# SKKD 81, SKKE 81

## SEMIPACK® 1

## Rectifier Diode Modules

**SKKD 81**
**SKKE 81**

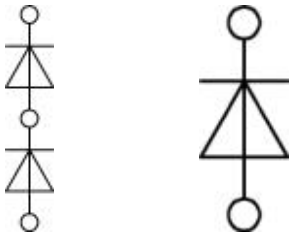
### Features

- 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
- Free-wheeling diodes

1) SKKD types only



SKKD | SKKE

| $V_{RSM}$ | $V_{RRM}$ | $I_{FRMS}$ = 140 A (maximum value for continuous operation) | |
|---|---|---|---|
| V | V | $I_{FAV}$ = 80 A (sin. 180; $T_c$ = 87 °C) | |
| 500 | 400 | SKKE 81/04 | SKKD 81/04 |
| 700 | 600 | SKKE 81/06 | SKKD 81/06 |
| 900 | 800 | SKKE 81/08 | SKKD 81/08 |
| 1300 | 1200 | SKKE 81/12 | SKKD 81/12 |
| 1500 | 1400 | SKKE 81/14 | SKKD 81/14 |
| 1700 | 1600 | SKKE 81/16 | SKKD 81/16 |
| 1900 | 1800 | SKKE 81/18 | SKKD 81/18 |
| 2100 | 2000 | SKKE 81/20H4 | SKKD 81/20H4 |
| 2300 | 2200 | SKKE 81/22H4 | SKKD 81/22H4 |

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $I_{FAV}$ | sin. 180; $T_c$ = 85 (100) °C | 82 ( 57) | A |
| $I_D$ | P3/120; $T_a$ = 45 °C; B2 / B6 | 63 / 70 | A |
| | P3/180F; $T_a$ = 35 °C; B2 / B6 | 135 / 175 | A |
| $I_{FSM}$ | $T_{vj}$ = 25 °C; 10 ms | 2000 | A |
| | $T_{vj}$ = 125 °C; 10 ms | 1750 | A |
| $i^2t$ | $T_{vj}$ = 25 °C; 8,3 ... 10 ms | 20000 | $A^2s$ |
| | $T_{vj}$ = 125 °C; 8,3 ... 10 ms | 15000 | $A^2s$ |
| $V_F$ | $T_{vj}$ = 25 °C; $I_F$ = 300 A | max. 1,55 | V |
| $V_{(TO)}$ | $T_{vj}$ = 125 °C | max. 0,85 | V |
| $r_T$ | $T_{vj}$ = 125 °C | max. 1,8 | mΩ |
| $I_{RD}$ | $T_{vj}$ = 125 °C; $V_{RD}$ = $V_{RRM}$ | max. 4,5 | mA |
| $R_{th(j-c)}$ | per diode / per module 1) | 0,4 / 0,2 | K/W |
| $R_{th(c-s)}$ | per diode / per module 1) | 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~ |
| $V_{isol}$ | a. c. 50 Hz; r.m.s.; 1 s / 1 min. for SKK...H4 | 4800 / 4000 | V~ |
| $M_s$ | to heatsink | 5 ± 15 % | Nm |
| $M_t$ | to terminals | 3 ± 15 % | Nm |
| a | | 5 * 9,81 | $m/s^2$ |
| m | approx. | 95 | g |
| Case | SKKD | A 10 | |
| | SKKE | A 12 | |

