



## Power Bridge Rectifiers

### SKD 25

#### Features

- Square plastic case with isolated metal base plate and fast-on connectors
- Blocking voltage to 1600 V
- High surge current
- Easy chassis mounting
- UL recognized, file no. E 63 532

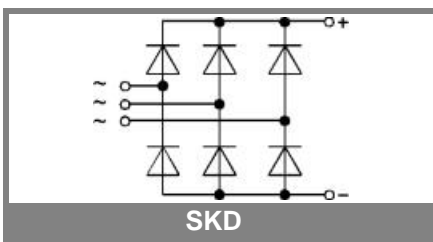
#### Typical Applications\*

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

- 1) Freely suspended or mounted on an insulator
- 2) Mounted on a painted metal sheet of min. 250 x 250 x 1 mm

| $V_{RSM}, V_{RRM}$<br>V | $V_{VRMS}$<br>V | $I_D = 20 \text{ A } (T_c = 73^\circ\text{C})$<br>Types | $C_{max}$<br>μF | $R_{min}$<br>Ω |
|-------------------------|-----------------|---------------------------------------------------------|-----------------|----------------|
| 200                     |                 | SKD 25/02                                               |                 | 0,15           |
| 400                     |                 | SKD 25/04                                               |                 | 0,3            |
| 800                     |                 | SKD 25/08                                               |                 | 0,7            |
| 1200                    |                 | SKD 25/12                                               |                 | 1              |
| 1400                    |                 | SKD 25/14                                               |                 | 1,2            |
| 1600                    |                 | SKD 25/16                                               |                 | 1,5            |

| Symbol        | Conditions                                                                                                                        | Values         | Units                                |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------------------------|
| $I_D$         | $T_a = 45^\circ\text{C}$ , isolated <sup>1)</sup><br>$T_a = 45^\circ\text{C}$ , chassis <sup>2)</sup>                             | 3,5<br>12      | A<br>A                               |
| $I_{DCL}$     | $T_a = 45^\circ\text{C}$ , isolated <sup>1)</sup><br>$T_a = 45^\circ\text{C}$ , chassis <sup>2)</sup><br>$T_a = ^\circ\text{C}$ , | 3,5<br>12      | A<br>A<br>A                          |
| $I_{FSM}$     | $T_{vj} = 25^\circ\text{C}$ , 10 ms<br>$T_{vj} = 150^\circ\text{C}$ , 10 ms                                                       | 370<br>320     | A<br>A                               |
| $i^2t$        | $T_{vj} = 25^\circ\text{C}$ , 8,3 ... 10 ms<br>$T_{vj} = 150^\circ\text{C}$ , 8,3 ... 10 ms                                       | 680<br>500     | A <sup>2</sup> s<br>A <sup>2</sup> s |
| $V_F$         | $T_{vj} = 25^\circ\text{C}$ , $I_F = 150 \text{ A}$                                                                               | max. 2,2       | V                                    |
| $V_{(TO)}$    | $T_{vj} = 150^\circ\text{C}$                                                                                                      | max. 0,85      | V                                    |
| $r_T$         | $T_{vj} = 150^\circ\text{C}$                                                                                                      | max. 12        | mΩ                                   |
| $I_{RD}$      | $T_{vj} = 25^\circ\text{C}$ , $V_{RD} = V_{RRM}$<br>$T_{vj} = ^\circ\text{C}$ , $V_{RD} = V_{RRM} \geq V$                         | 300            | μA<br>μA                             |
| $I_{RD}$      | $T_{vj} = 150^\circ\text{C}$ , $V_{RD} = V_{RRM}$<br>$T_{vj} = ^\circ\text{C}$ , $V_{RD} = V_{RRM} \geq V$                        | 5              | mA<br>mA                             |
| $t_{tr}$      | $T_{vj} = 25^\circ\text{C}$                                                                                                       | 10             | μs                                   |
| $f_G$         |                                                                                                                                   | 2000           | Hz                                   |
| $R_{th(j-a)}$ | isolated <sup>1)</sup><br>chassis <sup>2)</sup>                                                                                   | 15<br>4,7      | K/W<br>K/W                           |
| $R_{th(j-c)}$ | total                                                                                                                             | 1,75           | K/W                                  |
| $R_{th(c-s)}$ | total                                                                                                                             | 0,15           | K/W                                  |
| $T_{vj}$      |                                                                                                                                   | - 40 ... + 150 | °C                                   |
| $T_{stg}$     |                                                                                                                                   | - 55 ... + 150 | °C                                   |
| $V_{isol}$    | a. c. 50 ... 60 Hz; r.m.s.; 1 s / 1 min.                                                                                          | 3000 / 2500    | V~                                   |
| $M_s$         | to heatsink                                                                                                                       | 2 ± 15 %       | Nm                                   |
| $M_t$         |                                                                                                                                   |                | Nm                                   |
| $a$           |                                                                                                                                   |                | m/s <sup>2</sup>                     |
| $w$           |                                                                                                                                   | 26             | g                                    |
| $F_u$         |                                                                                                                                   | 20             | A                                    |
| Case          |                                                                                                                                   | G 11b          |                                      |



