# SKKD 46

THYRISTOR BRIDGE,SCR,BRIDGE

**SEMIPACK® 1**

## Rectifier Diode Modules

**SKKD 46**

### Features

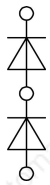
- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- UL recognized, file no. E 63 532

### Typical Applications*

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

| $V_{RSM}$ V | $V_{RRM}$ V | $I_{FRMS}$ = 90 A (maximum value for continuous operation)<br>$I_{FAV}$ = 45 A (sin. 180; $T_c$ = 86 °C) | | |
|---|---|---|---|---|
| 500 | 400 | SKKD 46/04 | | |
| 700 | 600 | SKKD 46/06 | | |
| 900 | 800 | SKKD 46/08 | | |
| 1300 | 1200 | SKKD 46/12 | | |
| 1500 | 1400 | SKKD 46/14 | | |
| 1700 | 1600 | SKKD 46/16 | | |
| 1900 | 1800 | SKKD 46/18 | | |

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $I_{FAV}$ | sin. 180; $T_c$ = 85 (100) °C | 47 (33) | A |
| $I_D$ | P3/120; $T_a$ = 45 °C; B2 / B6 | 50 / 60 | A |
| | P3/180F; $T_a$ = 35 °C; B2 / B6 | 95 / 120 | A |
| $I_{FSM}$ | $T_{vj}$ = 25 °C; 10 ms | 700 | A |
| | $T_{vj}$ = 125 °C; 10 ms | 600 | A |
| $i^2t$ | $T_{vj}$ = 25 °C; 8,3 ... 10 ms | 2450 | $A^2s$ |
| | $T_{vj}$ = 125 °C; 8,3 ... 10 ms | 1800 | $A^2s$ |
| $V_F$ | $T_{vj}$ = 25 °C; $I_F$ = 250 A | max. 1,95 | V |
| $V_{(TO)}$ | $T_{vj}$ = 125 °C | max. 0,85 | V |
| $r_T$ | $T_{vj}$ = 125 °C | max. 5 | mΩ |
| $I_{RD}$ | $T_{vj}$ = 125 °C; $V_{RD}$ = $V_{RRM}$ | max. 3 | mA |
| $R_{th(j-c)}$ | per diode / per module | 0,6 / 0,3 | 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 | $m/s^2$ |
| m | approx. | 95 | g |
| Case | | A 10 | |



**SKKD**

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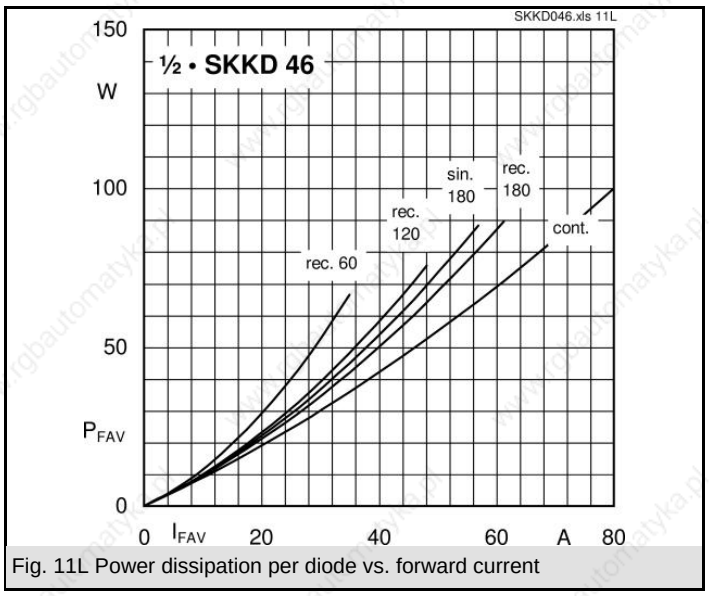


