



## Stud Diode

## Rectifier Diode

SKN 71

SKR 71

### Features

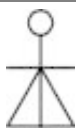
- Reverse voltages up to 1600 V
- Hermetic metal case with glass insulator
- Threaded stud ISO M8 and also 1/4-28 UNF
- SKN: anode to stud, SKR: cathode to stud

### Typical Applications\*

- All-purpose mean power rectifier diodes
- Cooling via heatsinks
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes
- Recommended snubber network:  
RC: 0,1  $\mu$ F, 100  $\Omega$  ( $P_R = 2$  W),  
 $R_P = 80$  k $\Omega$  ( $P_R = 6$  W)

| $V_{RSM}$<br>V | $V_{RRM}$<br>V | $I_{FRMS} = 150$ A (maximum value for continuous operation) |           |
|----------------|----------------|---|-----------|
|                |                | $I_{FAV} = 70$ A (sin. 180; $T_c = 125$ °C)                 |           |
| 400            | 400            | SKN 71/04   | SKR 71/04 |
| 800            | 800            | SKN 71/08   | SKR 71/08 |
| 1200           | 1200           | SKN 71/12   | SKR 71/12 |
| 1400           | 1400           | SKN 71/14   | SKR 71/14 |
| 1600           | 1600           | SKN 71/16   | SKR 71/16 |

| Symbol        | Conditions                                    | Values         | Units            |
|---------------|---|----------------|------------------|
| $I_{FAV}$     | sin. 180; $T_c = 100$ °C                      | 95             | A                |
| $I_D$         | K 1,1; $T_a = 45$ °C; B2 / B6                 | 112 / 159      | A                |
|               | K 1,1F; $T_a = 35$ °C; B2 / B6                | 174 / 246      | A                |
| $I_{FSM}$     | $T_{vj} = 25$ °C; 10 ms                       | 1150           | A                |
|               | $T_{vj} = 180$ °C; 10 ms                      | 1000           | A                |
| $i^2t$        | $T_{vj} = 25$ °C; 8,3 ... 10 ms               | 6600           | A <sup>2</sup> s |
|               | $T_{vj} = 180$ °C; 8,3 ... 10 ms              | 5000           | A <sup>2</sup> s |
| $V_F$         | $T_{vj} = 25$ °C; $I_F = 200$ A               | max. 1,5       | V                |
| $V_{(TO)}$    | $T_{vj} = 180$ °C                             | max. 0,85      | V                |
| $r_T$         | $T_{vj} = 180$ °C                             | max. 3         | m $\Omega$       |
| $I_{RD}$      | $T_{vj} = 180$ °C; $V_{RD} = V_{RRM}$         | max. 10        | mA               |
| $Q_{rr}$      | $T_{vj} = 160$ °C; $-di_F/dt = 10$ A/ $\mu$ s | 70             | $\mu$ C          |
| $R_{th(j-c)}$ |   | 0,55           | K/W              |
| $R_{th(c-s)}$ |   | 0,2            | K/W              |
| $T_{vj}$      |   | - 40 ... + 180 | °C               |
| $T_{stg}$     |   | - 55 ... + 180 | °C               |
| $V_{isol}$    |   | -              | V~               |
| $M_s$         | to heatsink                                   | 4              | Nm               |
| a             |   | 5 * 9,81       | m/s <sup>2</sup> |
| m             | approx.                                       | 18             | g                |
| Case          |   | E 11           |                  |



