

# 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

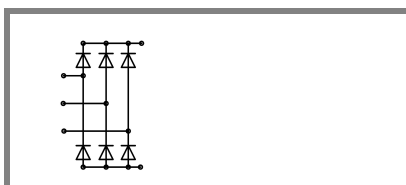
#### Typical Applications

- 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:  $R_{th(th(c-a))} = 1,8 \text{ K/W}$

| $V_{RSM}$<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

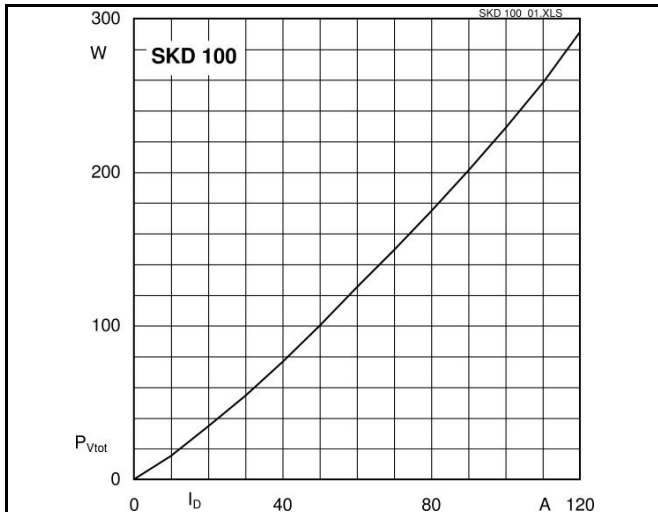


Fig. 3L Power dissipation vs. output current

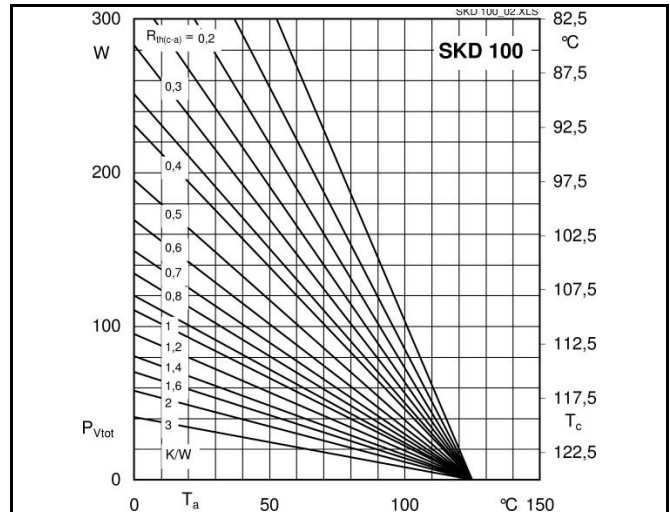


