- UL recognized, file no. E63532

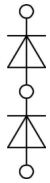
### Typical Applications*

- Uncontrolled rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controller
- Field supply for DC motors

1) see assembly instructions

| $V_{RSM}$ V | $V_{RRM}$ V | $I_{FRMS}$ = 1100 A (maximum value for continuous operation)<br>$I_{FAV}$ = 701 A (sin. 180; $T_C$ = 100 °C) | | |
|---|---|---|---|---|
| 1300 | 1200 | SKKD 701/12 | | |
| 1700 | 1600 | SKKD 701/16 | | |
| 1900 | 1800 | SKKD 701/18 | | |
| 2300 | 2200 | SKKD 701/22 H4 | | |

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $I_{FAV}$ | sin. 180; $T_c$ = 100 (85) °C | 701 (820) | A |
| $I_{FSM}$ | $T_{vj}$ = 25 °C; 10 ms | 25000 | A |
| | $T_{vj}$ = 160 °C; 10 ms | 22500 | A |
| i²t | $T_{vj}$ = 25 °C; 8,3 ... 10 ms | 3125000 | A²s |
| | $T_{vj}$ = 160 °C; 8,3 ... 10 ms | 2531250 | A²s |
| $V_F$ | $T_{vj}$ = 25 °C; $I_F$ = 2000 A | max. 1,25 | V |
| $V_{(TO)}$ | $T_{vj}$ = 160 °C | max. 0,7 | V |
| $r_T$ | $T_{vj}$ = 160 °C | max. 0,28 | mΩ |
| $I_{RD}$ | $T_{vj}$ = 160 °C; $V_{RD}$ = $V_{RRM}$ | max. 30 | mA |
| $R_{th(j-c)}$ | cont.; per diode / per module | 0,069 / 0,034 | K/W |
| | sin. 180; per diode / per module | 0,072 / 0,036 | K/W |
| | rec. 120; per diode / per module | 0,077 / 0,038 | K/W |
| $R_{th(c-s)}$ | per diode / per module | 0,02 / 0,01 | K/W |
| $T_{vj}$ | | - 40 ... + 160 | °C |
| $T_{stg}$ | | - 40 ... + 125 | °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 SKK... H4 | 4800 / 4000 | V~ |
| $M_s$ | to heatsink | 5 ± 15 %[1)] | Nm |
| $M_t$ | to terminals | 12 ± 15 % | Nm |
| a | | 5 * 9,81 | m/s² |
| m | approx. | 1400 | g |
| Case | | A 60b | |



