



SEMIPONT® 3

Power Bridge Rectifiers

SKD 82

Features

- Robust plastic case with screw terminals
- Large, isolated base plate
- Blocking voltage up to 1800 V
- High surge current
- 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) Freely suspended or mounted on an isolator
- 2) Mounted on a painted metal sheet of min. 250 x 250 x 1 mm;
 $R_{th(s-a)} = 1,8 \text{ K/W}$
- 3) Available in limited quantities

| V_{RSM} V | V_{RRM}, V_{DRM} V | $I_D = 80 \text{ A}$ (full conduction) ($T_c = 110 \text{ }^\circ\text{C}$) |
|----------------|-------------------------|--|
| 400 | 400 | SKD 82/04 |
| 800 | 800 | SKD 82/08 |
| 1200 | 1200 | SKD 82/12 |
| 1400 | 1400 | SKD 82/14 |
| 1600 | 1600 | SKD 82/16 |
| 1800 | 1800 | SKD 82/18 ³⁾ |

| Symbol | Conditions | Values | Units |
|---------------|--|---------------|------------------|
| I_D | $T_c = 110 \text{ }^\circ\text{C}$ resistive / inductive load | 80 | A |
| | $T_a = 45 \text{ }^\circ\text{C}$; isolated ¹⁾ | 12 | A |
| | $T_a = 45 \text{ }^\circ\text{C}$; chassis ²⁾ | 26 | A |
| | $T_a = 45 \text{ }^\circ\text{C}$; P1A/120 (P1A/200) | 54 (63) | A |
| | | | |
| I_{FSM} | $T_{vj} = 25 \text{ }^\circ\text{C}$; 10 ms | 750 | A |
| i^2t | $T_{vj} = 150 \text{ }^\circ\text{C}$; 10 ms | 640 | A |
| | $T_{vj} = 25 \text{ }^\circ\text{C}$; 8,3 ... 10 ms | 2800 | A ² s |
| | $T_{vj} = 150 \text{ }^\circ\text{C}$; 8,3 ... 10 ms | 2000 | A ² s |
| V_F | $T_{vj} = 25 \text{ }^\circ\text{C}$; $I_F = 150 \text{ A}$ | max. 1,6 | V |
| $V_{(TO)}$ | $T_{vj} = 150 \text{ }^\circ\text{C}$ | max. 0,85 | V |
| r_T | $T_{vj} = 150 \text{ }^\circ\text{C}$ | max. 5 | mΩ |
| I_{RD} | $T_{vj} = 25 \text{ }^\circ\text{C}$; $V_{DD} = V_{DRM}$; $V_{RD} = V_{RRM}$ | max. 0,5 | mA |
| | $T_{vj} = 150 \text{ }^\circ\text{C}$; $V_{RD} = V_{RRM}$ | 6 | mA |
| $R_{th(j-c)}$ | per diode | 1,1 | K/W |
| | total | 0,183 | K/W |
| $R_{th(c-s)}$ | | 0,07 | K/W |
| T_{vj} | | -40 ... + 150 | °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 | $5 \pm 15\%$ | Nm |
| M_t | to terminals | $5 \pm 15\%$ | Nm |
| m | | 165 | g |
| Case | | G 36 | |



