

Power Bridge Rectifiers

SKD 83

Features

- Glass passivated silicon chips
- Low thermal impedance through use of direct copper bonded aluminum substrate (DCB) base plate
- Blocking voltage up to 1800 V
- Suitable for PCB mounting and wave soldering
- For applications with high vibrations we recommend to fasten the bridge to the pcb with 4 selftapping screw

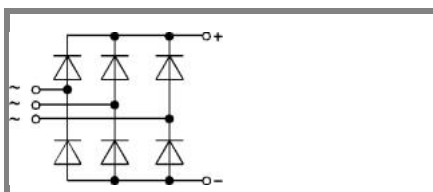
Typical Applications

- 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 insulator

2) Mounted on a painted metal sheet of min. 250 x 250 x 1 mm

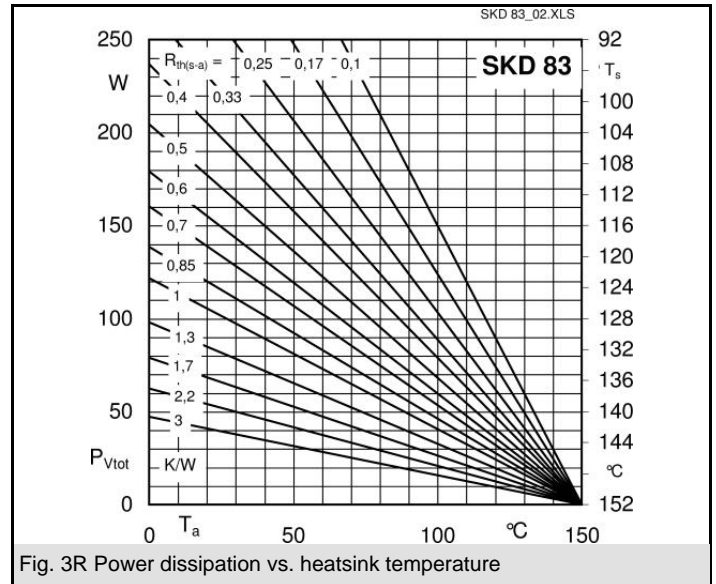
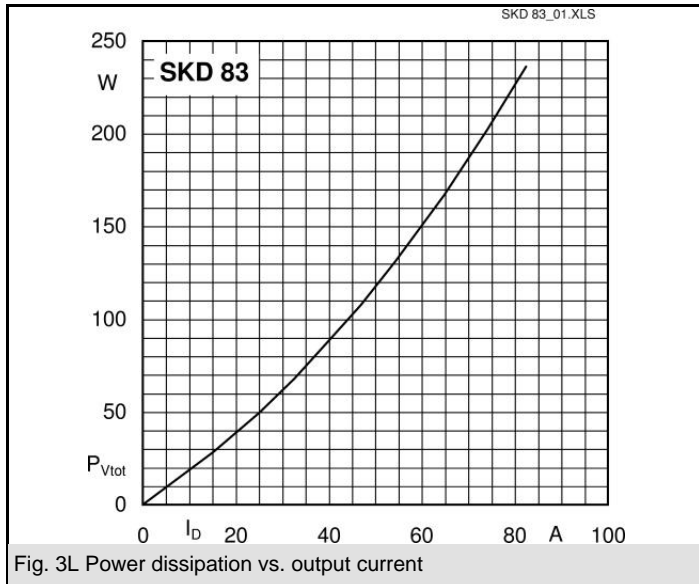
3) $T_{\text{solder}} = 250 \pm 10 \text{ }^\circ\text{C}$ (10 s)