Fig. 3R Power dissipation vs. case temperature

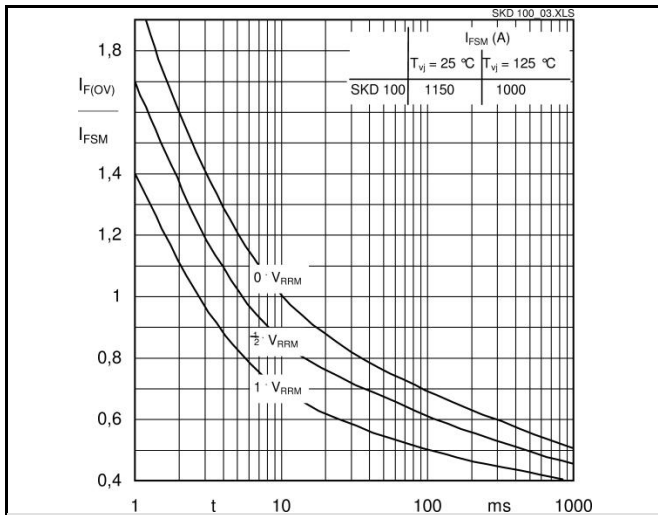


Fig. 6 Surge overload characteristics vs. time

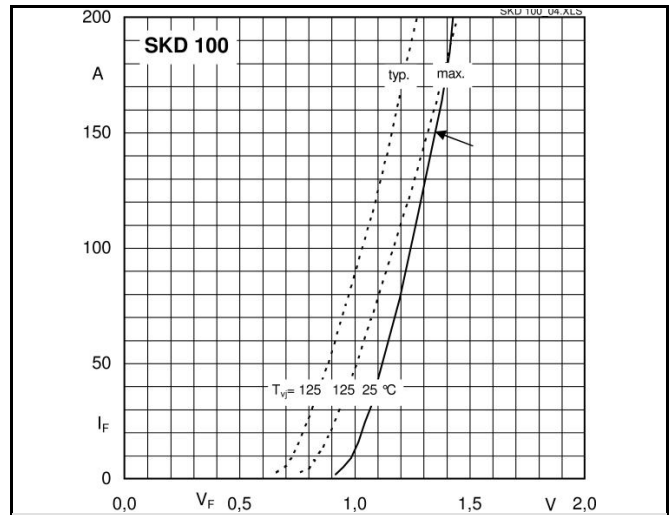


Fig. 9 Forward characteristics of a diode arm

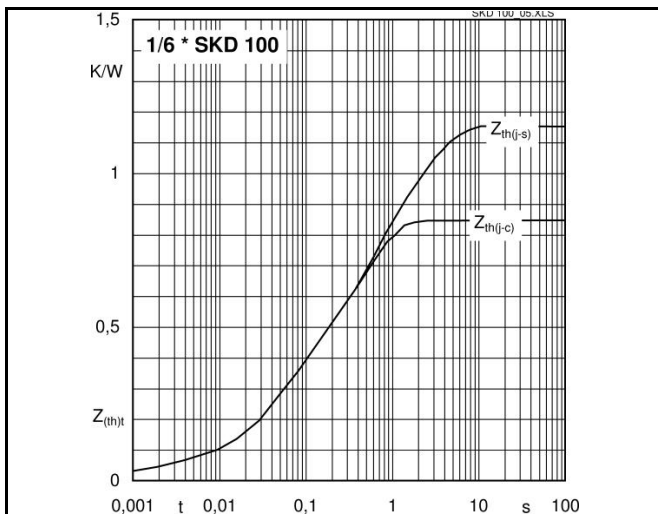
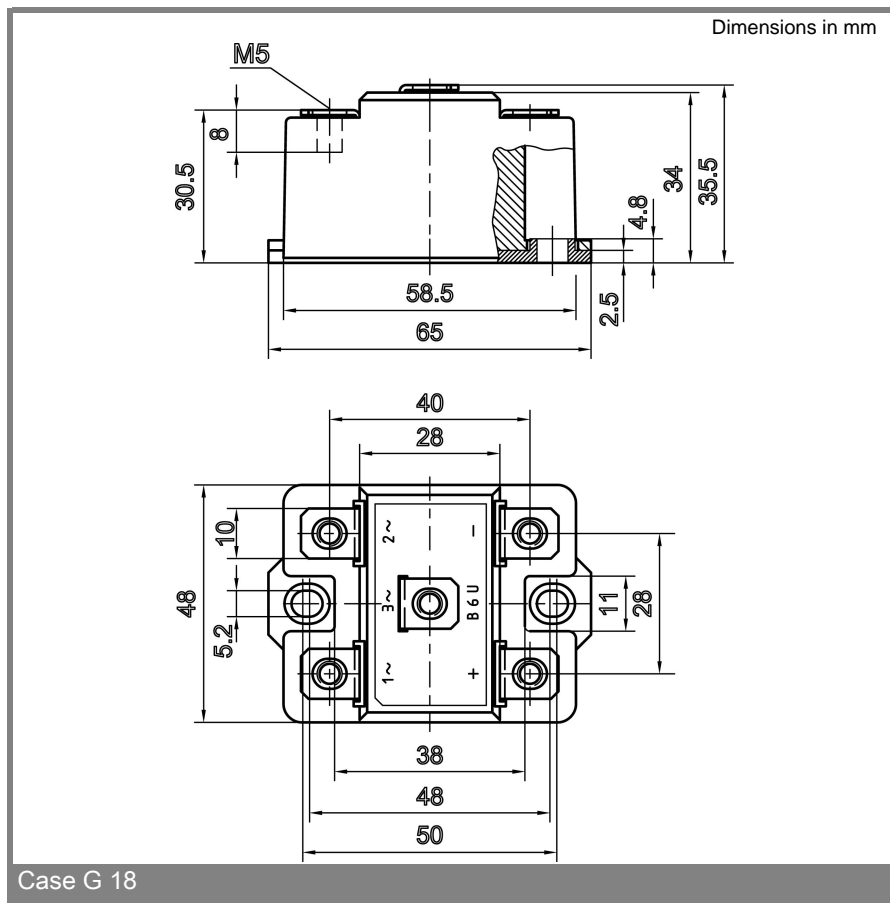


Fig. 12 Transient thermal impedance vs. time



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