

**SEMIPOINT® 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

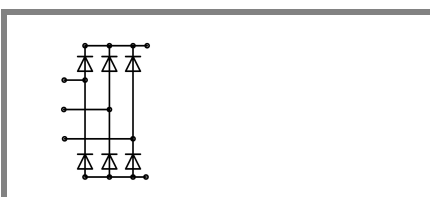
#### Typical Applications\*

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

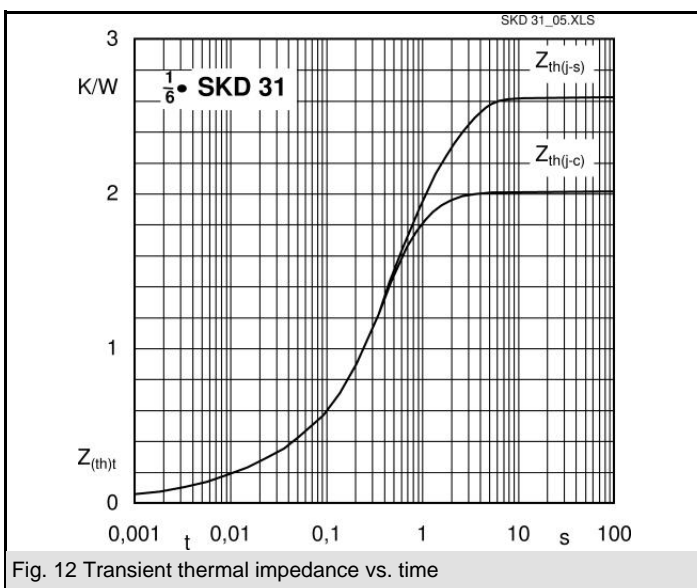