**SKKD**

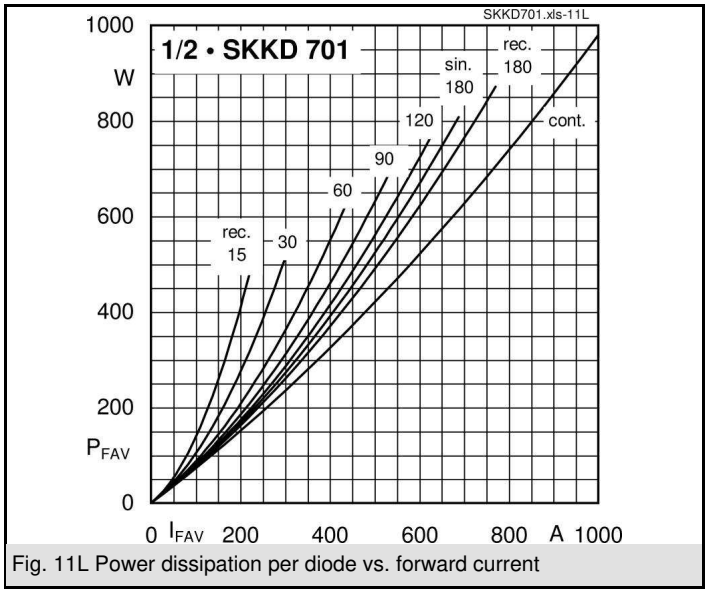


Fig. 11L Power dissipation per diode vs. forward current

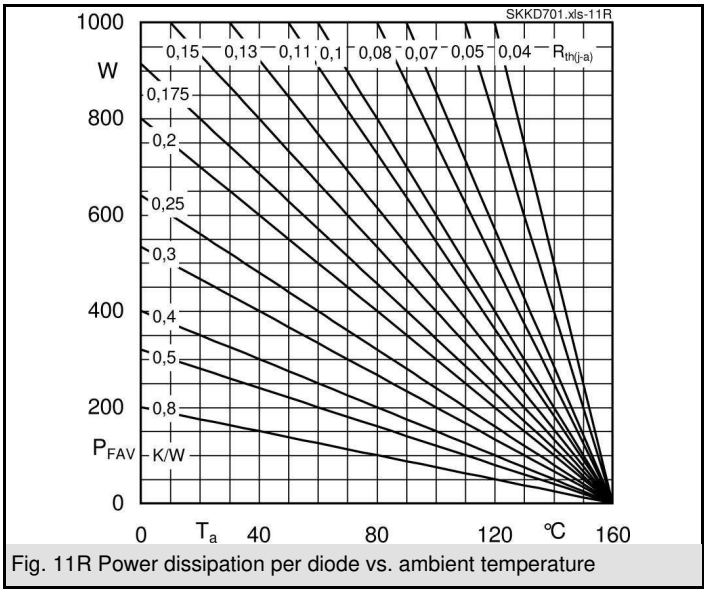


Fig. 11R Power dissipation per diode vs. ambient temperature

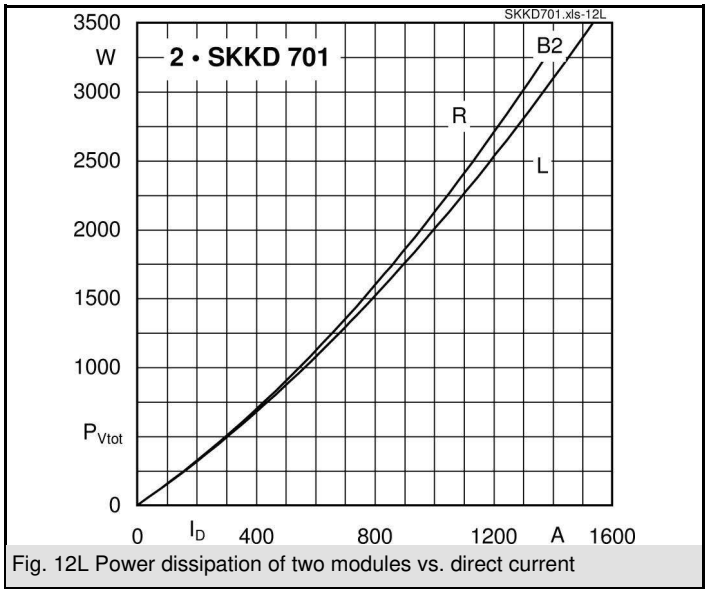


Fig. 12L Power dissipation of two modules vs. direct current