SKN



SKR

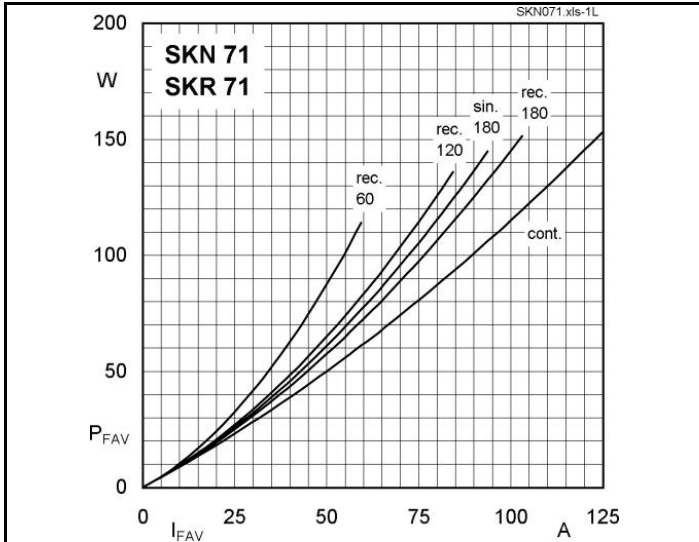


Fig. 1L Power dissipation vs. forward current

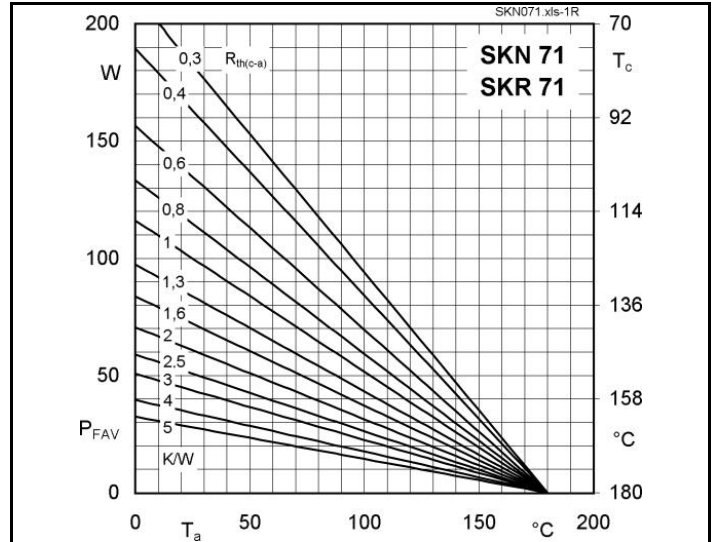


Fig. 1R Power dissipation vs. ambient temperature

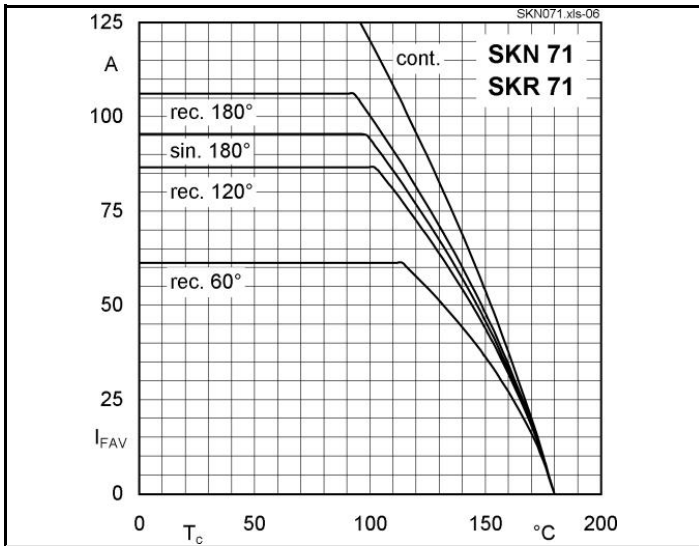


Fig. 2 Forward current vs. case temperature

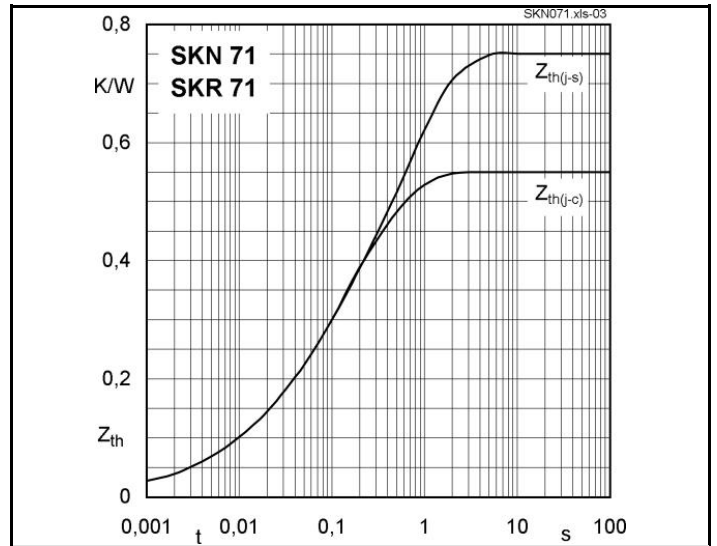