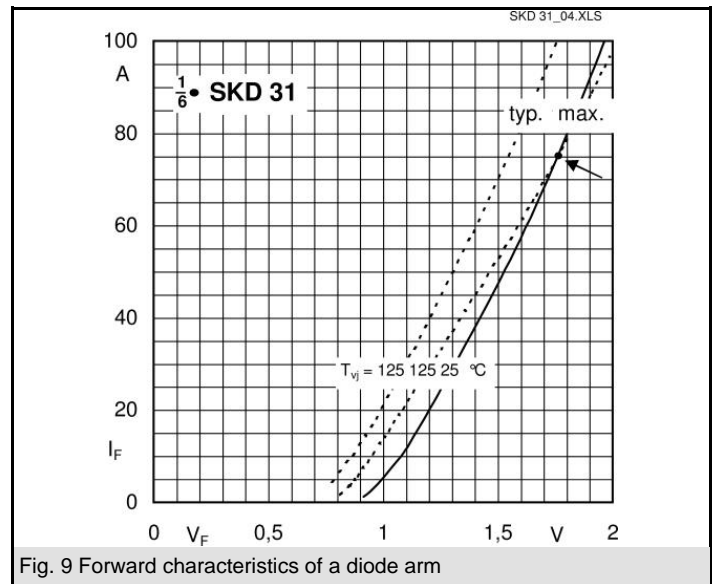
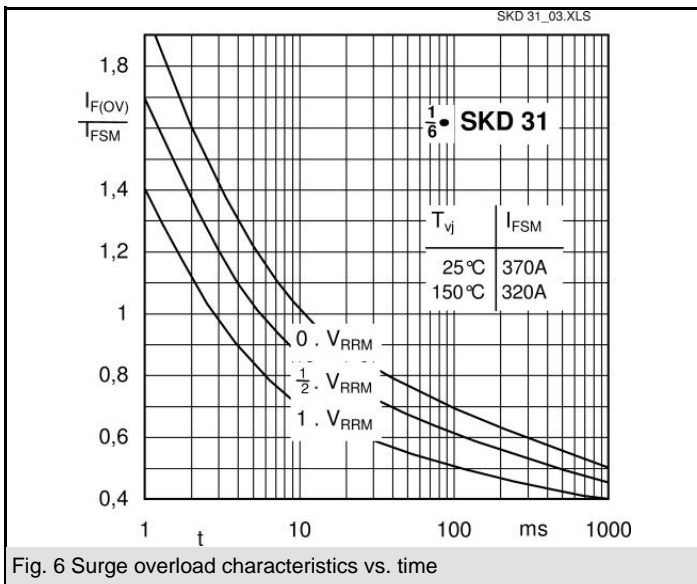
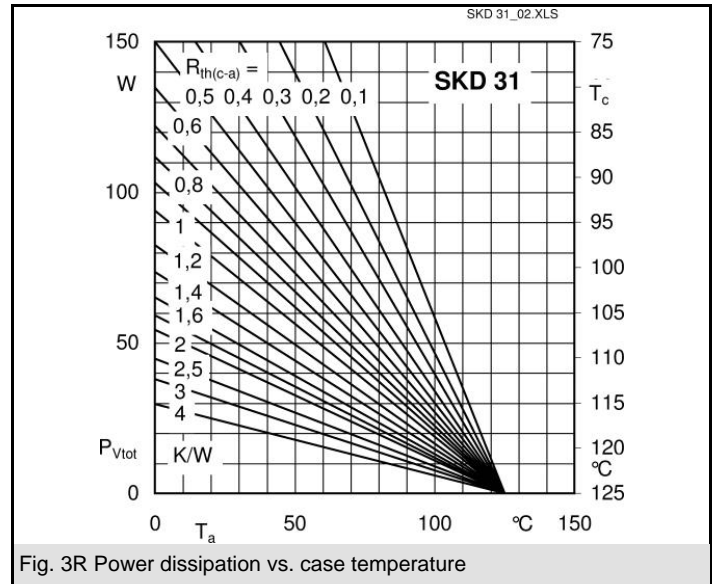
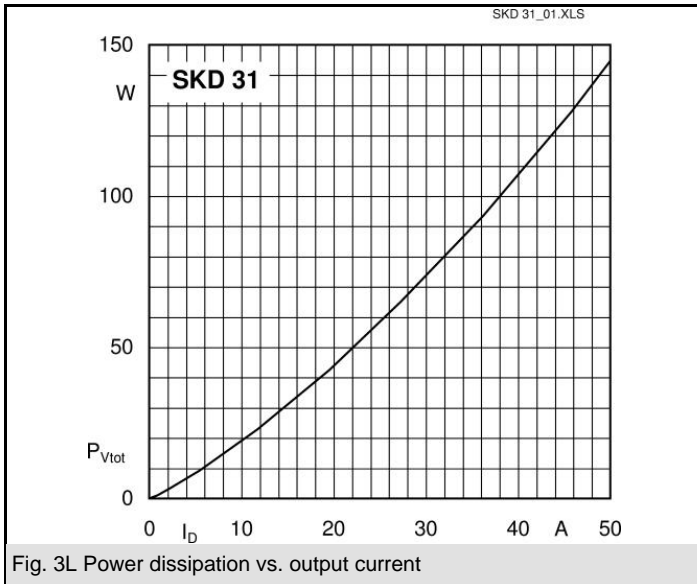
- 1) Freely suspended or mounted on an insulator
- 2) Mounted on a painted metal sheet of min. 250 x 250 x 1 mm

