

# SKD 100



**SEMIPONT® 2**

## Power Bridge Rectifiers

### SKD 100

#### Features

- Robust plastic case with screw terminals
- Large, isolated base plate
- Blocking voltage to 1600 V
- High surge currents
- Three phase bridge rectifier
- Easy chassis mounting
- UL recognized, file no. E 63 532

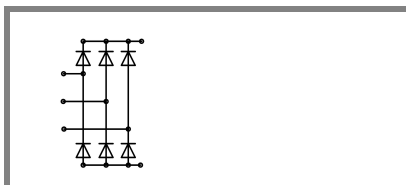
#### Typical Applications\*

- Three phase rectifiers for power supplies
- Input rectifiers for variable frequency drives
- Rectifiers for DC motor field supplies
- Battery charger rectifiers

1) Painted metal sheet of minimum 250 x 250 x 1 mm:  $R_{th(c-a)} = 1,8 \text{ K/W}$

| $V_{RSM}$<br>V | $V_{RRM}, V_{DRM}$<br>V | $I_D = 100 \text{ A}$ (full conduction)<br>( $T_c = 93 \text{ °C}$ ) |
|----------------|-------------------------|--|
| 400            | 400                     | SKD 100/04   |
| 800            | 800                     | SKD 100/08   |
| 1200           | 1200                    | SKD 100/12   |
| 1400           | 1400                    | SKD 100/14   |
| 1600           | 1600                    | SKD 100/16   |

| Symbol        | Conditions   | Values         | Units            |
|---------------|--|----------------|------------------|
| $I_D$         | $T_c = 85 \text{ °C}$  | 110            | A                |
|               | inductive load   |                | A                |
|               | $T_a = 45 \text{ °C}$ , chassis 1)                                 | 24             | A                |
|               | $T_a = 45 \text{ °C}$ ; P13A/125 (P1A/120)                         | 28 (54)        | A                |
|               | $T_a = 35 \text{ °C}$ , P1A/120F (P1A/200F)                        | 100 (120)      | A                |
| $I_{FSM}$     | $T_{vj} = 25 \text{ °C}$ ; 10 ms                                   | 1150           | A                |
|               | $T_{vj} = 125 \text{ °C}$ ; 10 ms                                  | 1000           | A                |
| $i^2t$        | $T_{vj} = 25 \text{ °C}$ ; 8,3 ... 10 ms                           | 6600           | A <sup>2</sup> s |
|               | $T_{vj} = 125 \text{ °C}$ ; 8,3 ... 10 ms                          | 5000           | A <sup>2</sup> s |
| $V_F$         | $T_{vj} = 25 \text{ °C}$ ; $I_F = 150 \text{ A}$                   | max. 1,35      | V                |
| $V_{(TO)}$    | $T_{vj} = 125 \text{ °C}$  | max. 0,85      | V                |
| $r_T$         | $T_{vj} = 125 \text{ °C}$  | max. 5         | mΩ               |
| $I_{RD}$      | $T_{vj} = 25 \text{ °C}$ ; $V_{DD} = V_{DRM}$ ; $V_{RD} = V_{RRM}$ | max. 0,5       | mA               |
|               | $T_{vj} = 125 \text{ °C}$ ; $V_{RD} = V_{RRM}$                     | 2              | mA               |
| $R_{th(j-c)}$ | per diode  | 0,85           | K/W              |
|               | total  | 0,14           | K/W              |
|               | $R_{th(c-s)}$ total  | 0,05           | 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                |
| $M_s$         | to heatsink  | 5 ± 15 %       | Nm               |
| $M_t$         | to terminals   | 5 ± 15 %       | Nm               |
| $m$           |  | 165            | g                |
| Case          |  | G 18           |                  |