SKD

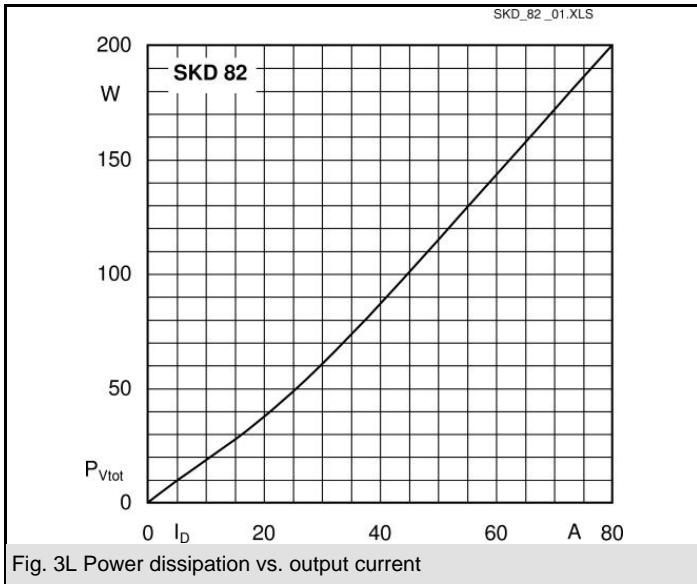


Fig. 3L Power dissipation vs. output current

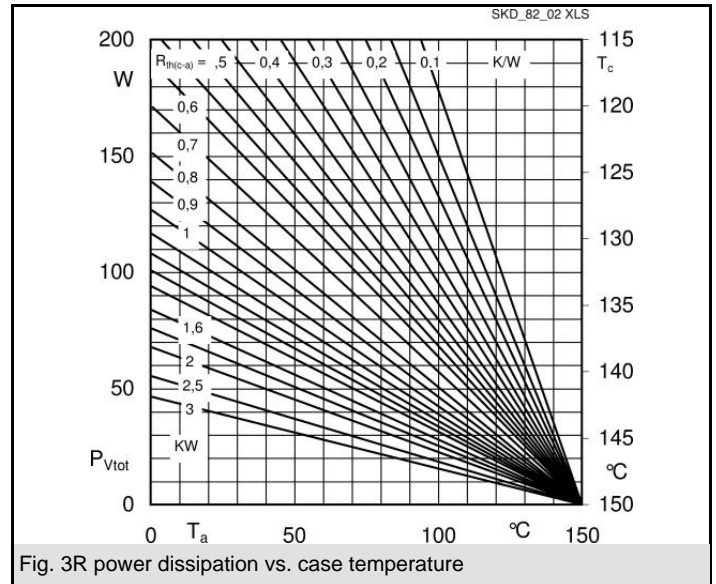


Fig. 3R power dissipation vs. case temperature

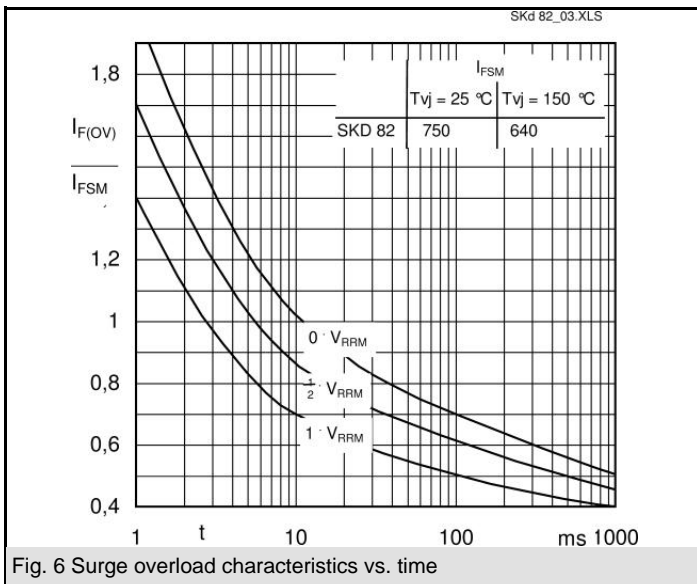


Fig. 6 Surge overload characteristics vs. time

