



Power Bridge Rectifiers

SKD 51

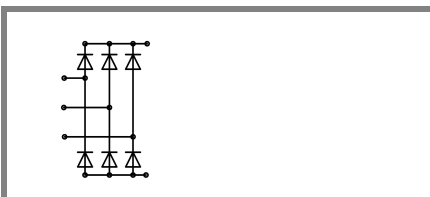
Features

- Glass passivated silicon chips
- Fast-on terminals for pcb solder or plug on connections
- Sturdy insulated metal base plate
- Low thermal impedance through use of direct copper bonded aluminum substrate
- Blocking voltage up to 1800V
- High surge currents
- UL recognized, file no. E63 532

Typical Applications

- Three phase rectifier for power supplies
- Input rectifier for variable frequency drives
- Rectifier for DC motor field supplies
- Battery charger rectifiers
- Recommended snubber network:
RC: 0.1 μ F, 50 Ω ($P_R = 1$ W)

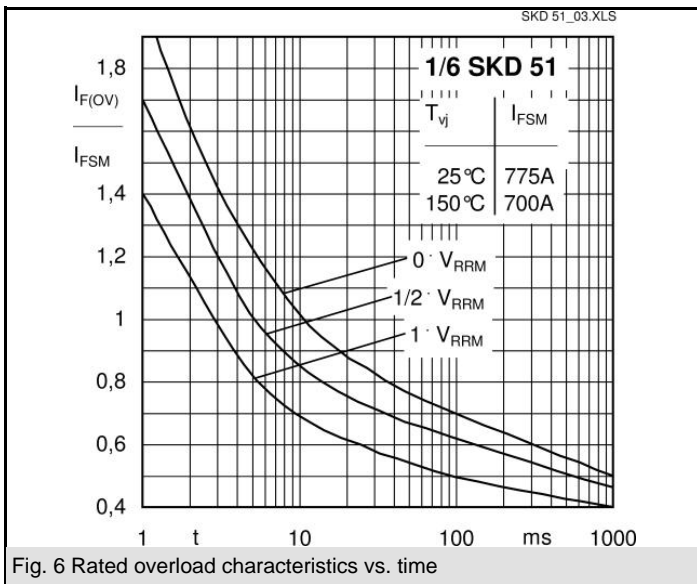
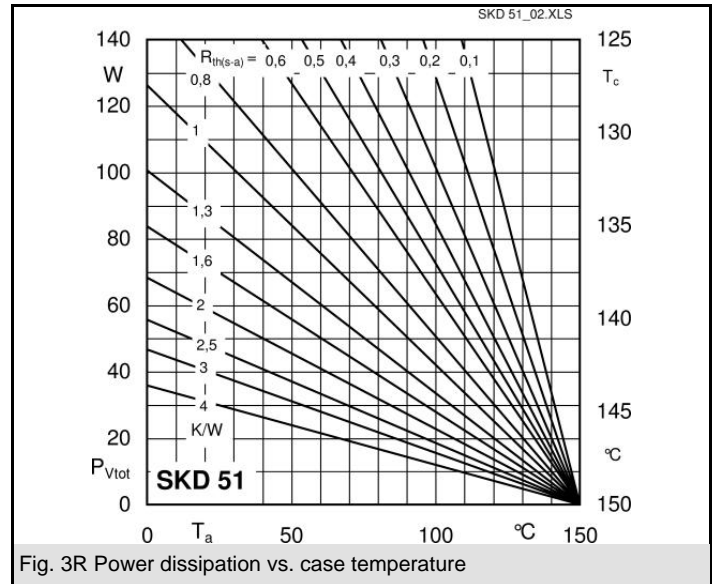
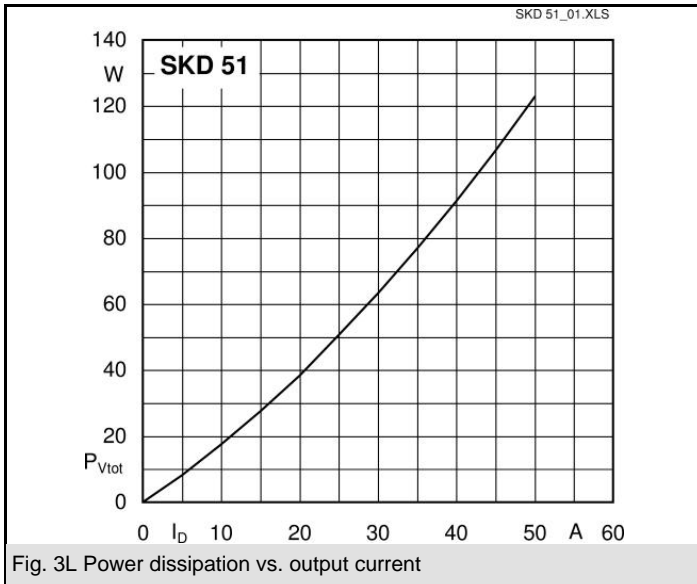
- 1) For solder connection. Permissible current for plug connection see DIN IEC 760E and DIN 46249 part 1
- 2) Freely suspended or mounted on an insulator
- 3) Mounted on a painted metal sheet of min. 250 x 250 x 1 mm