SKD

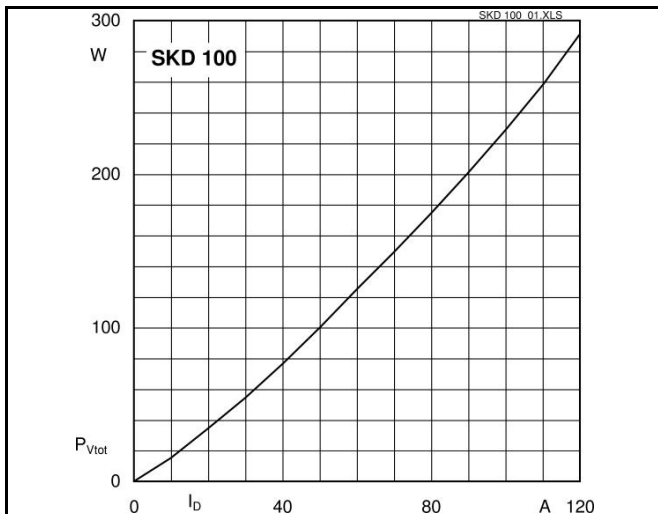


Fig. 3L Power dissipation vs. output current

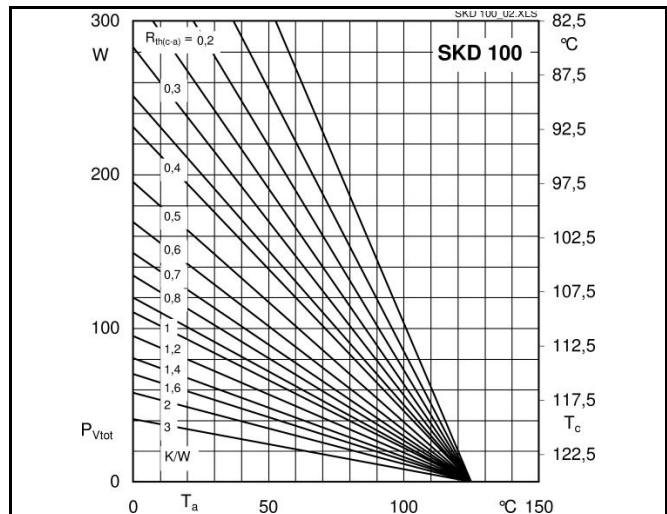


Fig. 3R Power dissipation vs. case temperature

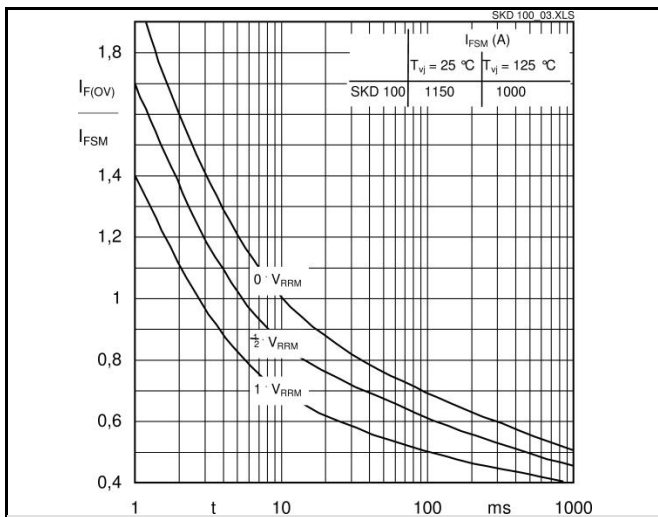


Fig. 6 Surge overload characteristics vs. time