# Diagrams

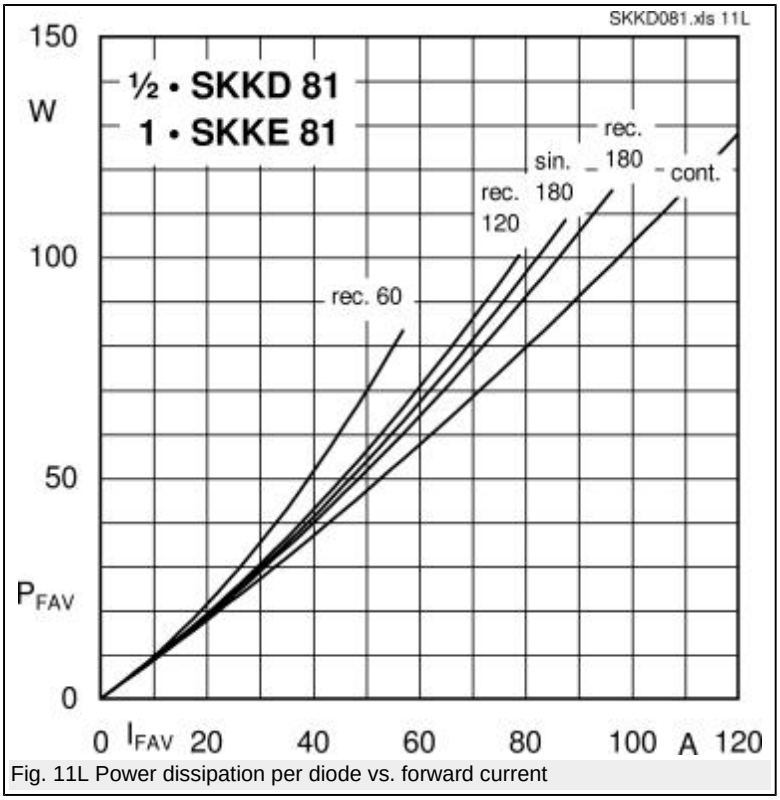



Fig. 11L Power dissipation per diode vs. forward current

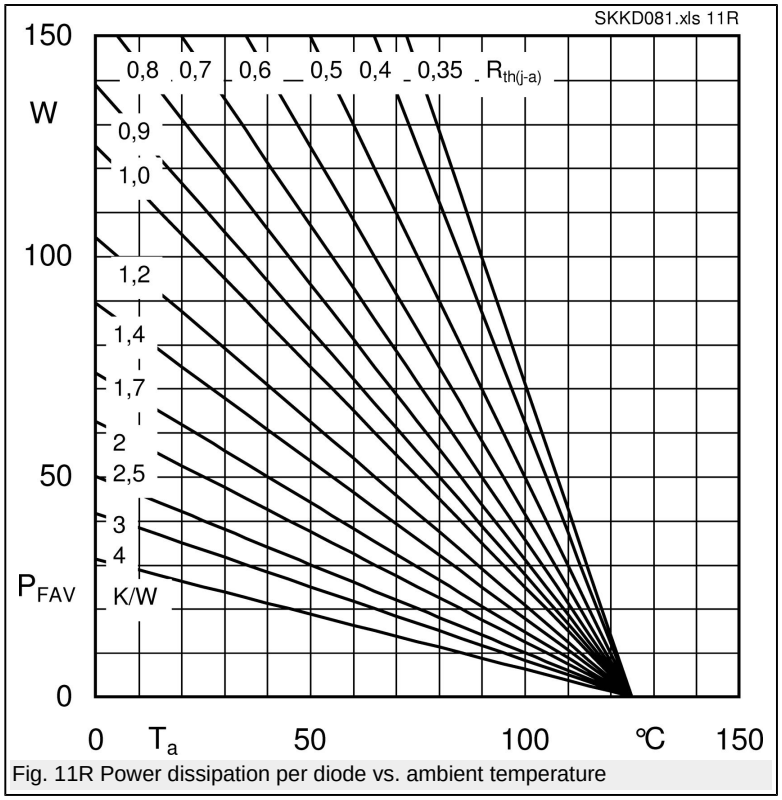



Fig. 11R Power dissipation per diode vs. ambient temperature