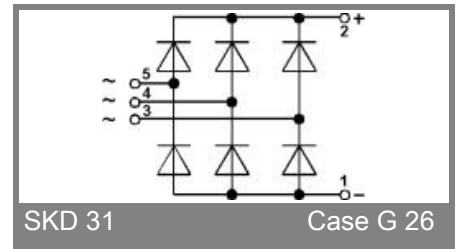
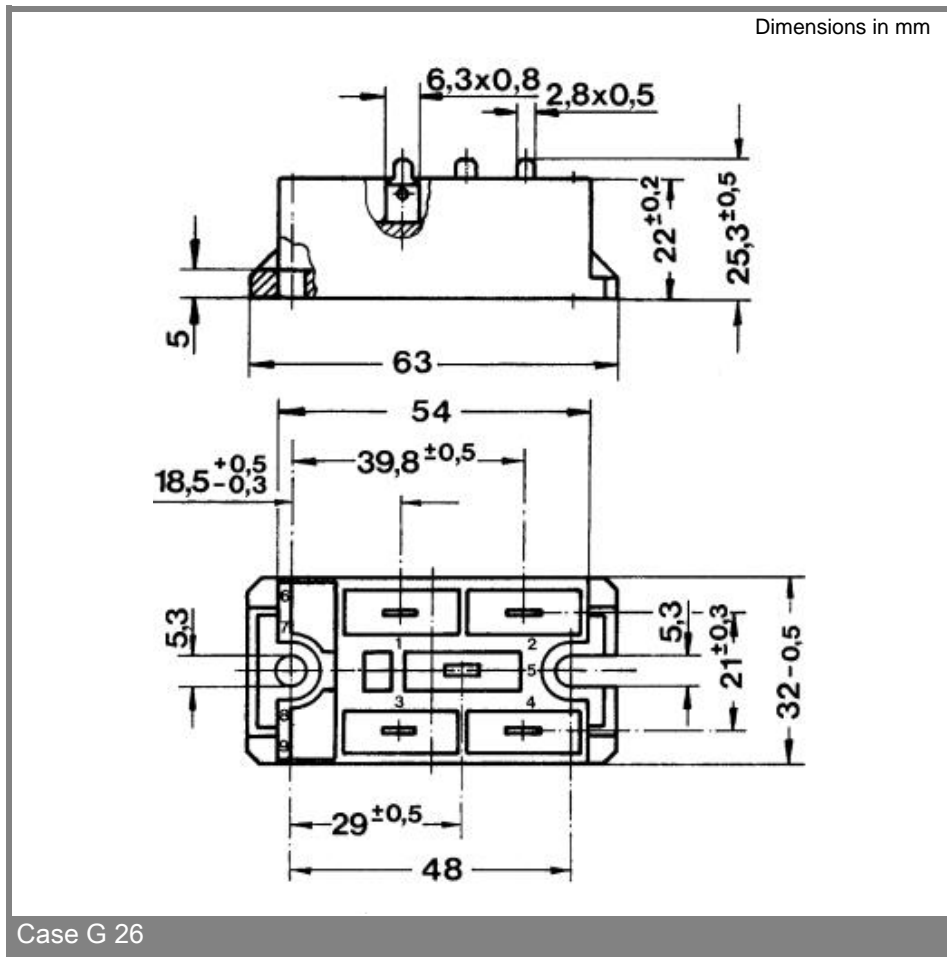
| $V_{RSM}$<br>V | $V_{RRM}, V_{DRM}$<br>V | $I_D = 31$ A (full conduction)<br>( $T_c = 100$ °C) |
|----------------|-------------------------|---|
| 200            | 200                     | SKD 31/02   |
| 400            | 400                     | SKD 31/04   |
| 800            | 800                     | 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 <sup>1)</sup>                      | 5,3               | A                |
|               | $T_a = 45$ °C; chassis <sup>2)</sup>                       | 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 <sup>2</sup> s |
|               | $T_{vj} = 125$ °C; 8,3 ... 10 ms ms                        | 510               | A <sup>2</sup> s |
| $V_F$         | $T_{vj} = 25$ °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           | m $\Omega$       |
| $I_{RD}$      | $T_{vj} = 25$ °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              |
|               | isolated <sup>1)</sup> (chassis <sup>2)</sup> )            | 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 $\pm$ 15 %      | Nm               |
| $M_t$         |  | 66                | g                |
| Case          |  | G 26              |                  |



**SKD**





\* 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.