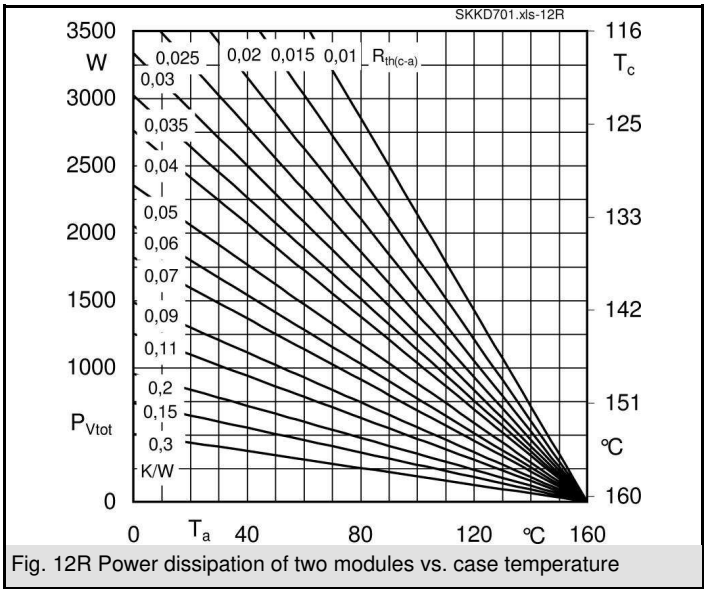


Fig. 12R Power dissipation of two modules vs. case temperature

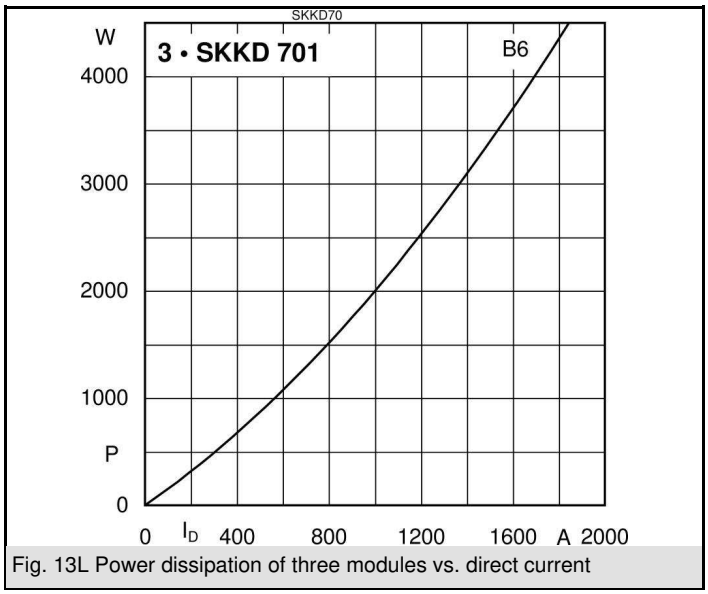


Fig. 13L Power dissipation of three modules vs. direct current

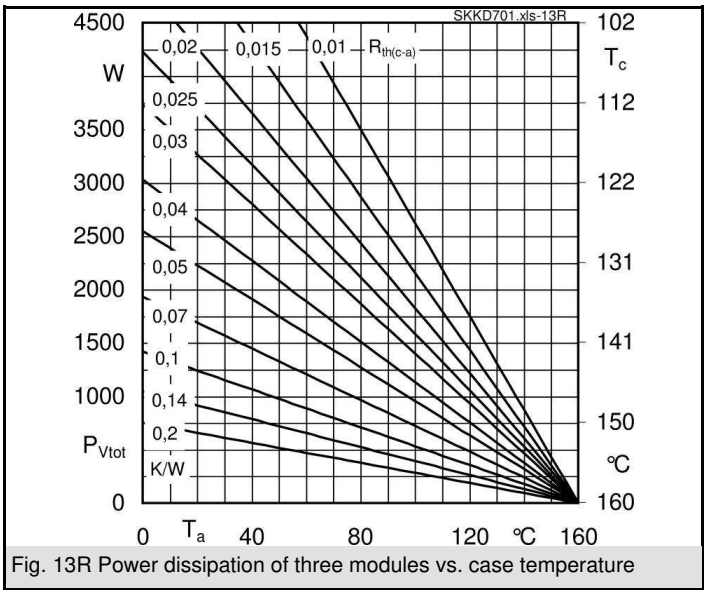


