

| V <sub>RSM</sub> | V <sub>RRM</sub> | I <sub>FRMS</sub> (maximum values for continuous operation) |              |              |
|------------------|------------------|-------------------------------------------------------------|--------------|--------------|
|                  |                  | 90 A                                                        | 140 A        | 140 A        |
| V                | V                | I <sub>FAV</sub> (sin. 180; T <sub>case</sub> = ...)        |              |              |
|                  |                  | 57 A (71 °C)                                                | 90 A (80 °C) | 90 A (80 °C) |
| 500              | 400              | SKKD 46/04                                                  | SKKD 81/04   | SKKE 81/04   |
| 700              | 600              | SKKD 46/06                                                  | SKKD 81/06   | SKKE 81/06   |
| 900              | 800              | SKKD 46/08                                                  | SKKD 81/08   | SKKE 81/08   |
| 1300             | 1200             | SKKD 46/12                                                  | SKKD 81/12   | SKKE 81/12   |
| 1500             | 1400             | SKKD 46/14                                                  | SKKD 81/14   | SKKE 81/14   |
| 1700             | 1600             | SKKD 46/16                                                  | SKKD 81/16   | SKKE 81/16   |
| 1900             | 1800             | SKKD 46/18                                                  | SKKD 81/18   | SKKE 81/18   |
| 2100             | 2000             | —                                                           | SKKD 81/20   | SKKE 81/20   |
| 2300             | 2200             | —                                                           | SKKD 81/22   | SKKE 81/22   |

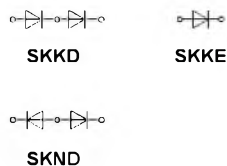
## SEMIPACK® 1

### Rectifier Diode Modules

SKKD 46      SKKD 81  
SKND 46<sup>1)</sup>    SKKE 81  
                 SKND 81<sup>1)</sup>



| Symbol                                                                        | Conditions                                                                                                                                             | SKKD 46                                                                         | SKKD 81<br>SKKE 81                                                                                         | Units                                          |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| I <sub>FAV</sub><br>I <sub>D</sub> <sup>1)</sup>                              | sin. 180 (T <sub>case</sub> = . . . )<br>B2/B6   T <sub>amb</sub> = 45 °C; P 3/120<br>P 3/180<br>  T <sub>amb</sub> = 35 °C; P 3/180 F                 | 45(86 °C)<br>50/60<br>54/66<br>95/120                                           | 80(87 °C)<br>63/70<br>70/85<br>135/175                                                                     | A<br>A<br>A<br>A                               |
| I <sub>FSM</sub><br>i <sub>T</sub> <sup>2)</sup>                              | T <sub>vj</sub> = 25 °C; 10 ms<br>T <sub>vj</sub> = 125 °C; 10 ms<br>T <sub>vj</sub> = 25 °C; 8,3 ... 10 ms<br>T <sub>vj</sub> = 125 °C; 8,3 ... 10 ms | 700<br>600<br>2 450<br>1 800                                                    | 2 000<br>1 750<br>20 000<br>15 000                                                                         | A<br>A<br>A <sup>2</sup> s<br>A <sup>2</sup> s |
| I <sub>RD</sub>                                                               | T <sub>vj</sub> = 125 °C; V <sub>RD</sub> = V <sub>RRM</sub>                                                                                           | 3                                                                               | 4,5                                                                                                        | mA                                             |
| V <sub>F</sub><br>V <sub>(TO)</sub><br>r <sub>T</sub>                         | T <sub>vj</sub> = 25 °C (I <sub>F</sub> = . . . ); max.<br>T <sub>vj</sub> = 125 °C<br>T <sub>vj</sub> = 125 °C                                        | 1,95 (250 A)<br>0,85<br>5                                                       | 1,55 (300 A)<br>0,85<br>1,8                                                                                | V<br>V<br>mΩ                                   |
| R <sub>thjc</sub><br>R <sub>thch</sub><br>T <sub>vj</sub><br>T <sub>slg</sub> | } per diode/per module <sup>2)</sup>                                                                                                                   | 0,6/0,3<br>0,2/0,1<br>- 40 ... +125<br>- 40 ... +125                            | 0,4/0,2<br>0,2/0,1                                                                                         | °C/W<br>°C/W<br>°C<br>°C                       |
| V <sub>isol</sub><br>M <sub>1</sub><br>M <sub>2</sub><br>a<br>w               |                                                                                                                                                        | a. c. 50 Hz; r.m.s.; 1 s/1 min<br>to heatsink } SI (US) units<br>to terminals } | 3600/3000<br>5 (44 lb. in.) ± 15 % <sup>3)</sup><br>3 (26 lb. in.) ± 15 % <sup>3)</sup><br>5 · 9,81<br>120 | V~<br>Nm<br>Nm<br>m/s <sup>2</sup><br>g        |
| Case                                                                          | → page B 1 – 93                                                                                                                                        | SKKD 46: A 10<br>SKND 46: A 19                                                  | SKKD 81: A 10<br>SKKE 81: A 12<br>SKND 81: A 19                                                            |                                                |



