

**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

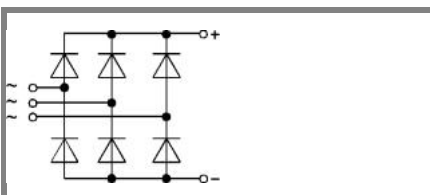
- DC power supply, e.g. for transistorized AC motor controllers
- Battery chargers
- Non-controlled DC motor field supply
- Recommended snubber network:  
RC: 0.1  $\mu$ F, 50  $\Omega$  ( $P_R = 1$  W)

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               |
| $M_t$         |  |                   |                  |
| m             |  | 66                | g                |
| Case          |  | G 26              |                  |



**SKD**