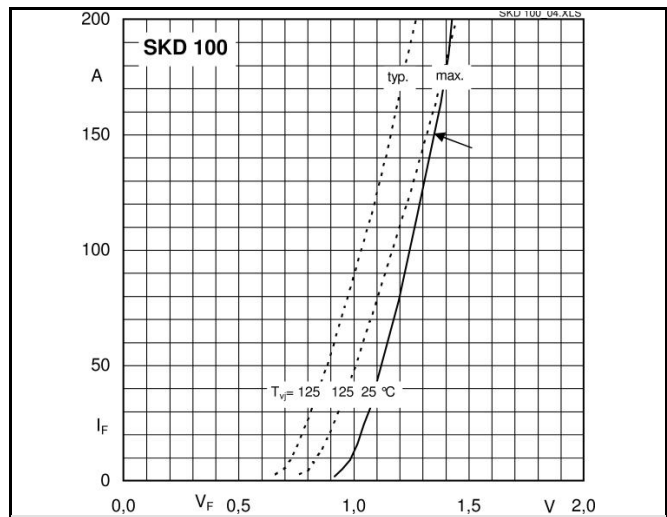


Fig. 9 Forward characteristics of a diode arm

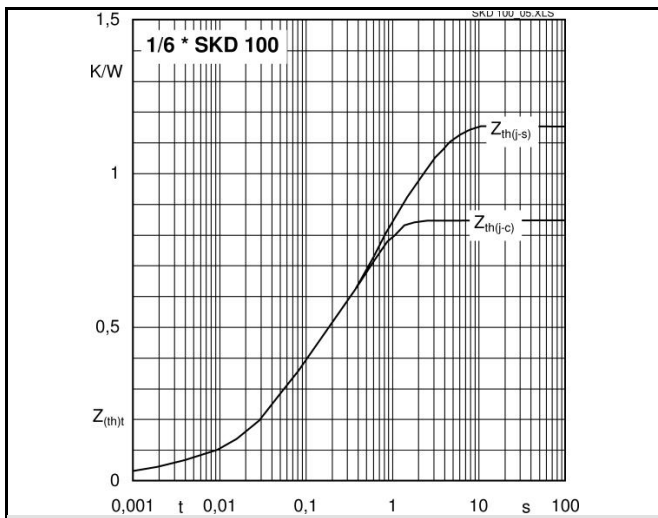
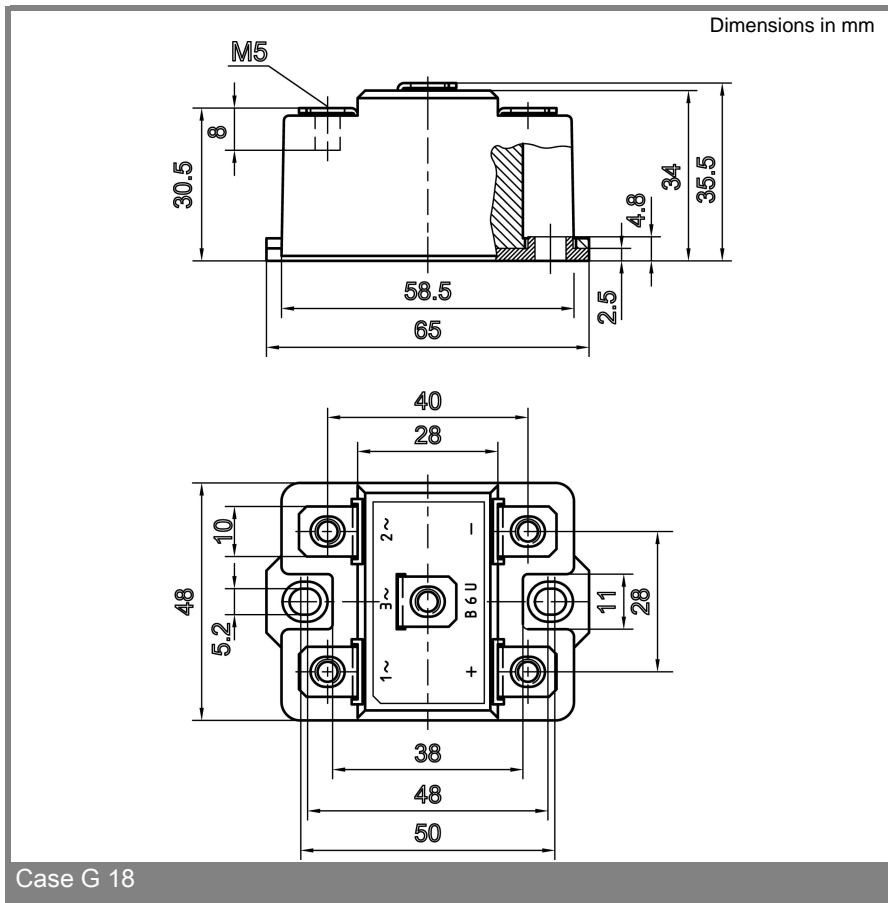


Fig. 12 Transient thermal impedance vs. time



Case G 18

\* 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.