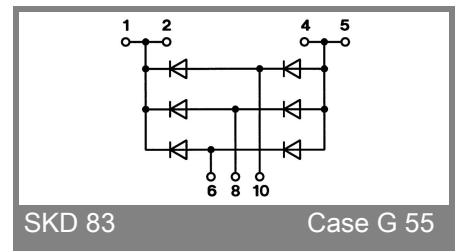
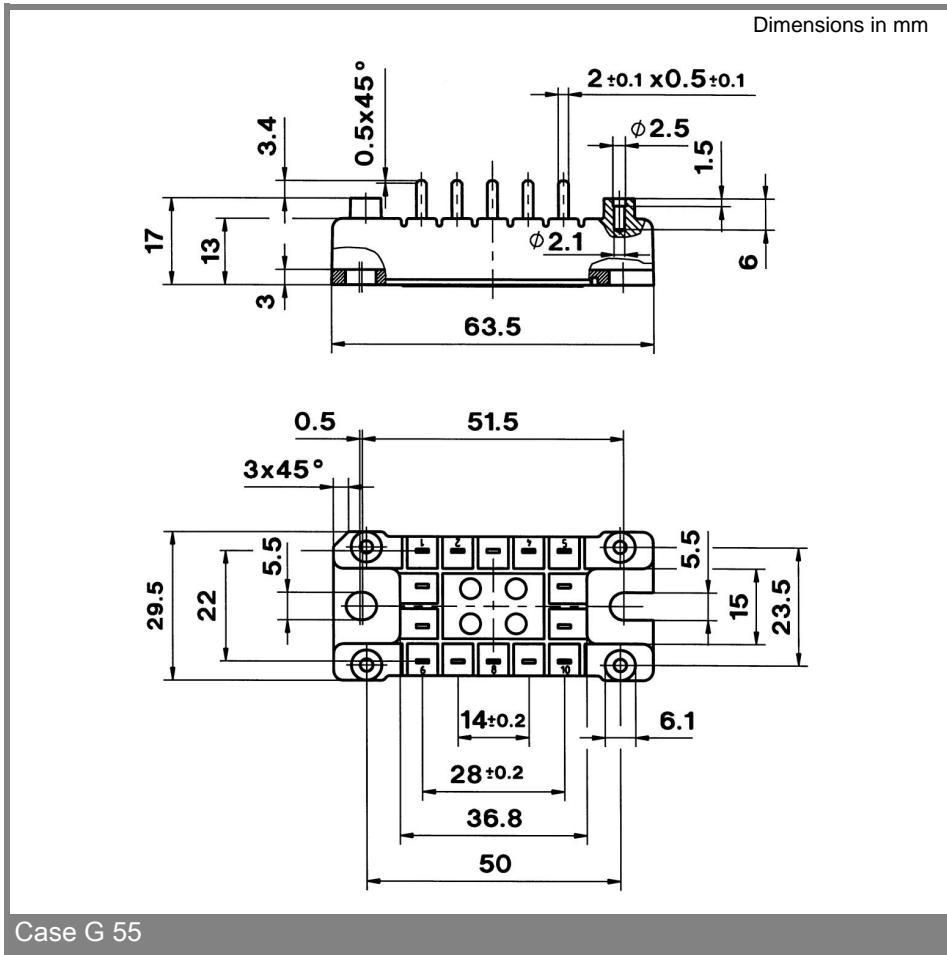


SKD

| V_{RSM} V | $V_{\text{RRM}}, V_{\text{DRM}}$ V | $I_{\text{D}} = 83 \text{ A}$ (full conduction) ($T_{\text{s}} = 95 \text{ }^\circ\text{C}$) |
|-----------------------|---------------------------------------|---|
| 500 | 400 | SKD 83/04 |
| 900 | 800 | SKD 83/08 |
| 1300 | 1200 | SKD 83/12 |
| 1600 | 1400 | SKD 83/14 |
| 1700 | 1600 | SKD 83/16 |
| 1900 | 1800 | SKD 83/18 |

| Symbol | Conditions | Values | Units |
|----------------------|---|------------------------------|------------------|
| I_{D} | $T_{\text{s}} = 95 \text{ }^\circ\text{C}$ | 83 | A |
| | $T_{\text{a}} = 45 \text{ }^\circ\text{C}$; isolated ¹⁾ | 4 | A |
| | $T_{\text{a}} = 45 \text{ }^\circ\text{C}$; chassis ²⁾ | 20 | A |
| | $T_{\text{a}} = 45 \text{ }^\circ\text{C}$; P5A/100 (R4A/120) | 32 (34) | A |
| | $T_{\text{a}} = 35 \text{ }^\circ\text{C}$; P1A/120F | 83 | A |
| I_{FSM} | $T_{\text{vj}} = 25 \text{ }^\circ\text{C}$; 10 ms | 700 | A |
| | $T_{\text{vj}} = 150 \text{ }^\circ\text{C}$; 10 ms | 560 | A |
| i^2t | $T_{\text{vj}} = 25 \text{ }^\circ\text{C}$; 8,3 ... 10 ms | 2450 | A ² s |
| | $T_{\text{vj}} = 150 \text{ }^\circ\text{C}$; 8,3 ... 10 ms | 1570 | A ² s |
| V_{F} | $T_{\text{vj}} = 25 \text{ }^\circ\text{C}$; $I_{\text{F}} = 80 \text{ A}$ | max. 1,45 | V |
| $V_{\text{(TO)}}$ | $T_{\text{vj}} = 150 \text{ }^\circ\text{C}$ | 0,8 | V |
| r_{T} | $T_{\text{vj}} = 150 \text{ }^\circ\text{C}$ | 7,5 | m Ω |
| I_{RD} | $T_{\text{vj}} = 25 \text{ }^\circ\text{C}$; $V_{\text{DD}} = V_{\text{DRM}}$; $V_{\text{RD}} = V_{\text{RRM}}$ | max. 0,2 | mA |
| | $T_{\text{vj}} = 150 \text{ }^\circ\text{C}$; $V_{\text{RD}} = V_{\text{RRM}}$ | 4 | mA |
| $R_{\text{th(j-s)}}$ | per diode | 1,4 | K/W |
| | total | 0,233 | K/W |
| | isolated ¹⁾ | 14,83 | K/W |
| $R_{\text{th(j-a)}}$ | chassis ²⁾ | 2,83 | K/W |
| | | | |
| T_{vj} | | - 40 ... + 150 | $^\circ\text{C}$ |
| T_{stg} | | - 40 ... + 125 ³⁾ | $^\circ\text{C}$ |
| V_{isol} | a. c. 50 Hz; r.m.s.; 1 s / 1 min. | 3600 (3000) | V |
| M_{s} | to heatsink; SI units | $2 \pm 15 \%$ | Nm |
| M_{t} | | | |
| a | | $5 * 9,81$ | m/s ² |
| m | | 30 | g |
| Case | | G 55 | |





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