Fig. 11L Power dissipation per diode vs. forward current

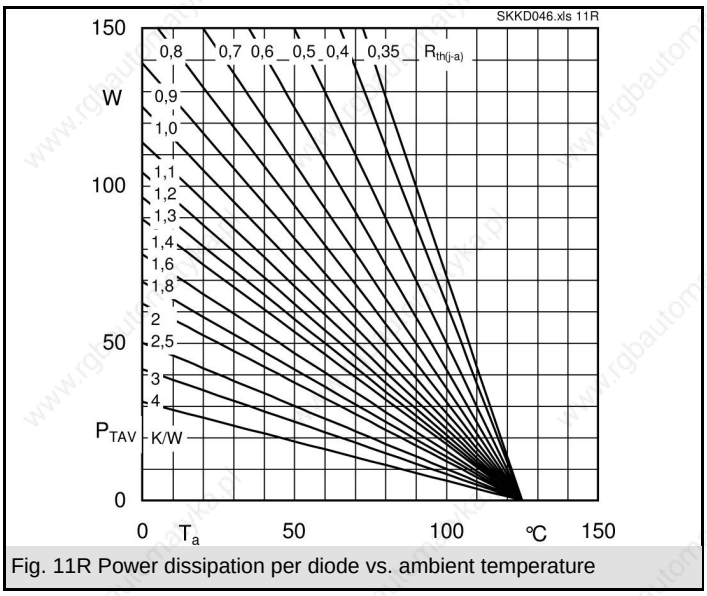


Fig. 11R Power dissipation per diode vs. ambient temperature

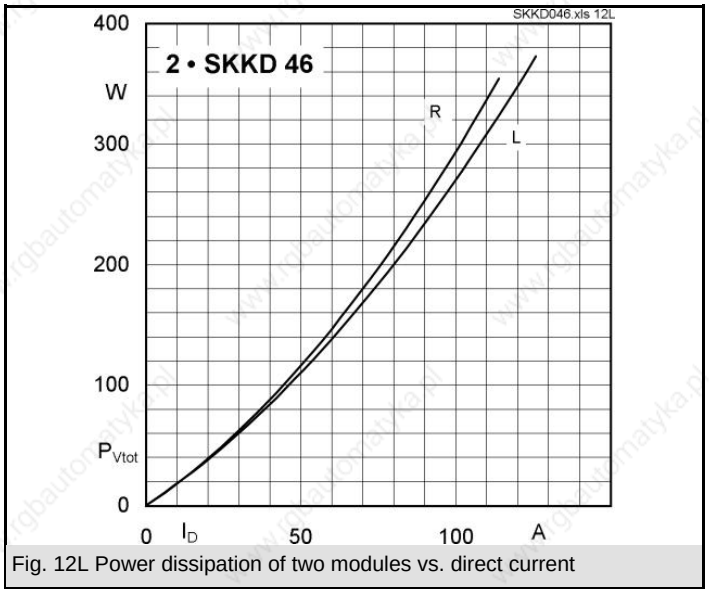


Fig. 12L Power dissipation of two modules vs. direct current

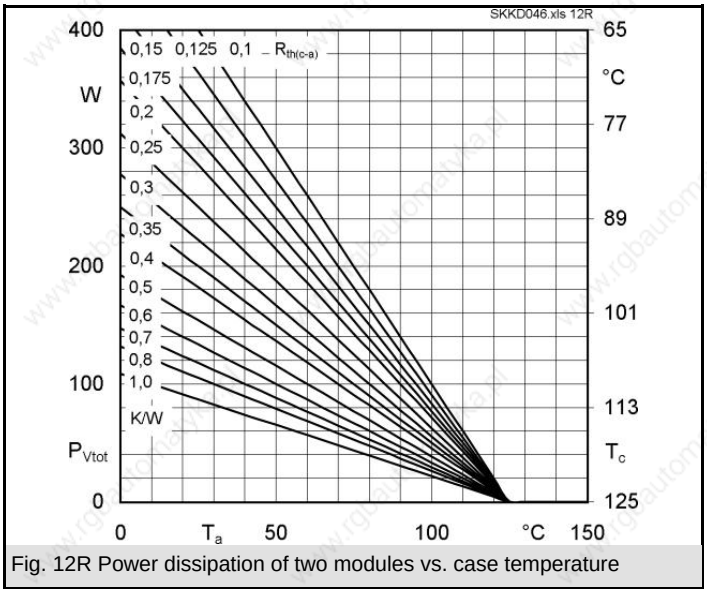


Fig. 12R Power dissipation of two modules vs. case temperature

