

SEMITOP® 2

Bridge Rectifier

SK 50 B

Preliminary Data

Features

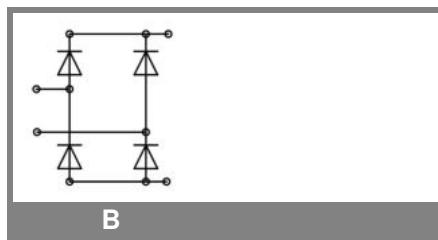
- Compact design
- One screw mounting
- Heat transfer and insulation through direct copper bonded aluminium oxide ceramic (DCB)
- Up 1600V reverse voltage
- High surge current
- Glass passivated diode chips
- UL recognized, file no. E 63 532

Typical Applications*

- Input rectifier for power supplies
- Rectifier

| | | |
|-----------|--------------------|--|
| V_{RSM} | V_{RRM}, V_{DRM} | $I_D = 51 \text{ A}$ (full conduction) ($T_s = 80^\circ\text{C}$) |
| V | V | |
| 800 | 800 | SK 50 B 08 |
| 1200 | 1200 | SK 50 B 12 |
| 1600 | 1600 | SK 50 B 16 |

| Symbol | Conditions | Values | Units |
|---------------|---|-------------------|--------------------------------------|
| I_D | $T_s = 80^\circ\text{C}$ | 51 | A |
| I_{FSM} | $T_{vj} = 25^\circ\text{C}; 10 \text{ ms}$ $T_{vj} = 125^\circ\text{C}; 10 \text{ ms}$ | 370 | A |
| i^2t | $T_{vj} = 25^\circ\text{C}; 8,3\ldots10 \text{ ms}$ $T_{vj} = 125^\circ\text{C}; 8,3\ldots10 \text{ ms}$ | 270 685 365 | A ² s A ² s |
| V_F | $T_{vj} = 25^\circ\text{C}; I_F = 25 \text{ A}$ | max. 1,25 | V |
| $V_{(TO)}$ | $T_{vj} = 125^\circ\text{C}$ | max. 0,8 | V |
| r_T | $T_{vj} = 125^\circ\text{C}$ | max. 13 | mΩ |
| I_{RD} | $T_{vj} = 150^\circ\text{C}; V_{DD} = V_{DRM}; V_{RD} = V_{RRM}$ | max. 4 | mA |
| $R_{th(j-s)}$ | per diode per module | 1,7 0,43 | K/W K/W |
| T_{solder} | | 260 | °C |
| T_{vj} | terminals, 10s | -40...+150 | °C |
| T_{stg} | | -40...+125 | °C |
| V_{isol} | a. c. 50 Hz; r.m.s.; 1 s / 1 min. | 3000 (2500) | V |
| M_s | mounting torque to heatsink | 2 | Nm |
| M_t | | | |
| m | approx. weight | 19 | g |
| Case | SEMITOP® 2 | T 6 | |



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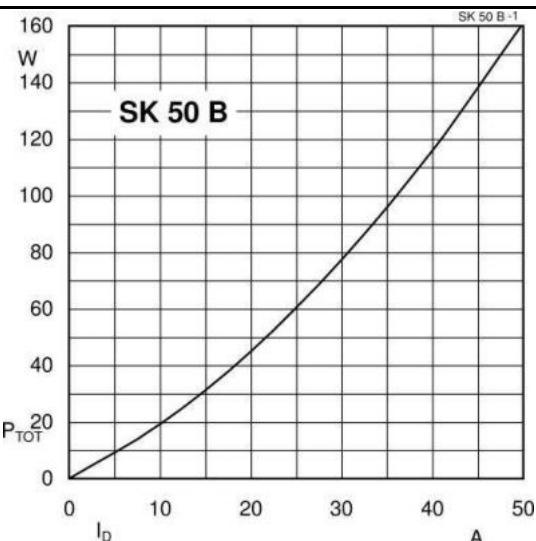


