# SKB 52


**SEMIPONT® 3**

## Power Bridge Rectifiers

**SKB 52**

### Features

- Robust plastic case with screw terminals
- Large, isolated base plate
- Blocking voltage up to 1800 V
- High surge currents
- Single phase bridge rectifier
- Easy chassis mounting
- UL recognized, file no. E 63 532

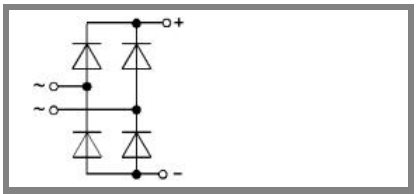
### Typical Applications

- Single 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 K/W

| $V_{RSM}$ V | $V_{RRM}$, $V_{DRM}$ V | $I_D$ = 50 A (full conduction) ($T_c$ = 99 °C) |
|---|---|---|
| 400 | 400 | SKB 52/04 |
| 800 | 800 | SKB 52/08 |
| 1200 | 1200 | SKB 52/12 |
| 1400 | 1400 | SKB 52/14 |
| 1600 | 1600 | SKB 52/16 |
| 1800 | 1800 | SKB 52/18 |

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $I_D$ | $T_c$ = 85 °C<br>resistive / inductive load | 60 | A |
| | $T_a$ = 45 °C; isolated 1) | 9,5 | A |
| | $T_a$ = 45 °C; chassis 2) | 21,5 | A |
| | $T_a$ = 45 °C; P1A/120 (P1A/200) | 40 (45) | A |
| $I_{FSM}$ | $T_{vj}$ = 25 °C; 10 ms | 500 | A |
| | $T_{vj}$ = 150 °C; 10 ms | 425 | A |
| $i^2t$ | $T_{vj}$ = 25 °C; 8,3 ... 10 ms | 1250 | A²s |
| | $T_{vj}$ = 150 °C; 8,3 ... 10 ms | 900 | A²s |
| $V_F$ | $T_{vj}$ = 25 °C; $I_F$ = 150 A | max. 1,8 | V |
| $V_{(TO)}$ | $T_{vj}$ = 150 °C | max. 0,85 | V |
| $r_T$ | $T_{vj}$ = 150 °C | max. 8 | mΩ |
| $I_{RD}$ | $T_{vj}$ = 25 °C; $V_{DD}$ = $V_{DRM}$; $V_{RD}$ = $V_{RRM}$ | max. 0,5 | mA |
| | $T_{vj}$ = 150 °C; $V_{RD}$ = $V_{RRM}$ | 5 | mA |
| $R_{th(j-c)}$ | per diode | 1,5 | K/W |
| | total | 0,375 | K/W |
| $R_{th(c-s)}$ | total | 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 ± 15% | Nm |
| $M_t$ | to terminals | 5 ± 15% | Nm |
| m | | 165 | g |
| Case | | G 35 | |