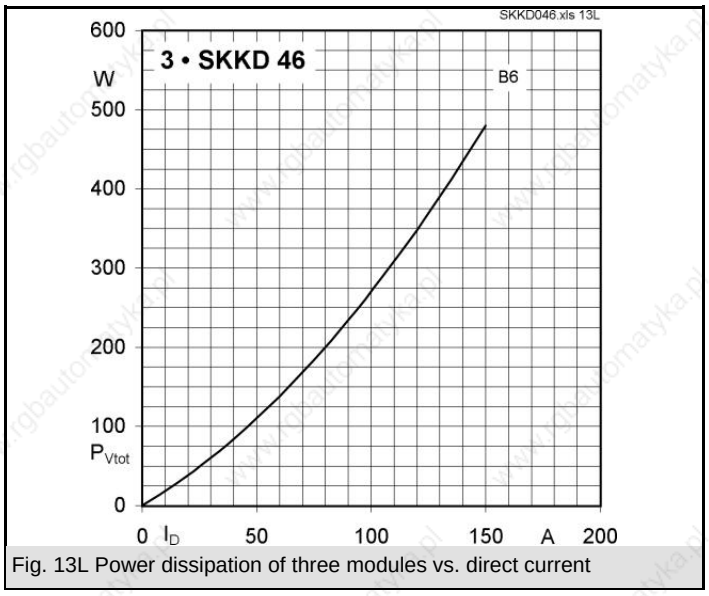


Fig. 13L Power dissipation of three modules vs. direct current

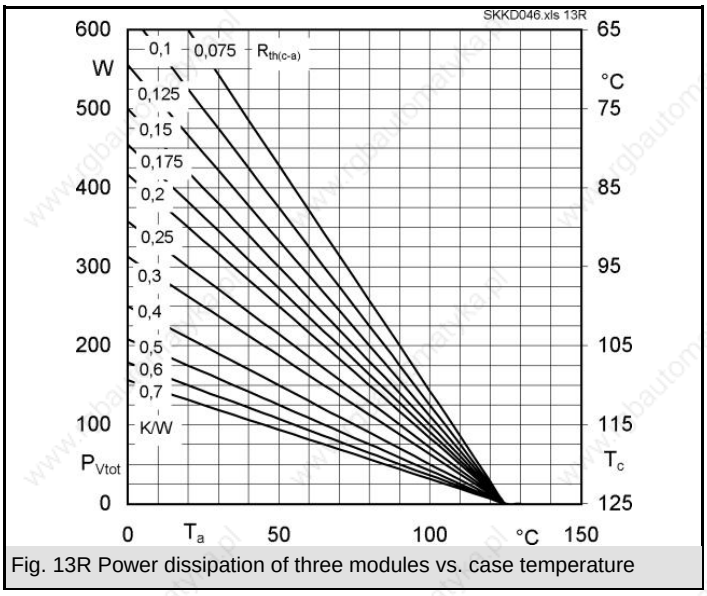


Fig. 13R Power dissipation of three modules vs. case temperature

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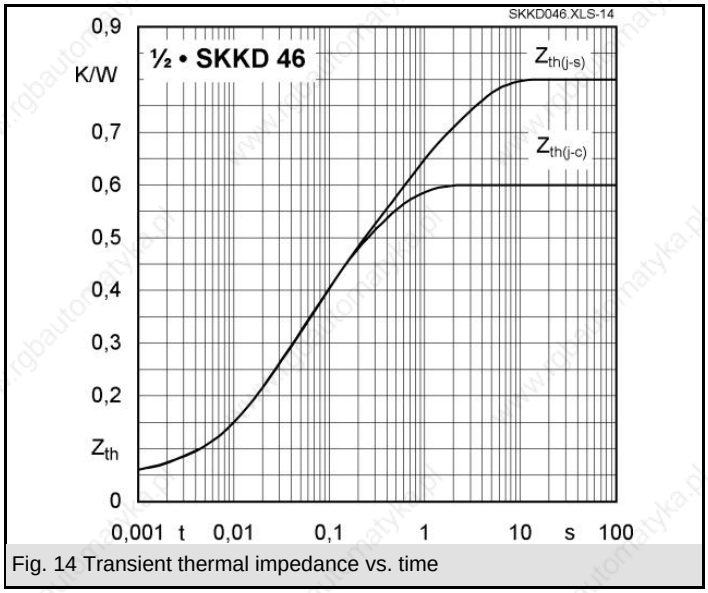