## 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
- SKKE: Free-wheeling diodes

<sup>1)</sup> SKND 46 and SKND 81 available on request

2) SKKD types only

3) See the assembly instructions

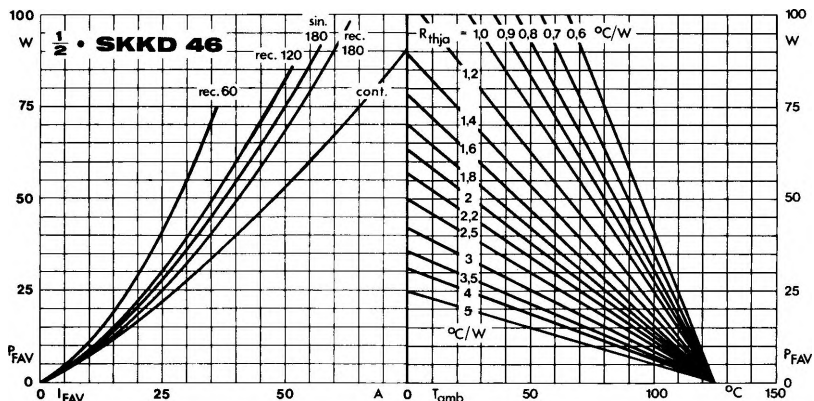


Fig. 11 a Power dissipation per diode vs. forward current and ambient temperature

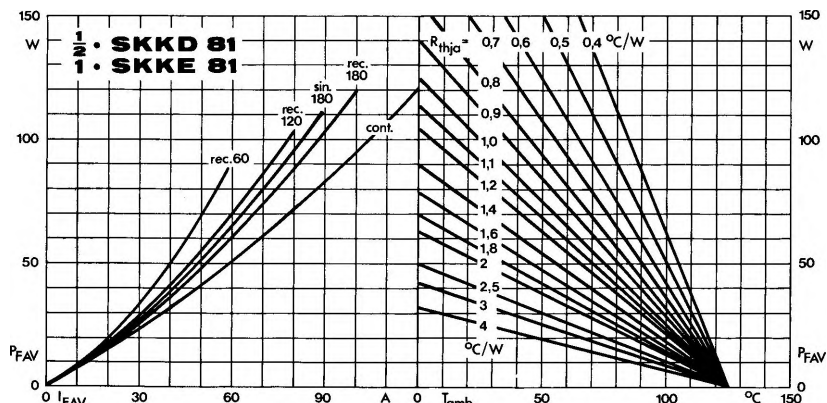


Fig. 11 b Power dissipation per diode vs. forward current and ambient temperature

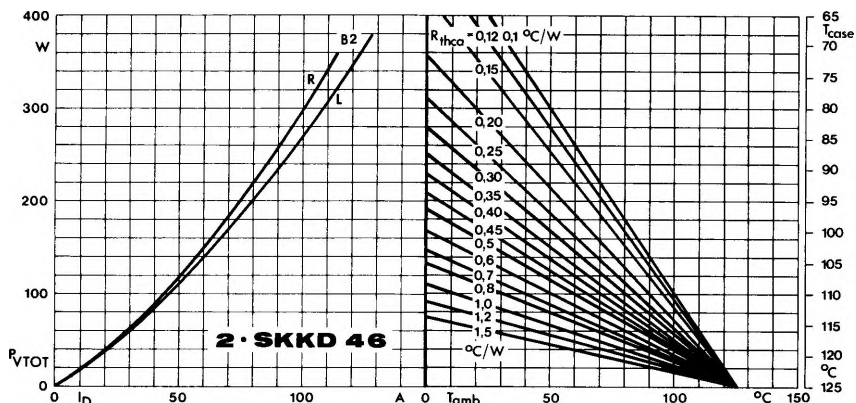


Fig. 12 a Power dissipation of two modules vs. direct current and case temperature

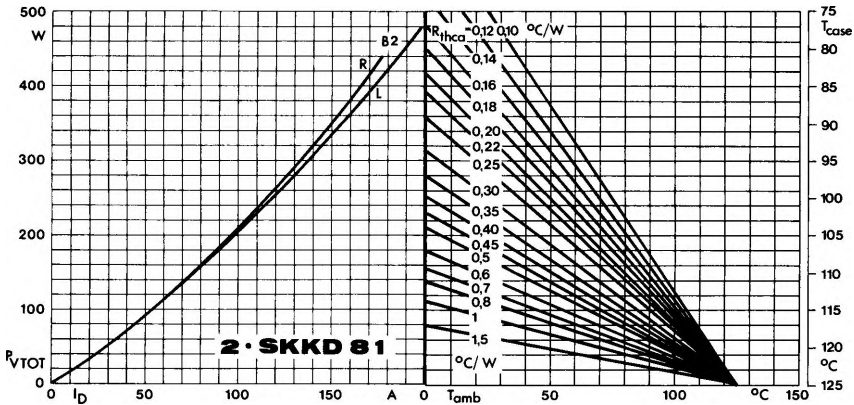


Fig. 12 b Power dissipation of two modules vs. direct current and case temperature