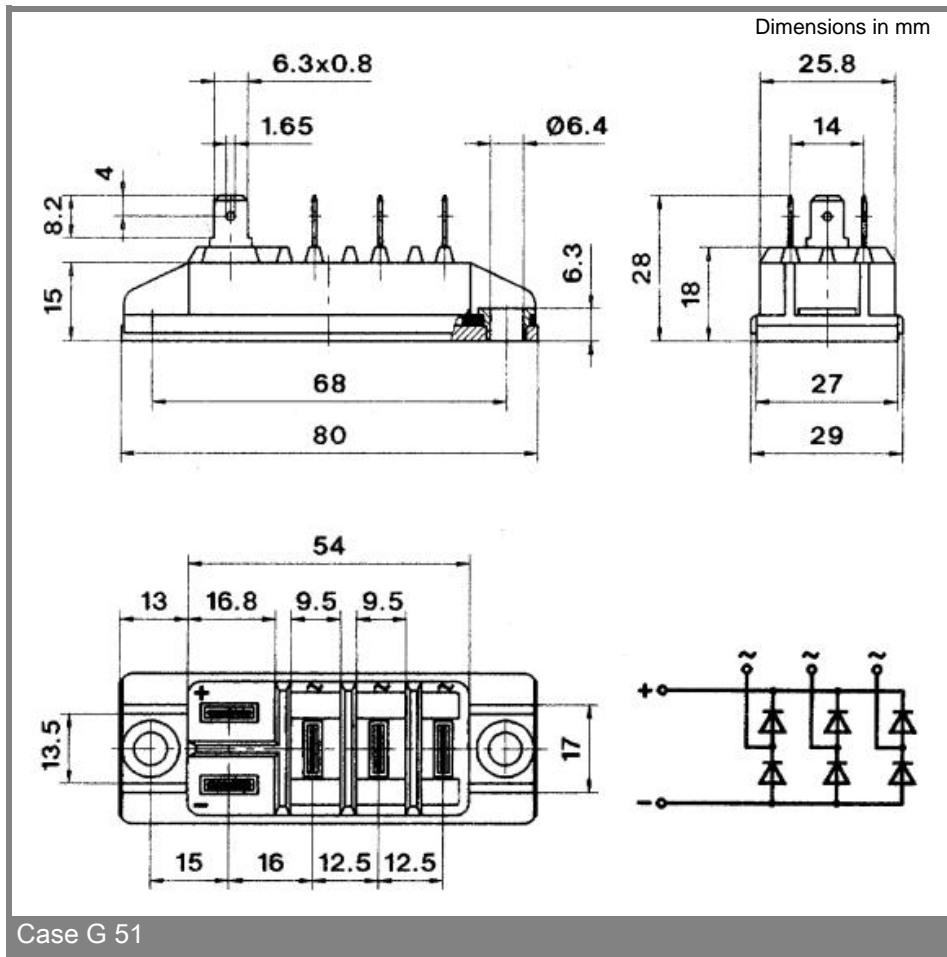


SKD

| V_{RSM} V | V_{RRM}, V_{DRM} V | $I_D = 50^{1)}$ A (full conduction) ($T_c = 127^\circ\text{C}$) |
|----------------|-------------------------|--|
| 500 | 400 | SKD 51/04 |
| 900 | 800 | SKD 51/08 |
| 1300 | 1200 | SKD 51/12 |
| 1500 | 1400 | SKD 51/14 |
| 1700 | 1600 | SKD 51/16 |
| 1900 | 1800 | SKD 51/18 |

| Symbol | Conditions | Values | Units |
|---------------|---|------------------|------------------|
| I_D | $T_c = 127^\circ\text{C}$ | 50 | A |
| | $T_a = 45^\circ\text{C}$; isolated ²⁾ | 7 | A |
| | $T_a = 45^\circ\text{C}$; chassis ³⁾ | 18 | A |
| | $T_a = 45^\circ\text{C}$; R4A/120 | 27 | A |
| | $T_a = 45^\circ\text{C}$; P5A/100 | 31 | A |
| I_{FSM} | $T_{vj} = 25^\circ\text{C}$; 10 ms | 775 | A |
| | $T_{vj} = 150^\circ\text{C}$; 10 ms | 700 | A |
| i^2t | $T_{vj} = 25^\circ\text{C}$; 8,3 ... 10 ms | 3000 | A ² s |
| | $T_{vj} = 150^\circ\text{C}$; 8,3 ... 10 ms | 2450 | A ² s |
| V_F | $T_{vj} = 25^\circ\text{C}$; $I_F = 75$ A | max. 1,45 | V |
| $V_{(TO)}$ | $T_{vj} = 150^\circ\text{C}$ | max. 0,8 | V |
| r_T | $T_{vj} = 150^\circ\text{C}$ | max. 8,5 | m Ω |
| I_{RD} | $T_{vj} = 25^\circ\text{C}$; $V_{DD} = V_{DRM}$; $V_{RD} = V_{RRM}$ | max. 0,2 | mA |
| | $T_{vj} = 150^\circ\text{C}$; $V_{RD} = V_{RRM}$ | 4 | mA |
| t_{rr} | $T_{vj} = 25^\circ\text{C}$; $I_F = I_R = 1$ A | 5 | μ s |
| $R_{th(j-c)}$ | per diode | 1,1 | K/W |
| | total | 0,183 | K/W |
| | $R_{th(c-s)}$ | 0,1 | K/W |
| | $R_{th(j-a)}$ | 9 (3,15) | K/W |
| | T_{vj} | - 40 ... +150 | $^\circ\text{C}$ |
| T_{stg} | - 40 ... +125 | $^\circ\text{C}$ | |
| V_{isol} | a. c. 50 Hz; r.m.s.; 1 s / 1 min. to heatsink | 3600 (3000) | V |
| M_s | | 4,5 \pm 15 % | Nm |
| M_t | | | |
| m | | 97 | g |
| Case | | G 51 | |





Case G 51

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