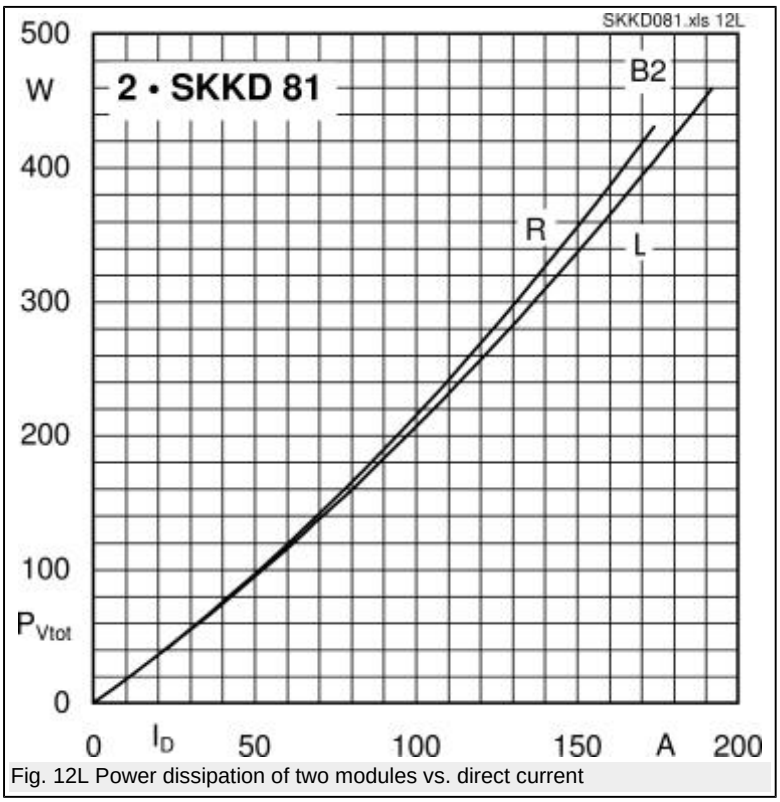



Fig. 12L Power dissipation of two modules vs. direct current

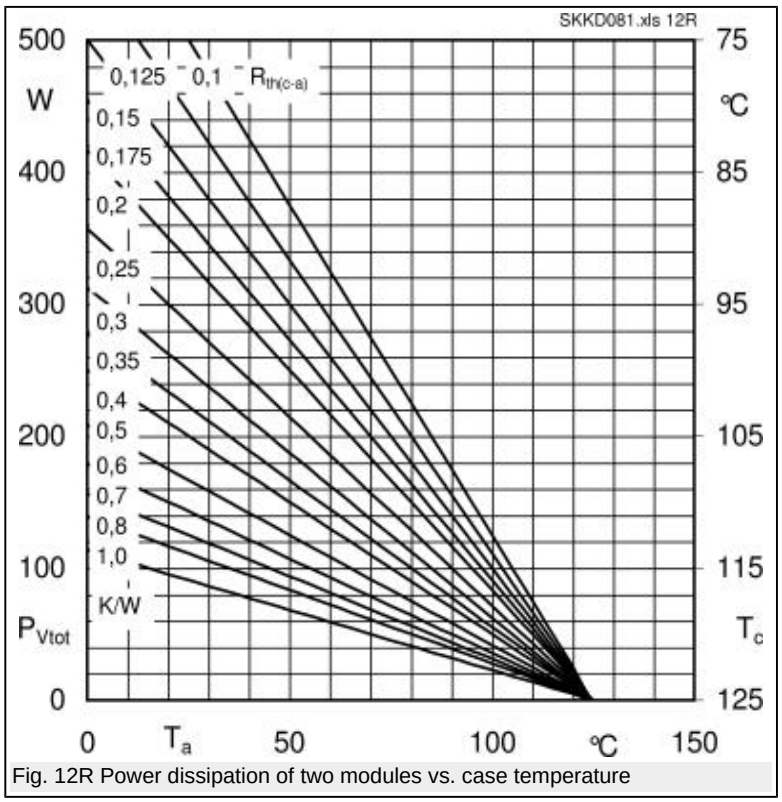



Fig. 12R Power dissipation of two modules vs. case temperature