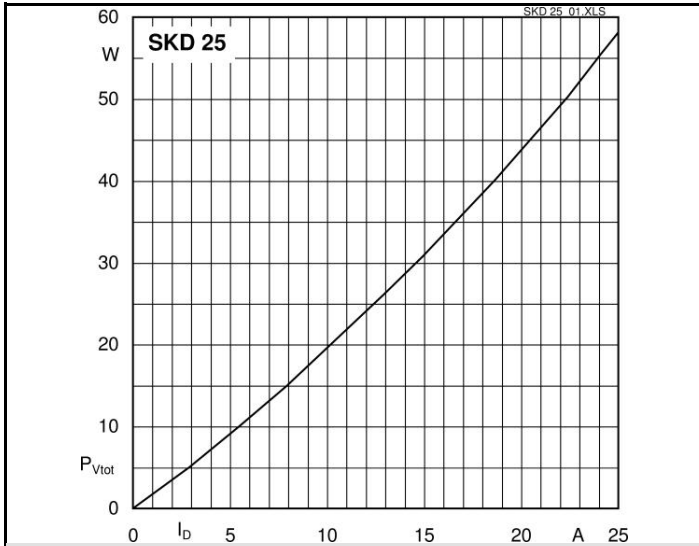


Fig. 3L Power dissipation vs. output current

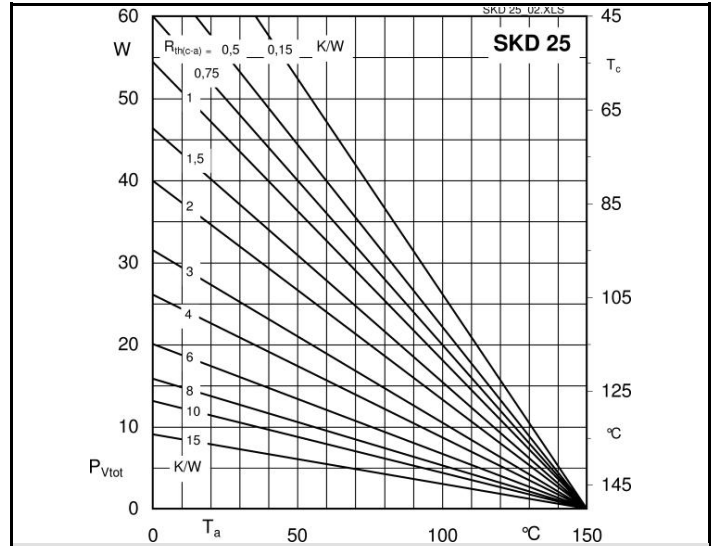


Fig. 3R Power dissipation vs. case temperature

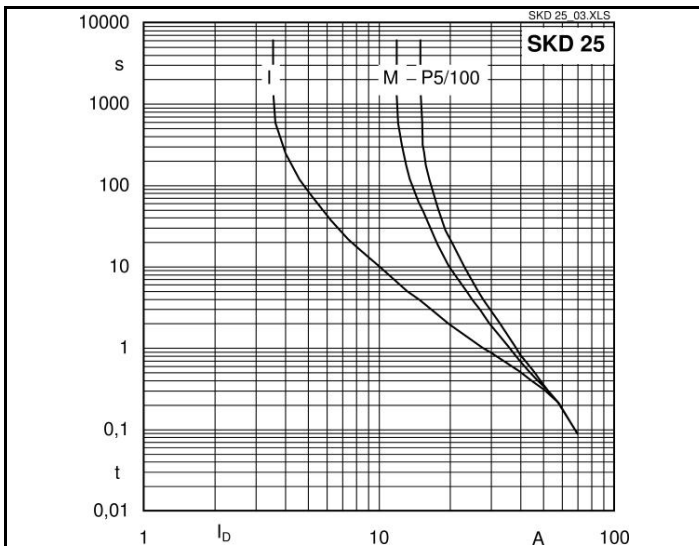