**SKB**

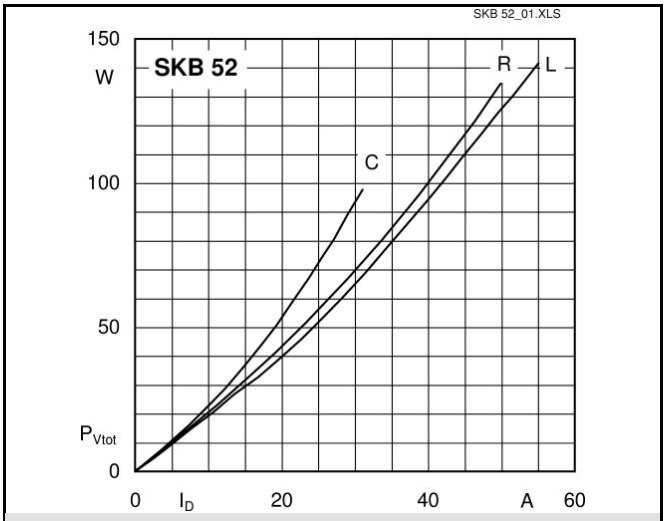



Fig. 3L Power dissipation vs. output current

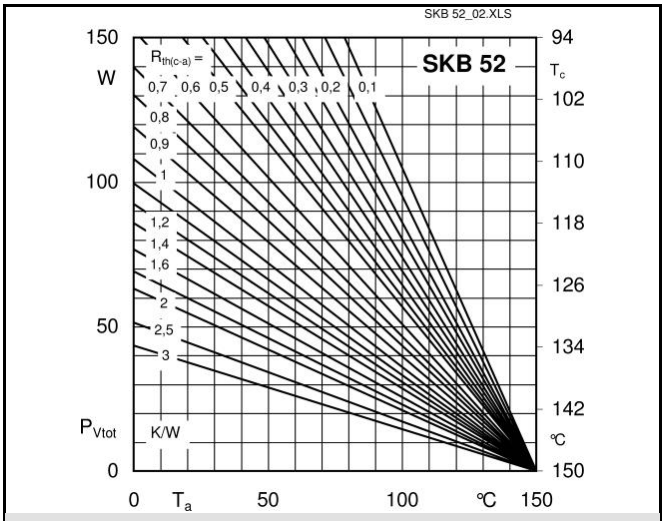



Fig. 3R Power dissipation vs. case temperature

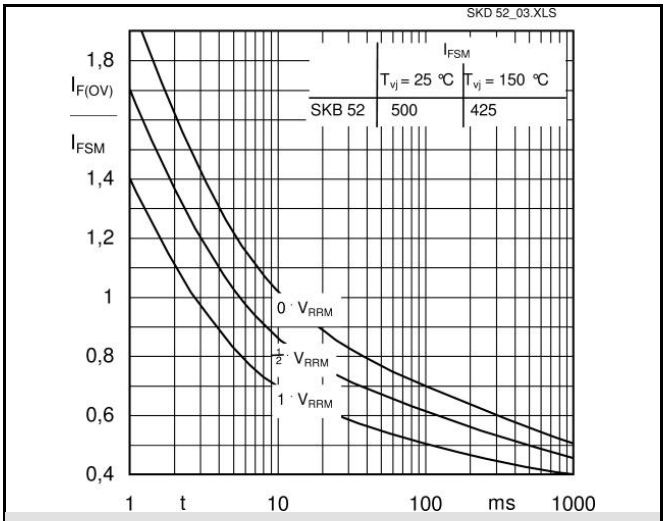



Fig. 5 Surge overload characteristics vs. time

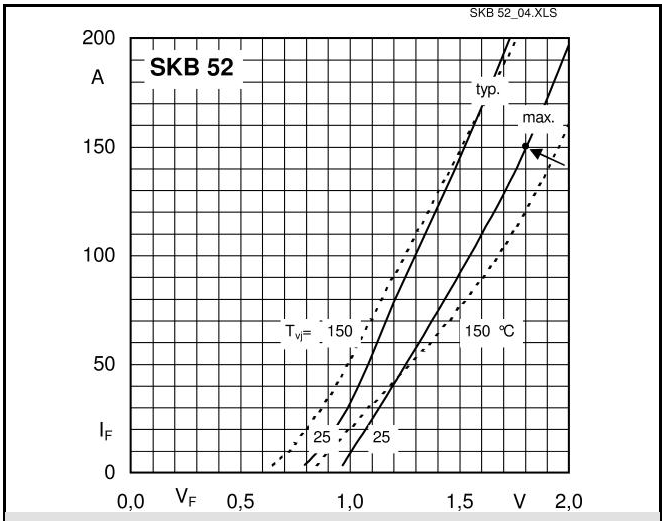



Fig. 9 Forward characteristics of a diode arm

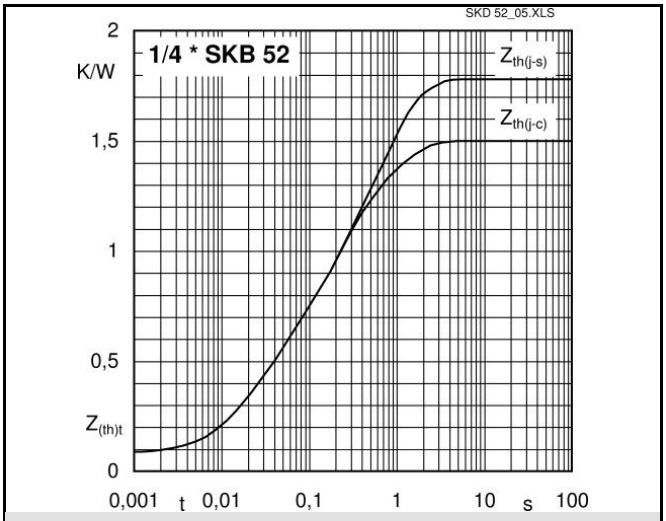
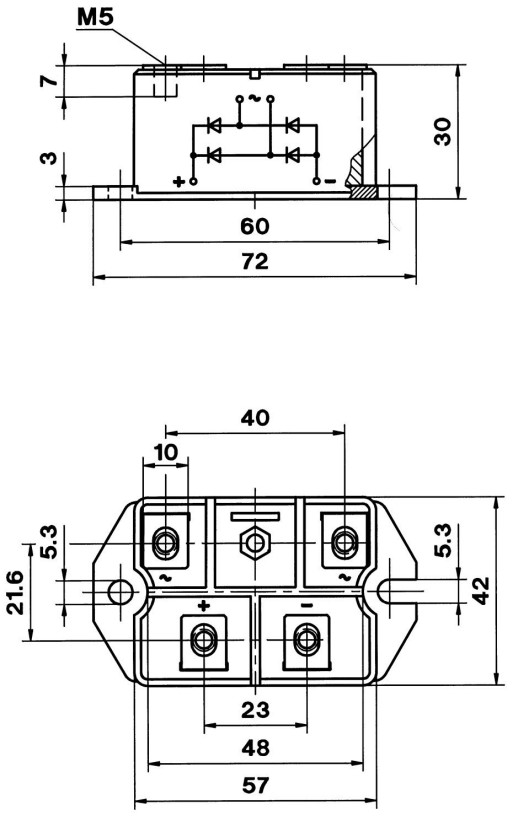



Fig. 12 Transient thermal impedance vs. time

Dimensions in mm




Case G 35

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