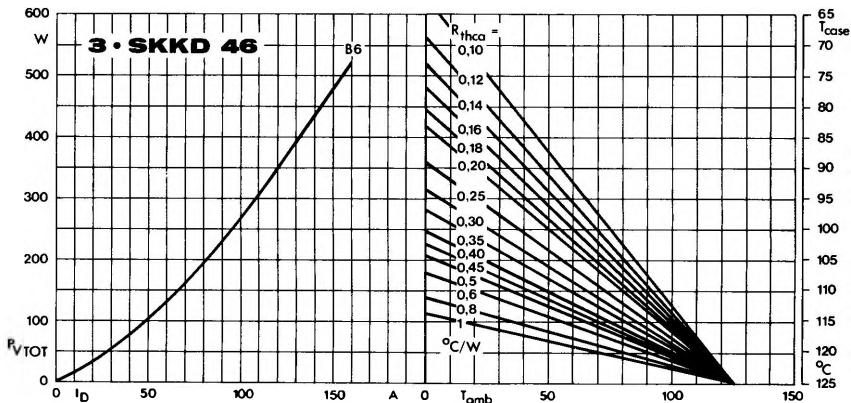


Fig. 13 a Power dissipation of three modules vs. direct current and case temperature

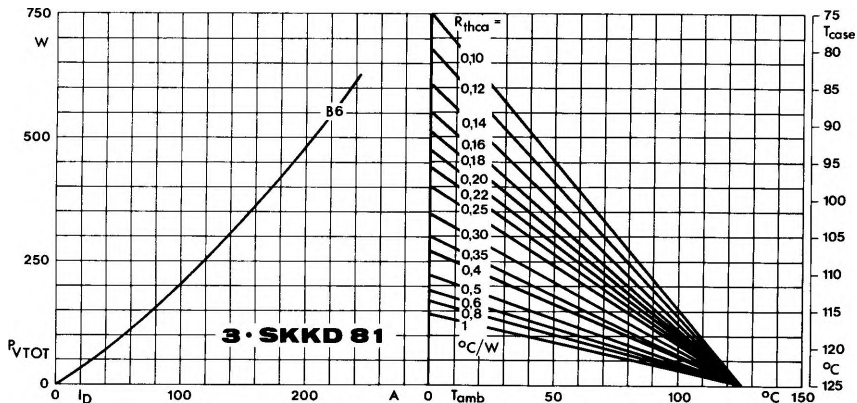


Fig. 13 b Power dissipation of three modules vs. direct current and case temperature

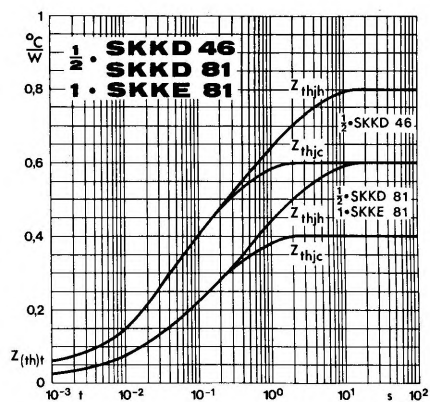


Fig. 14 Transient thermal impedance vs. time

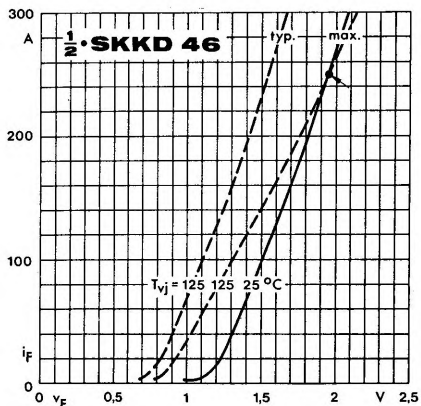


Fig. 15 a Forward characteristics

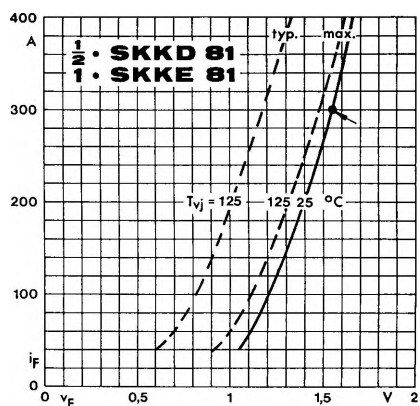


Fig. 15 b Forward characteristics

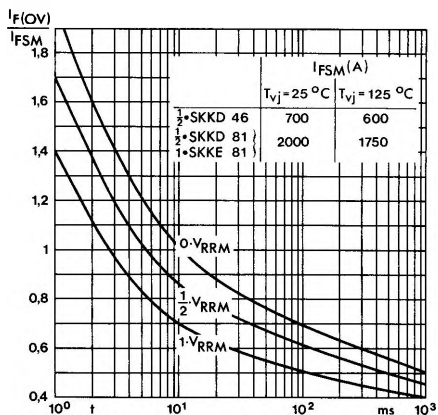


Fig. 16 Surge overload current vs. time