Fig. 4 Transient thermal impedance vs. time

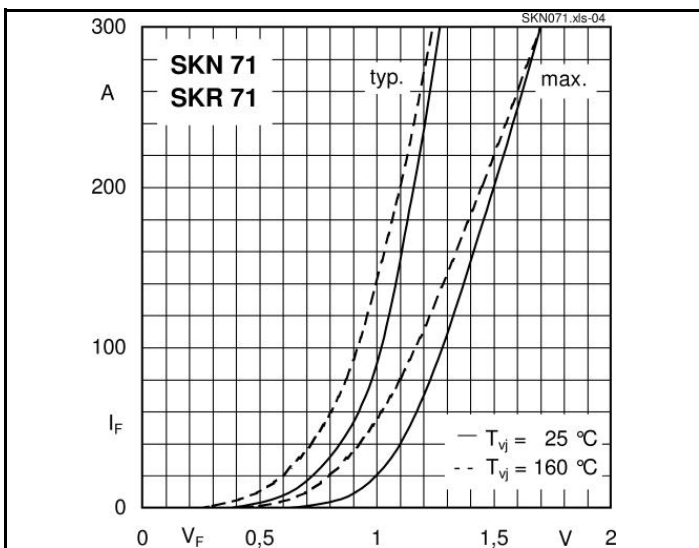


Fig. 5 Forward characteristics

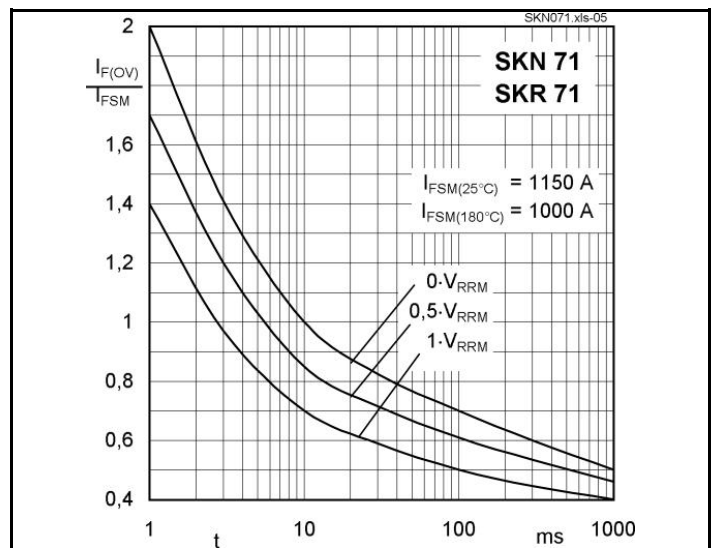
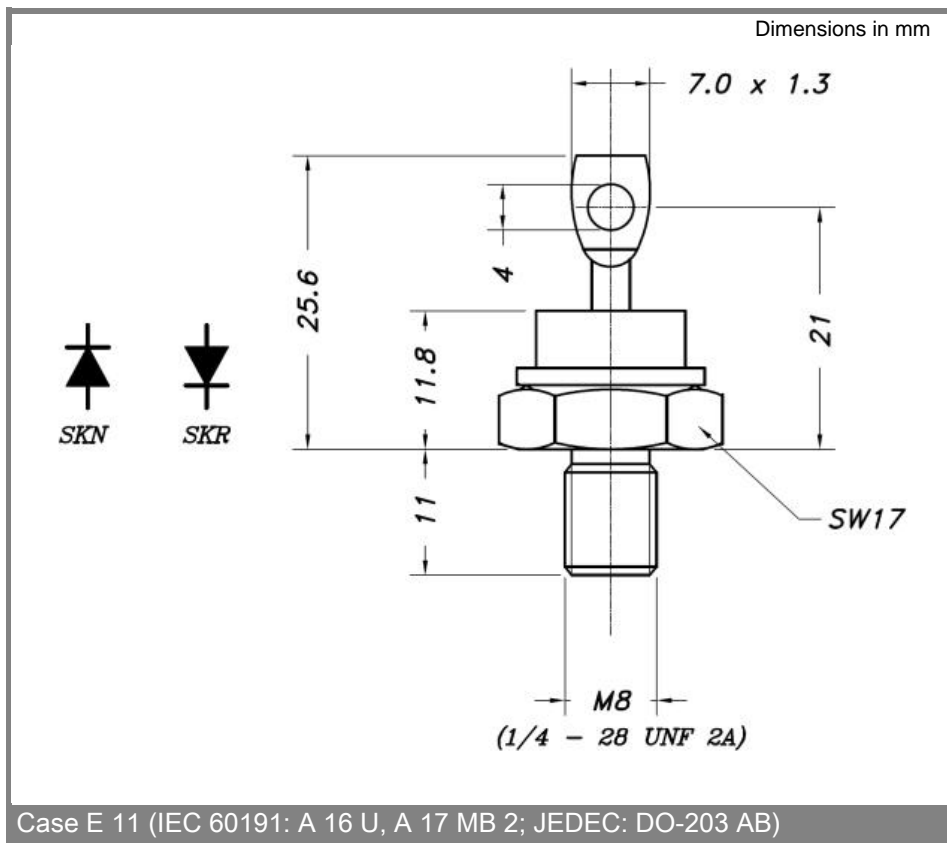


Fig. 6 Surge overload current vs. time



Case E 11 (IEC 60191: A 16 U, A 17 MB 2; JEDEC: DO-203 AB)

\* 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.