# SKD 31


**SEMIPONT® 1**

## Power Bridge Rectifiers

**SKD 31**

### Features

- Sturdy isolated metal baseplate
- Fast-on terminals with solder tips
- Suitable for wave soldering
- High surge current ratings
- UL recognized, file no. E 63 532

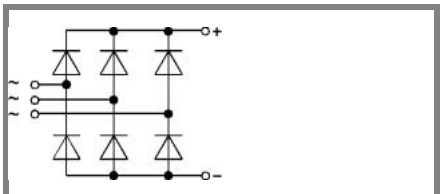
### Typical Applications

- DC power supply, e.g. for transistorized AC motor controllers
- Battery chargers
- Non-controlled DC motor field supply
- Recommended snubber network: RC: 0.1 µF, 50 Ω ($P_R$ = 1 W)

1) Freely suspended or mounted on an insulator
2) Mounted on a painted metal sheet of min. 250 x 250 x 1 mm

| $V_{RSM}$ V | $V_{RRM}$, $V_{DRM}$ V | $I_D$ = 31 A (full conduction) ($T_c$ = 100 °C) |
|---|---|---|
| 200 | 200 | SKD 31/02 |
| 400 | 400 | SKD 31/04 |
| 800 | 800 | SKD 31/08 |
| 1200 | 1200 | SKD 31/12 |
| 1400 | 1400 | SKD 31/14 |
| 1600 | 1600 | SKD 31/16 |

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $I_D$ | $T_c$ = 85 °C | 44 | A |
| | $T_a$ = 45 °C; isolated 1) | 5,3 | A |
| | $T_a$ = 45 °C; chassis 2) | 17 | A |
| | $T_a$ = 45 °C; R4A/120 (P1A/120) | 27 (32) | A |
| | $T_a$ = 35 °C; P1A/120 F | 56 | A |
| $I_{FSM}$ | $T_{vj}$ = 25 °C; 10 ms | 370 | A |
| | $T_{vj}$ = 125 °C; 10 ms | 320 | A |
| $i^2t$ | $T_{vj}$ = 25 °C; 8,3 ... 10 ms ms | 685 | $A^2s$ |
| | $T_{vj}$ = 125 °C; 8,3 ... 10 ms ms | 510 | $A^2s$ |
| $V_F$ | $T_{vj}$ = 25 °C; $I_F$ = 75 A | max. 1,75 | V |
| $V_{(TO)}$ | $T_{vj}$ = 125 °C | max. 0,85 | V |
| $r_T$ | $T_{vj}$ = 125 °C | max. 12 | mΩ |
| $I_{RD}$ | $T_{vj}$ = 25 °C; $V_{DD}$ = $V_{DRM}$; $V_{RD}$ = $V_{RRM}$ | max. 0,2 | mA |
| | $T_{vj}$ = 125 °C, $V_{DD}$ = $V_{DRM}$, $V_{RD}$ = $V_{RRM}$ | 2 | mA |
| $R_{th(j-c)}$ | per diode | 2 | K/W |
| | total | 0,33 | K/W |
| $R_{th(c-s)}$ | total | 0,1 | K/W |
| $R_{th(j-a)}$ | isolated 1) (chassis 2)) | 15 (3) | K/W |
| $T_{vj}$ | | - 40 ... + 125 °C | °C |
| $T_{stg}$ | | - 40 ... + 125 °C | °C |
| $V_{isol}$ | a. c. 50 Hz; r.m.s.; 1 s / 1 min. | 3600 ( 3000 ) | V |
| $M_s$ | to heatsink | 2 ± 15 % | Nm |
| $M_t$ | | | |
| m | | 66 | g |
| Case | | G 26 | |