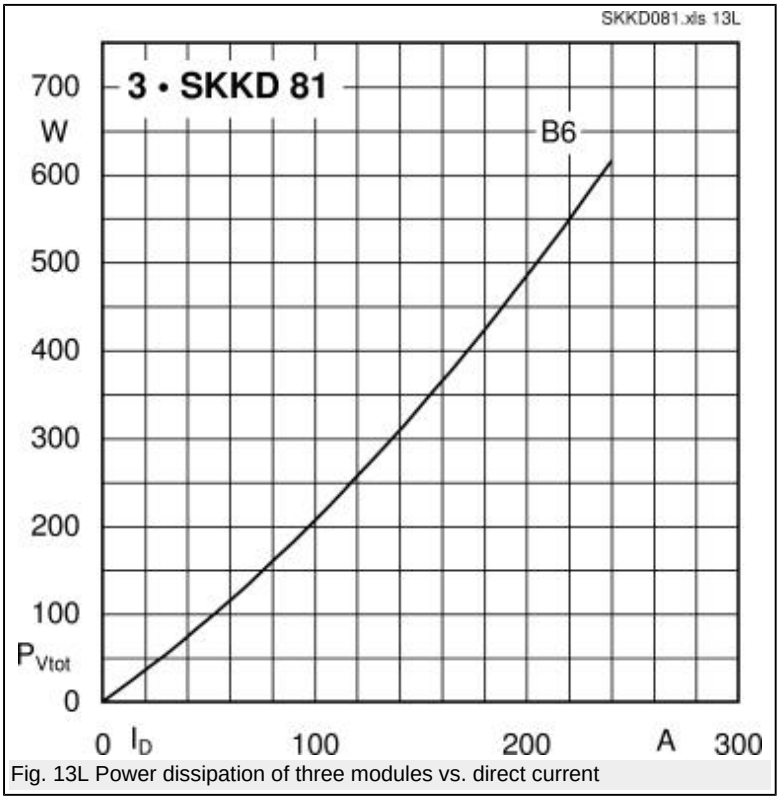


Fig. 13L Power dissipation of three modules vs. direct current

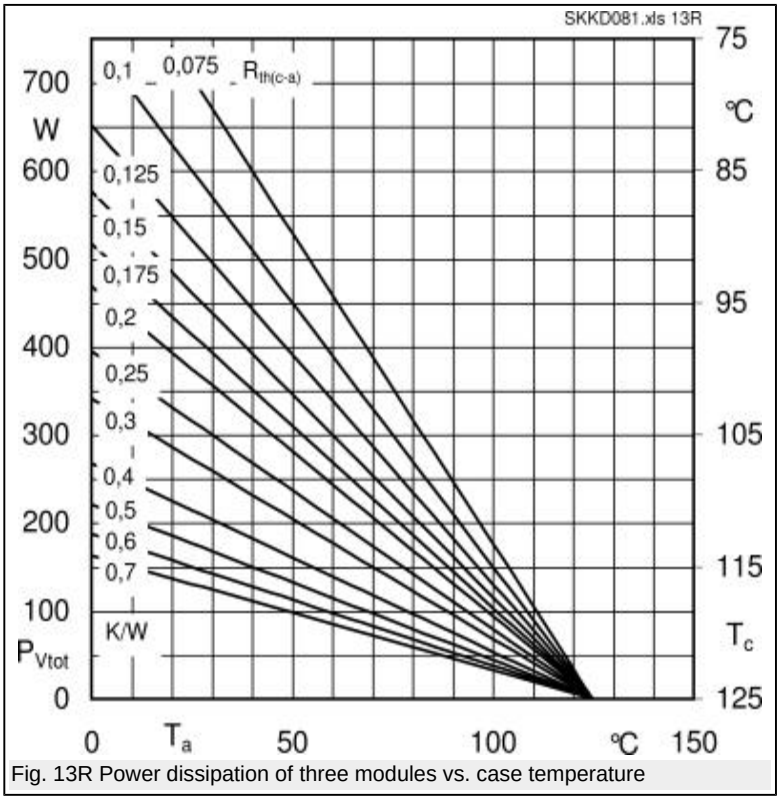


Fig. 13R Power dissipation of three modules vs. case temperature