Fig. 14 Transient thermal impedance vs. time

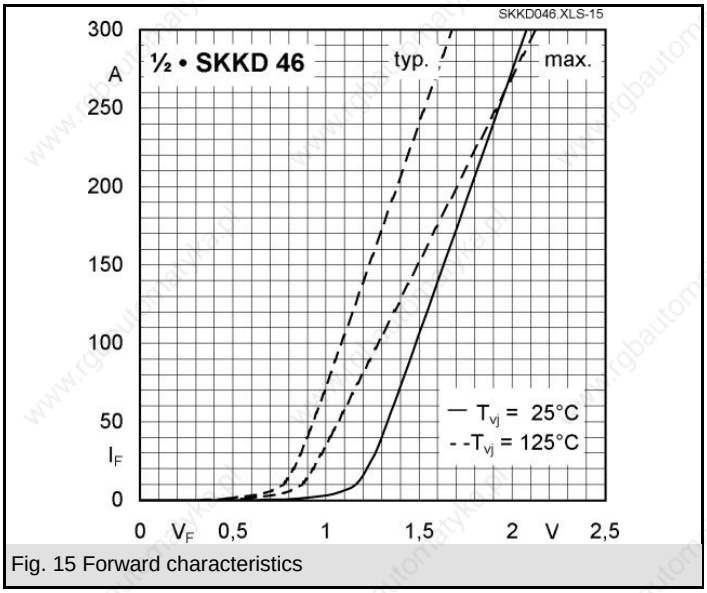


Fig. 15 Forward characteristics

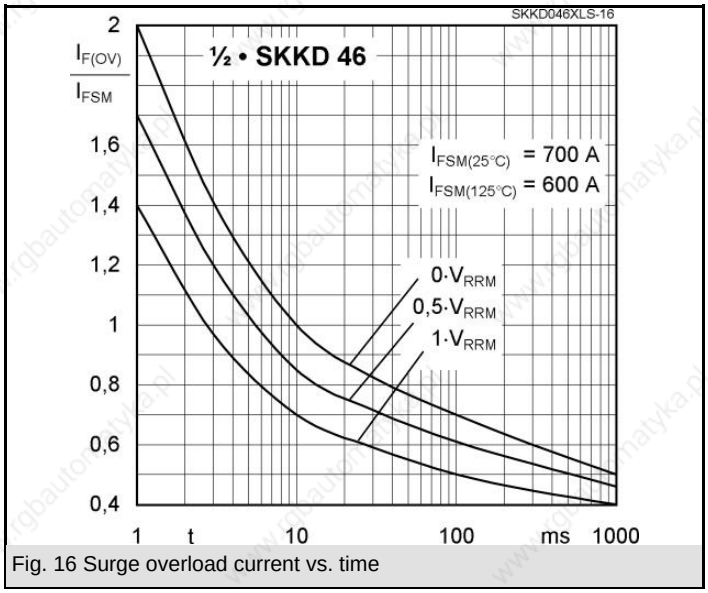


Fig. 16 Surge overload current vs. time

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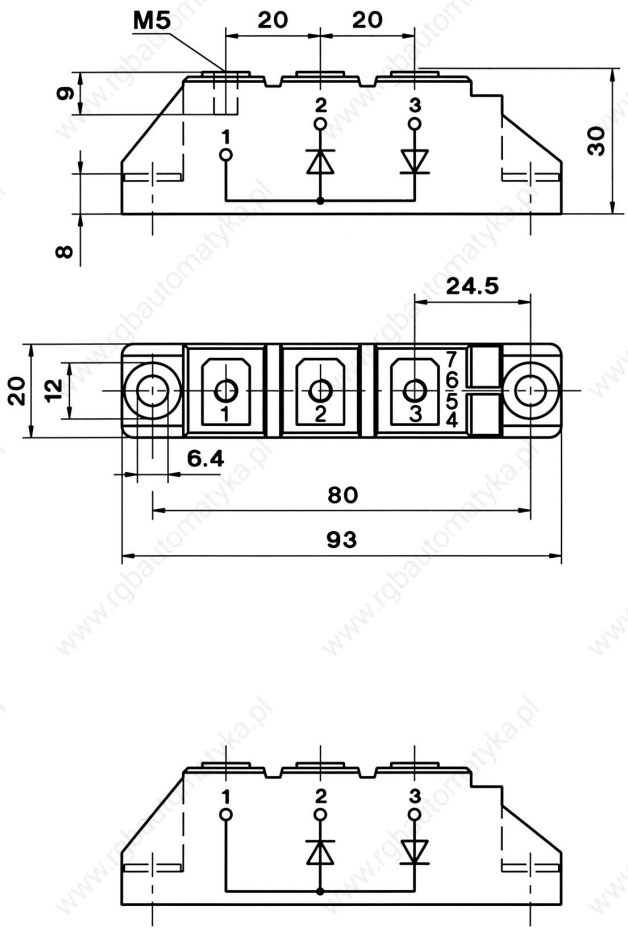
Dimensions in mm




Case A 10

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.

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