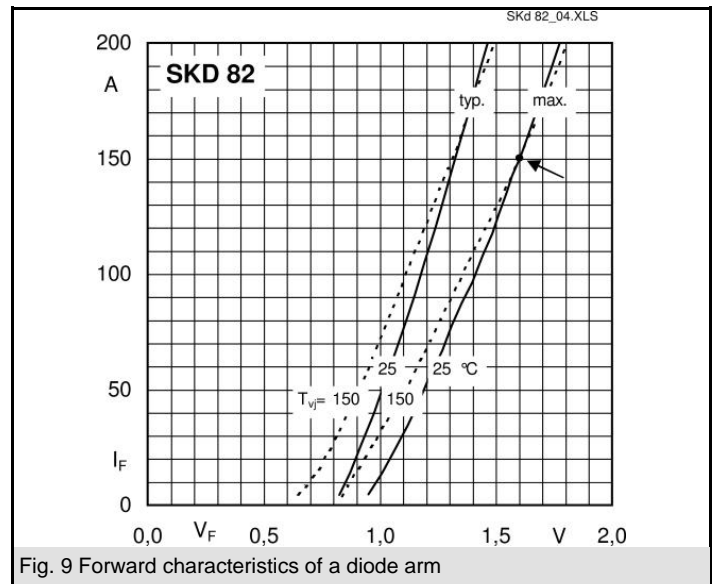


Fig. 9 Forward characteristics of a diode arm

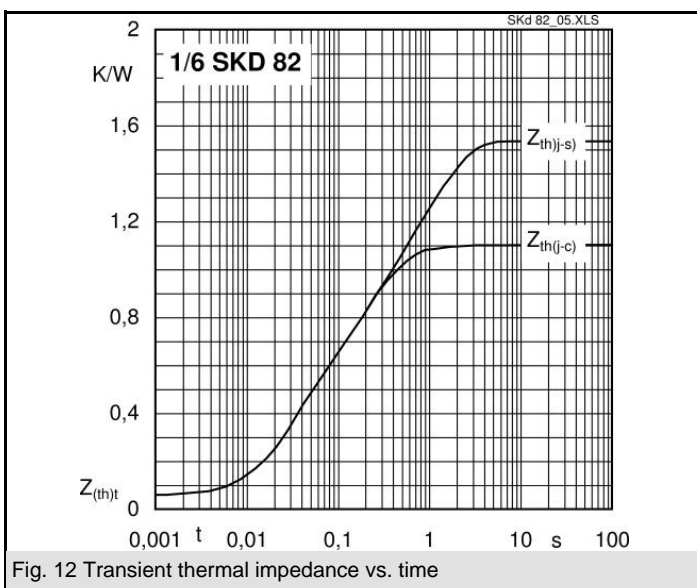
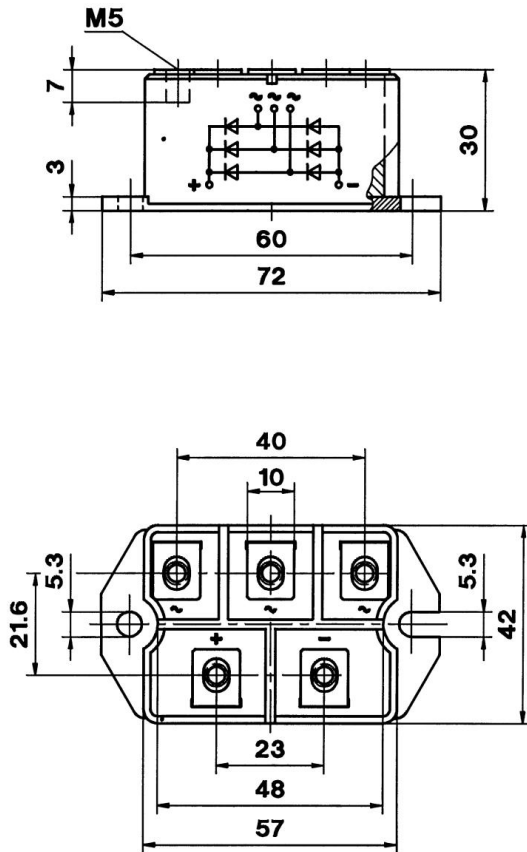


Fig. 12 Transient thermal impedance vs. time

Dimensions in mm



Case G 36

* 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.