**SKD**

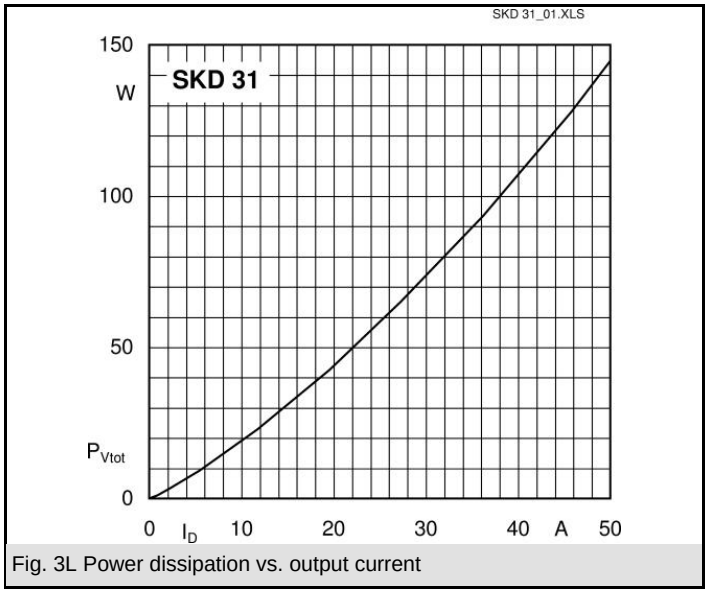



Fig. 3L Power dissipation vs. output current

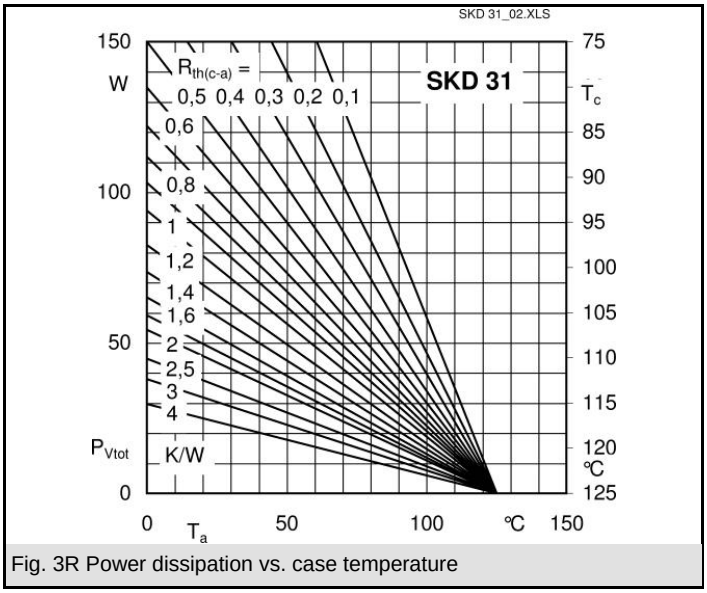



Fig. 3R Power dissipation vs. case temperature

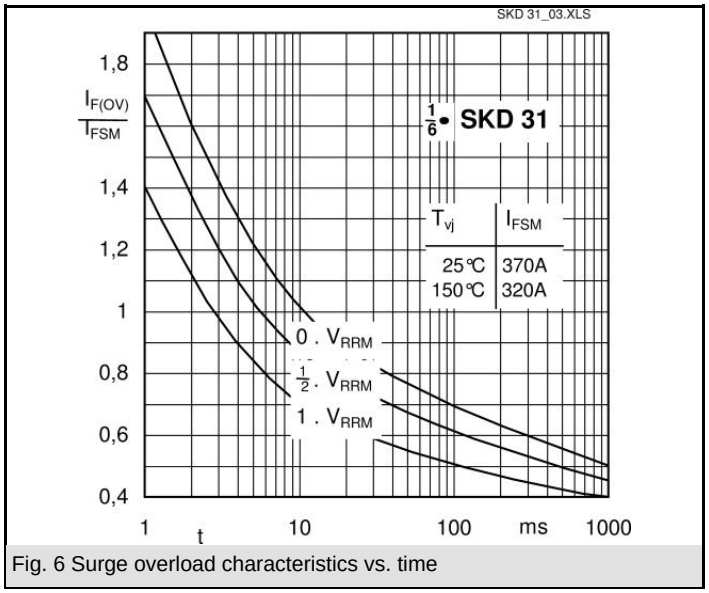



Fig. 6 Surge overload characteristics vs. time

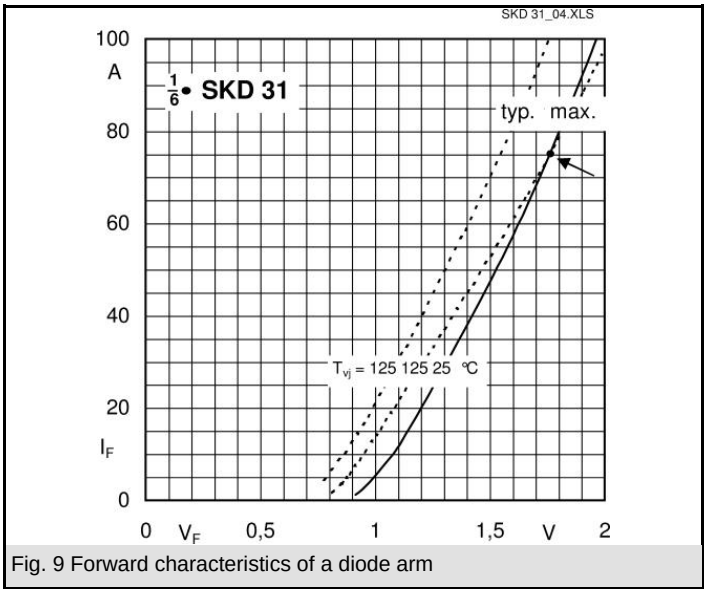



Fig. 9 Forward characteristics of a diode arm