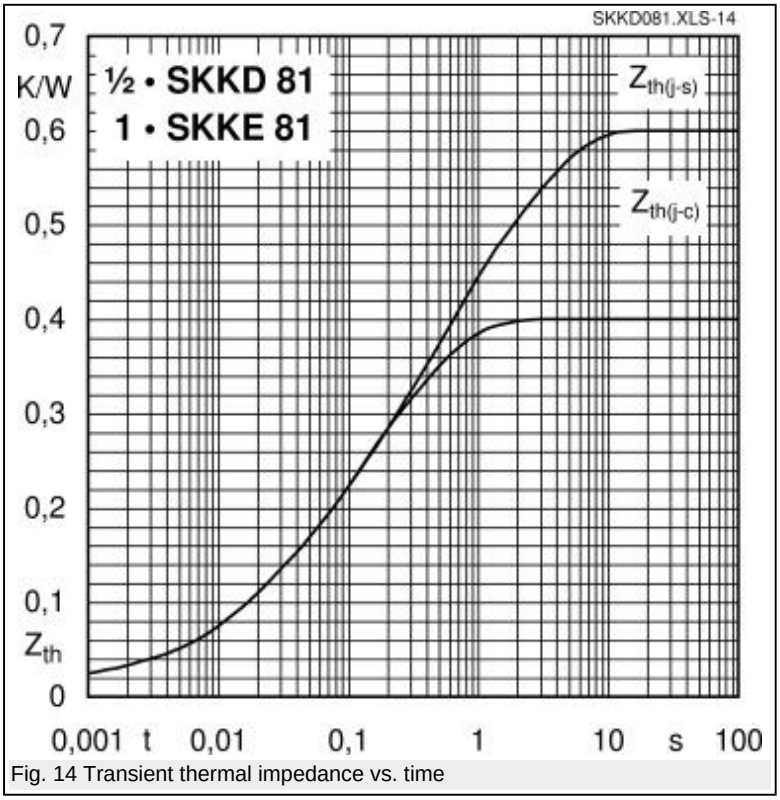


Fig. 14 Transient thermal impedance vs. time

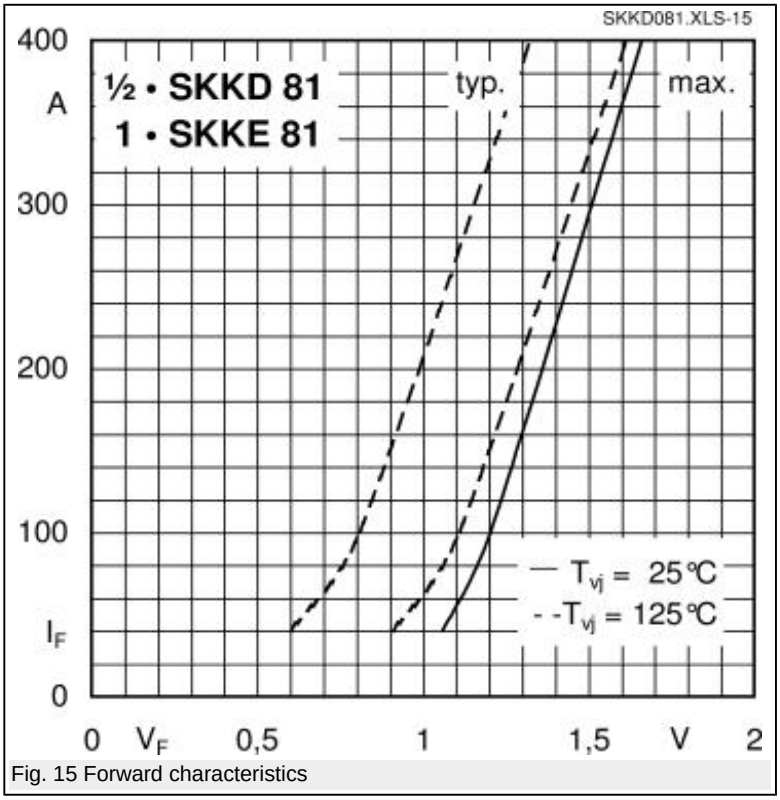


Fig. 15 Forward characteristics

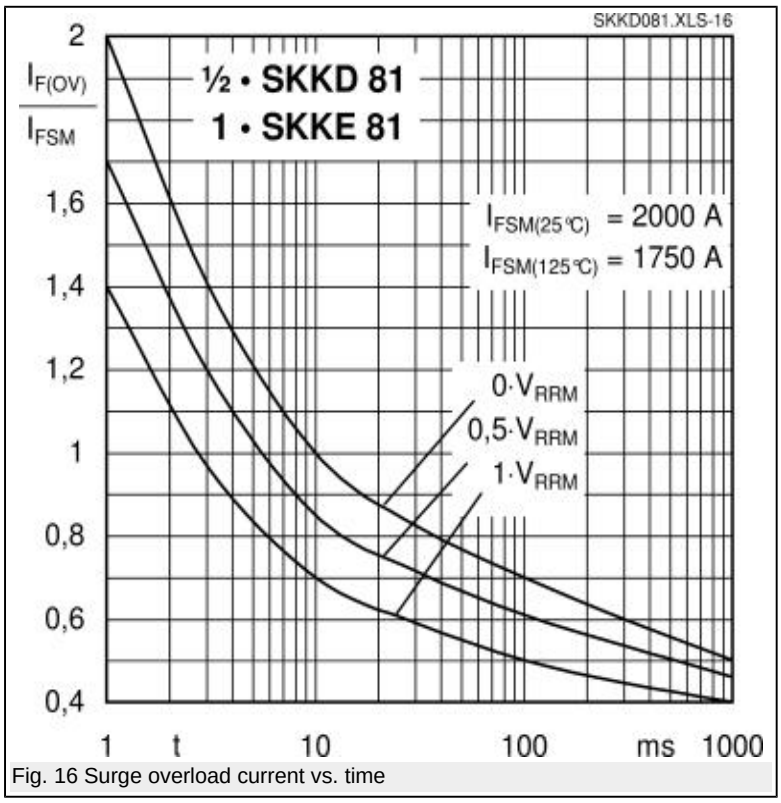
