



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} V | V_{RRM}, V_{DRM} V | $I_D = 100 \text{ A}$ (full conduction) ($T_c = 93 \text{ °C}$) |
|----------------|-------------------------|--|
| 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 | $T_c = 85 \text{ °C}$ inductive load | 110 | 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 ² s |
| | $T_{vj} = 125 \text{ °C}$; 8,3 ... 10 ms | 5000 | A ² 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

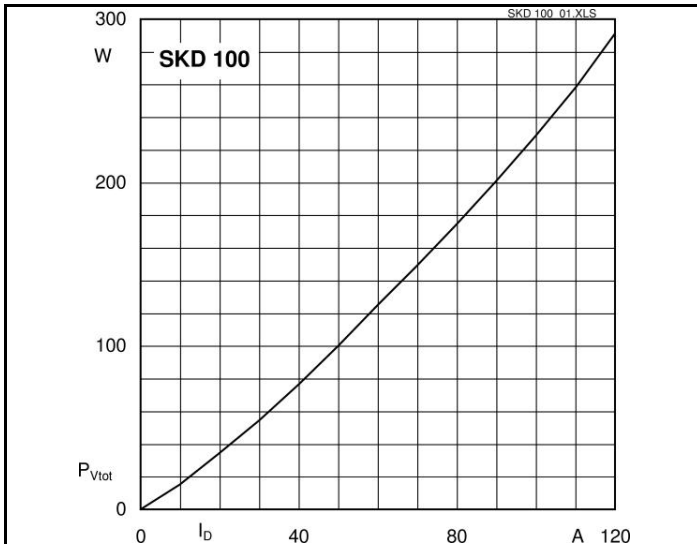