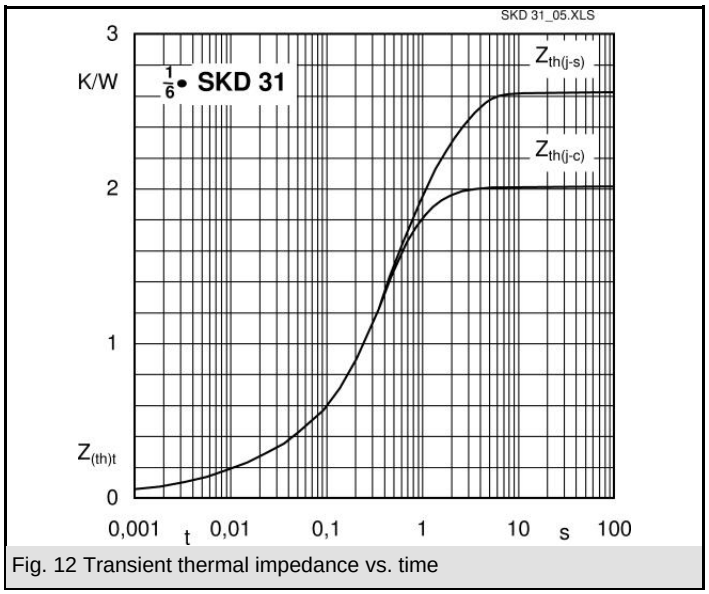



Fig. 12 Transient thermal impedance vs. time

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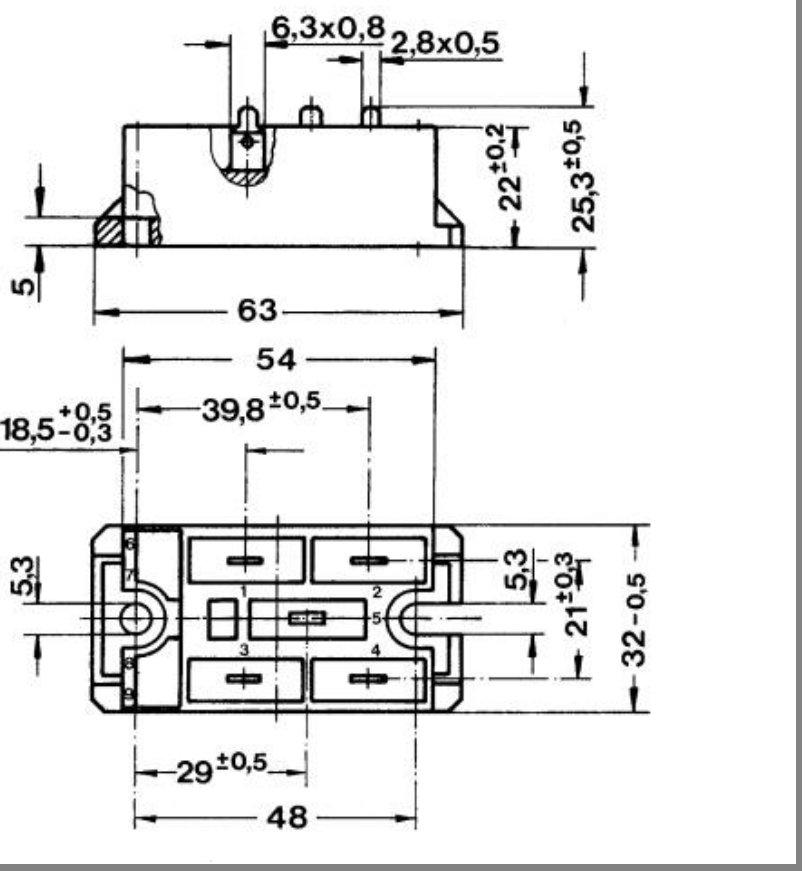
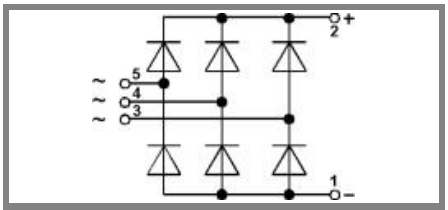
Dimensions in mm




Case G 26




SKD 31 Case G 26

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