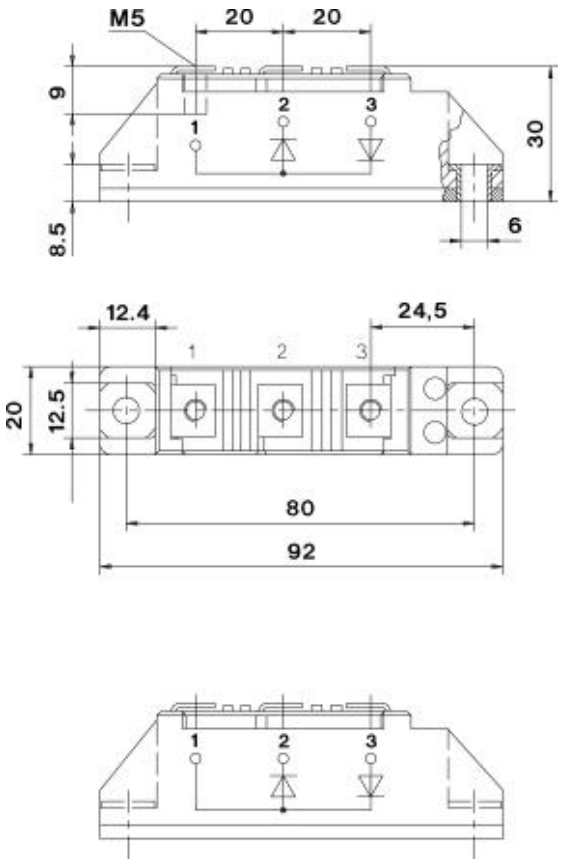


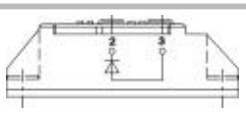
Fig. 16 Surge overload current vs. time

# Cases / Circuits

Dimensions in mm



Case A 10 (SKKD)



Case A 12 SKKE