Fig. 3L Power dissipation vs. output current

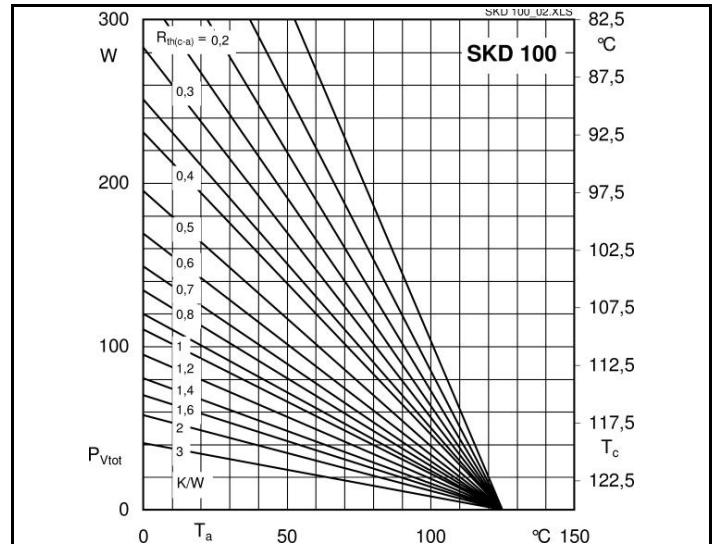


Fig. 3R Power dissipation vs. case temperature

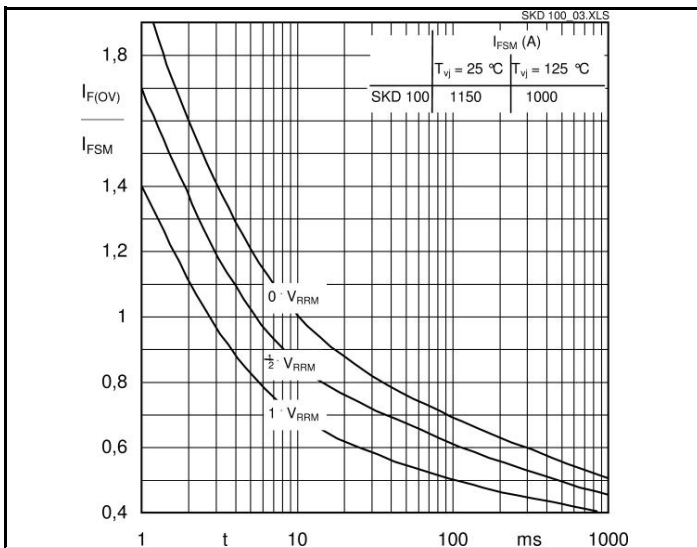


Fig. 6 Surge overload characteristics vs. time

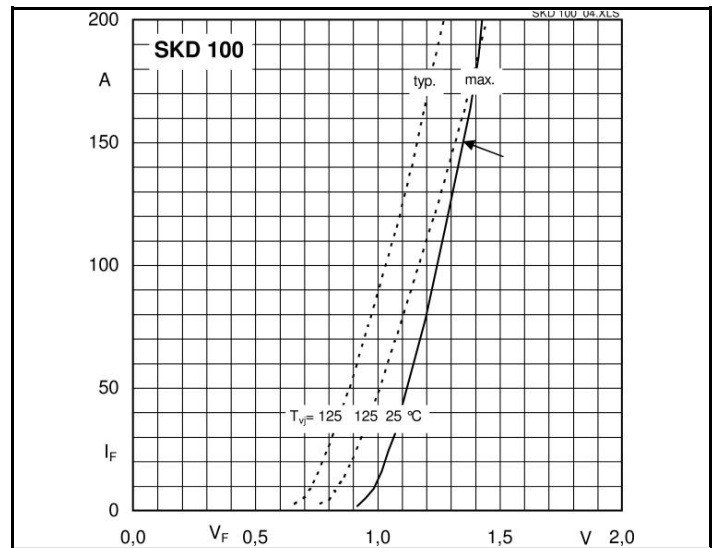


Fig. 9 Forward characteristics of a diode arm

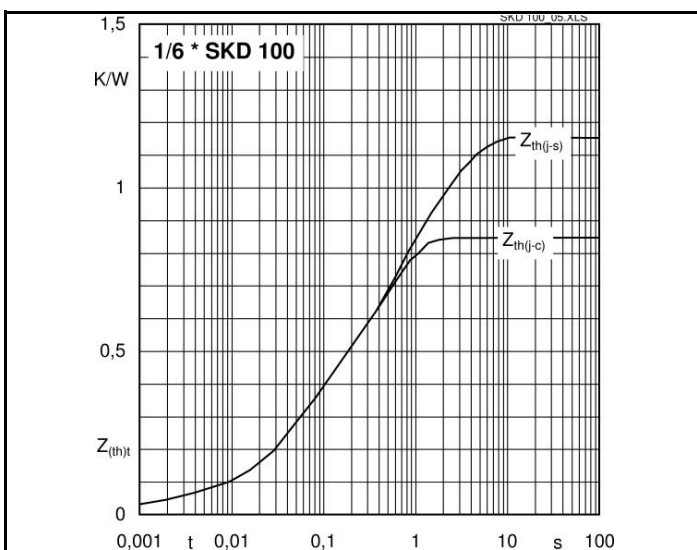
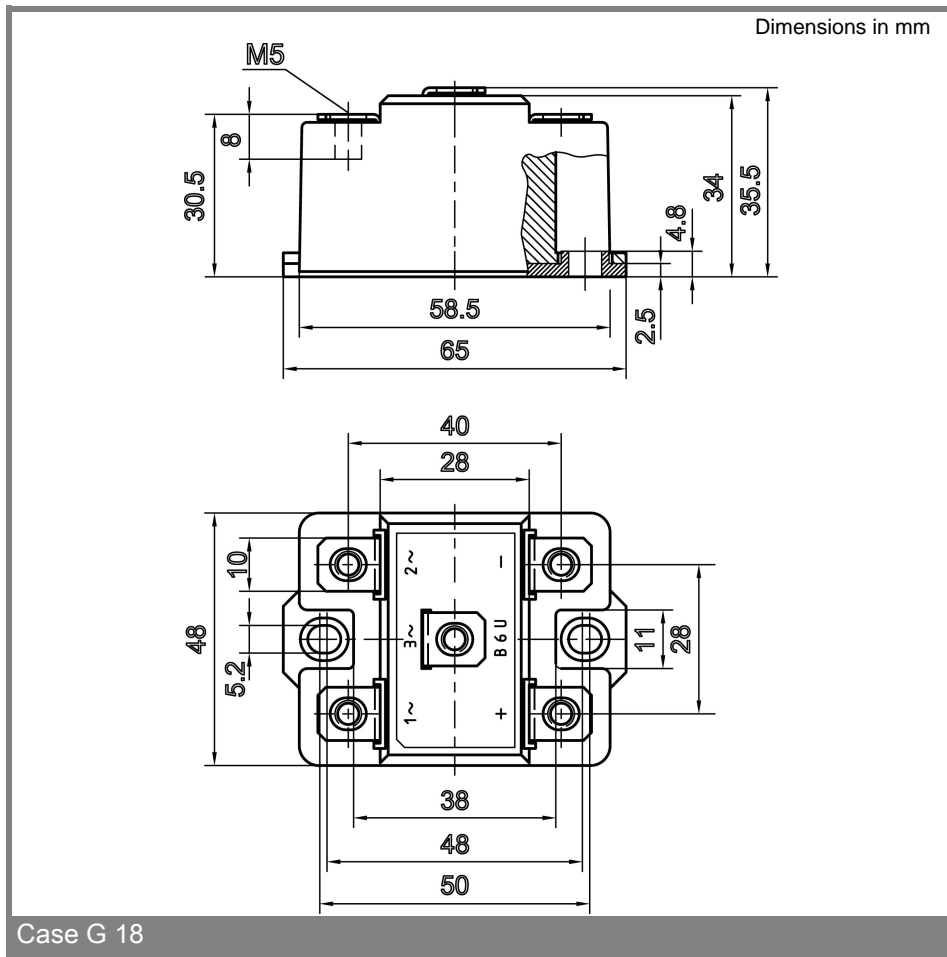


Fig. 12 Transient thermal impedance vs. time



Case G 18

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