Fig. 13R Power dissipation of three modules vs. case temperature

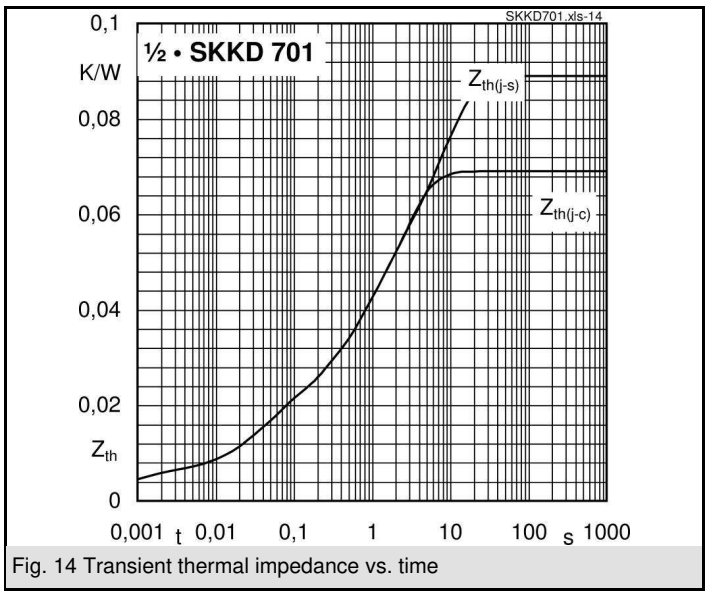



Fig. 14 Transient thermal impedance vs. time

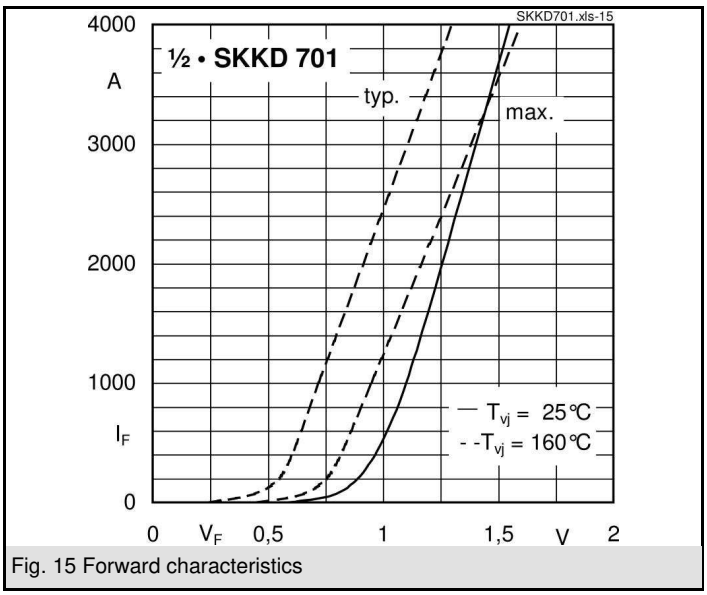



Fig. 15 Forward characteristics

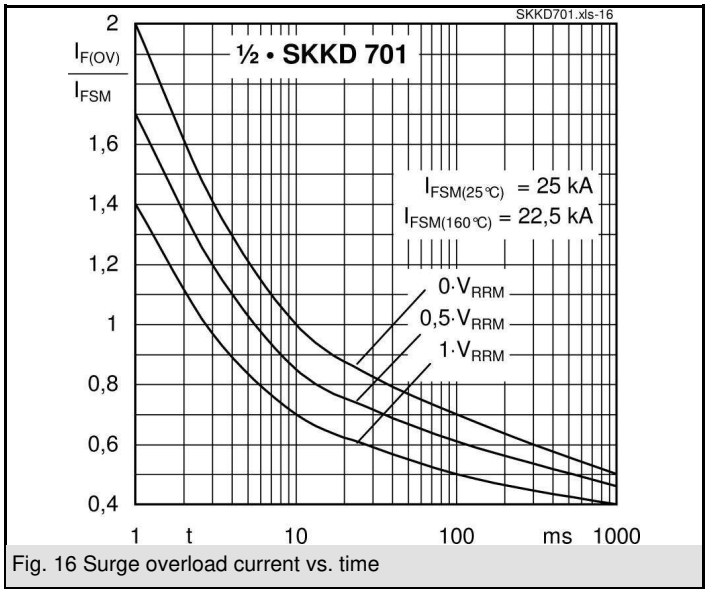
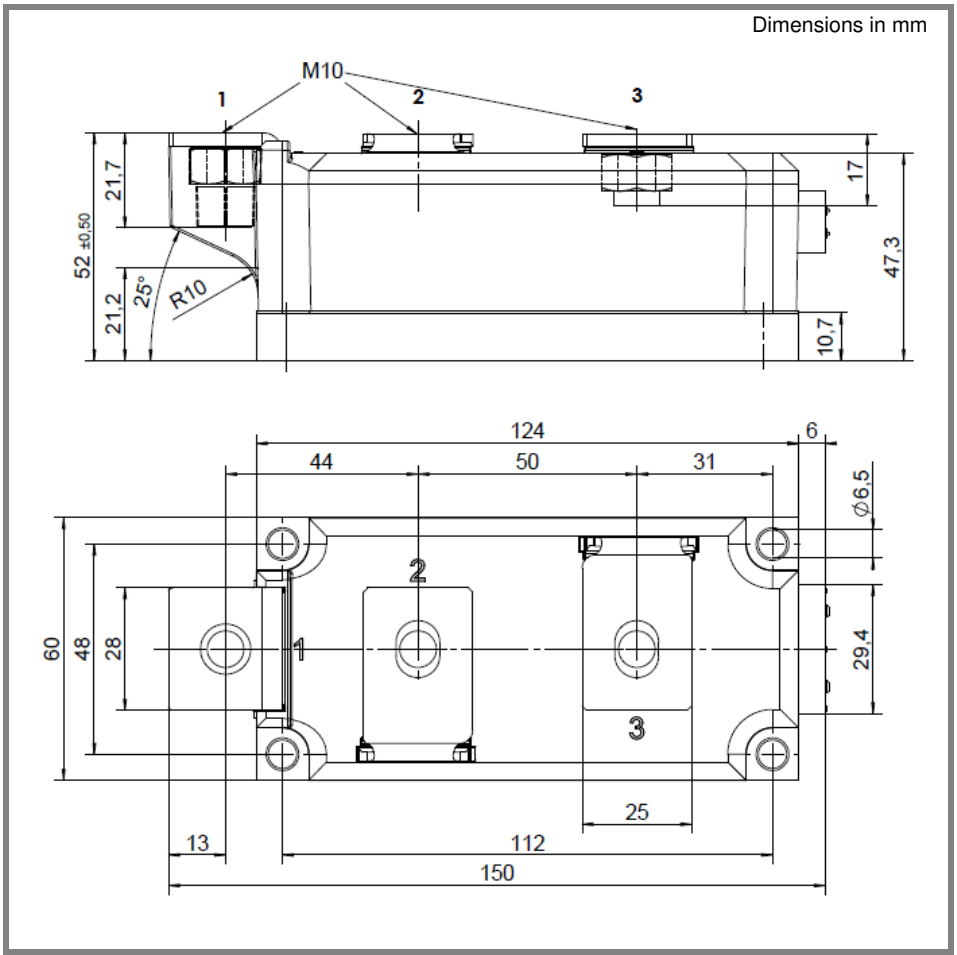
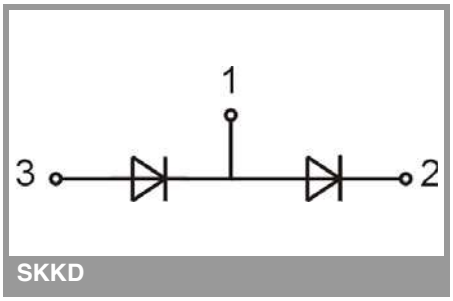



Fig. 16 Surge overload current vs. time



Case A 60b (SKKD)



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This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, chapter IX.

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