Fig. 6 Rated overload characteristics vs. time

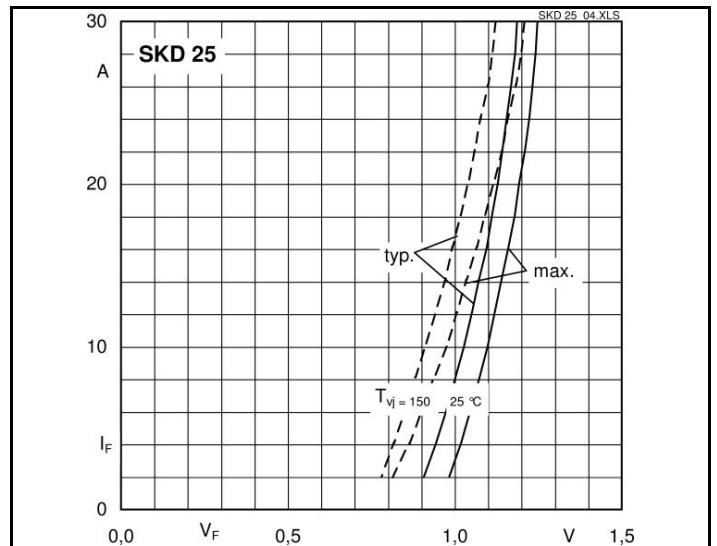
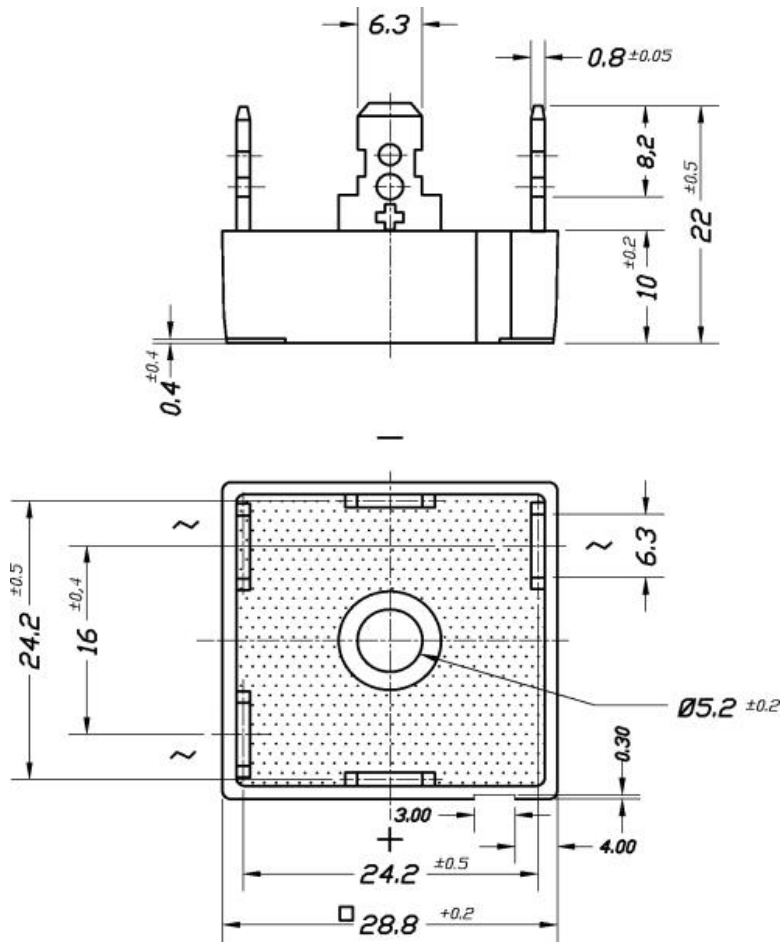


Fig. 9 Forward characteristics of a diode arm



Case G 11b

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