Fig. 1 Power dissipation vs. Output current

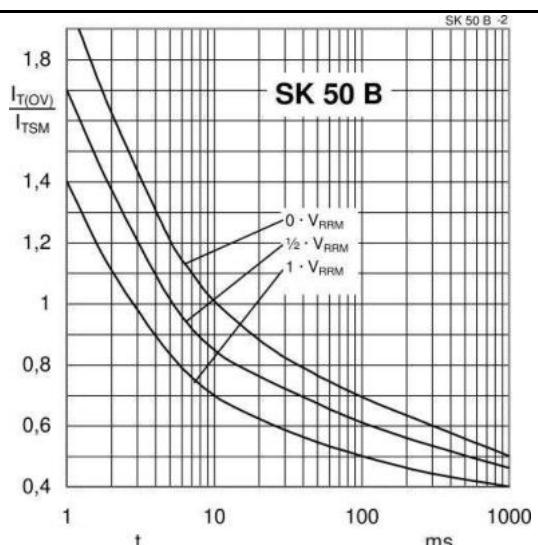


Fig. 2 Surge overload current vs. time

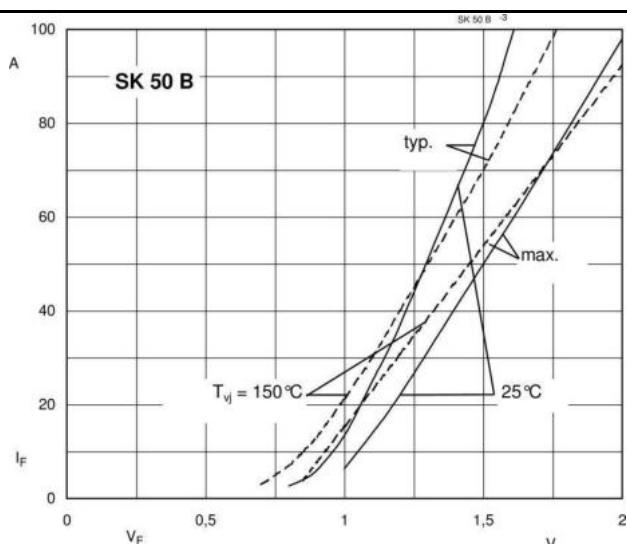


Fig. 3 Forward characteristics of single diode

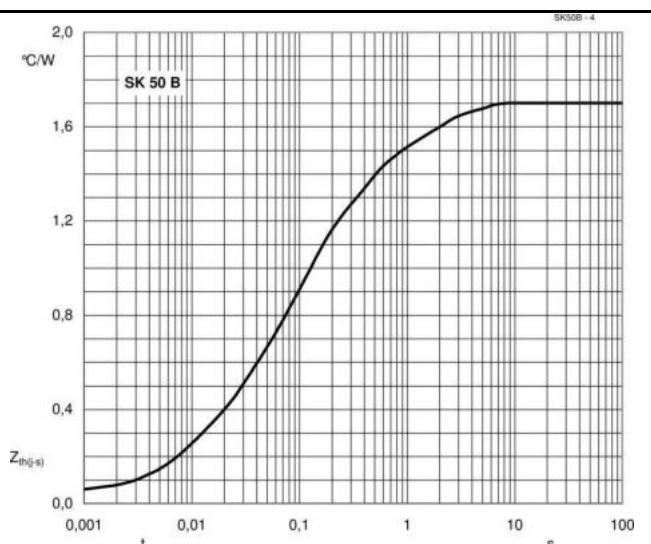
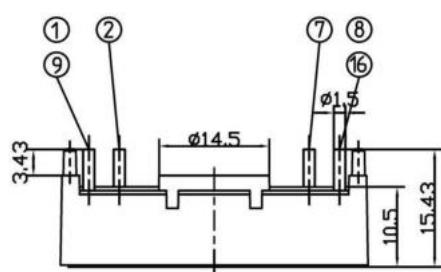
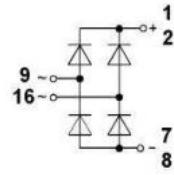
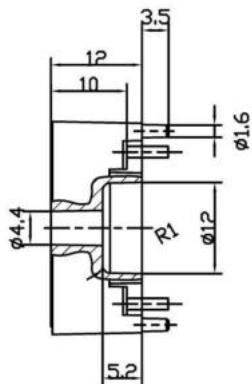
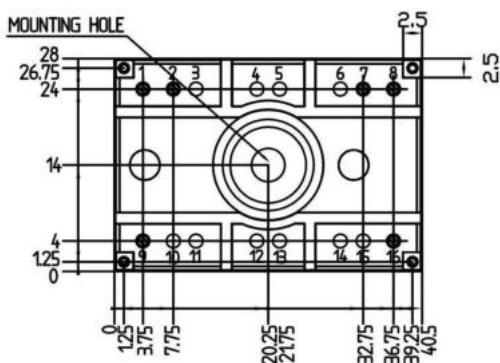


Fig. 4 Thermal transient impedance vs. time



Dimensions in mm



Case T6

B

Case T6 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins = 2mm)

* 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.