

SKN 45, SKR 45



Stud Diode

| V_{RSM} V | V_{RRM} V | $I_{FRMS} = 80$ A (maximum value for continuous operation) $I_{FAV} = 45$ A (sin. 180; $T_c = 125$ °C) | |
|----------------|----------------|---|-----------|
| 400 | 400 | SKN 45/04 | SKR 45/04 |
| 800 | 800 | SKN 45/08 | SKR 45/08 |
| 1200 | 1200 | SKN 45/12 | SKR 45/12 |
| 1400 | 1400 | SKN 45/14 | SKR 45/14 |
| 1600 | 1600 | SKN 45/16 | SKR 45/16 |

Rectifier Diode

SKN 45
SKR 45

Features

- Reverse voltages up to 1600 V
- Hermetic metal case with glass insulator
- Cooling via heatsinks
- Threaded stud ISO M8 or 1/4 - 28 UNF 2A
- **SKN**: anode to stud
- **SKR**: cathode to stud

Typical Applications *

- All purpose high power rectifier diode
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes
- Recommended snubber network:
 R_c : 0,1 μ F, 100 Ω ($P_R = 1$ W),
 R_p : 80 k Ω ($P_R = 6$ W)

1) Mounting with grease-like thermal compound or joint contact compound

| Symbol | Condition | Values | Units |
|---------------|--|---------------------|----------------------|
| I_{FAV} | sin. 180 ; $T_c = 117$ °C | 50 | A |
| I_D | K 5; $T_a = 45$ °C; B2 / B6 K 1,1; $T_a = 45$ °C; B2 / B6 | 40 / 57 86 / 120 | A |
| I_{FSM} | $T_{vj} = 25$ ° C ; 10 ms $T_{vj} = 180$ ° C ; 10 ms | 700 600 | A |
| i^2t | $T_{vj} = 25$ ° C ; 8,3...10 ms $T_{vj} = 180$ ° C ; 8,3...10 ms | 2500 1800 | A ² s |
| V_F | $T_{vj} = 25$ ° C, $I_F = 150$ A | max. 1,6 | V |
| $V_{(TO)}$ | $T_{vj} = 180$ ° C | max. 0,85 | V |
| r_T | $T_{vj} = 180$ ° C | max. 5 | m Ω |
| I_{RD} | $T_{vj} = 180$ ° C ; $V_{RD} = V_{RRM}$ | max. 10 | mA |
| Q_{rr} | $T_{vj} = 160$ °C, $-di_F/dt = 10$ A/ μ s | 70 | μ C |
| $R_{th(j-c)}$ | | 0,85 | K/W |
| $R_{th(c-s)}$ | | 0,25 | K/W |
| T_{vj} | | -40...+180 | °C |
| T_{stg} | | -55...+180 | °C |
| V_{isol} | | - | V~ |
| M_s | M8 Stud 1/4 - 28 UNF 2A M8 Stud (lubricated) ¹⁾ 1/4 - 28 UNF 2A (lubricated) ¹⁾ | 4 2,5 3 2 | Nm Nm Nm Nm |
| a | | 5 * 9,81 | m/s ² |
| m | approx. | 30 | g |
| Case | | E 12 | |



SKN



SKR

SKN 45, SKR 45

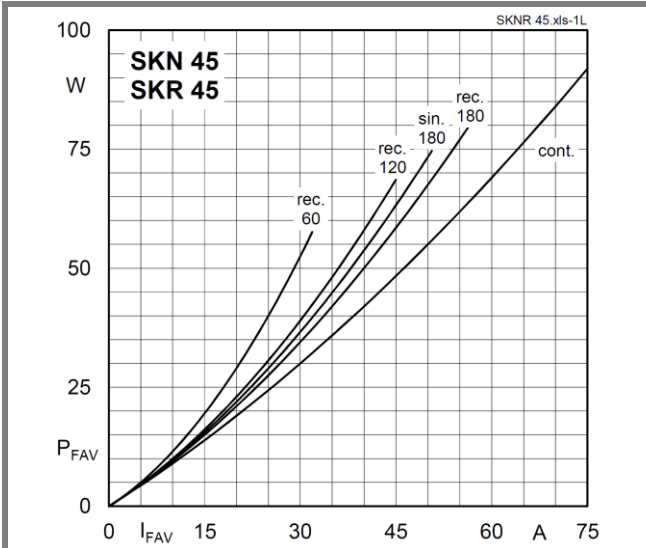


Fig. 1L Power dissipation vs. forward current

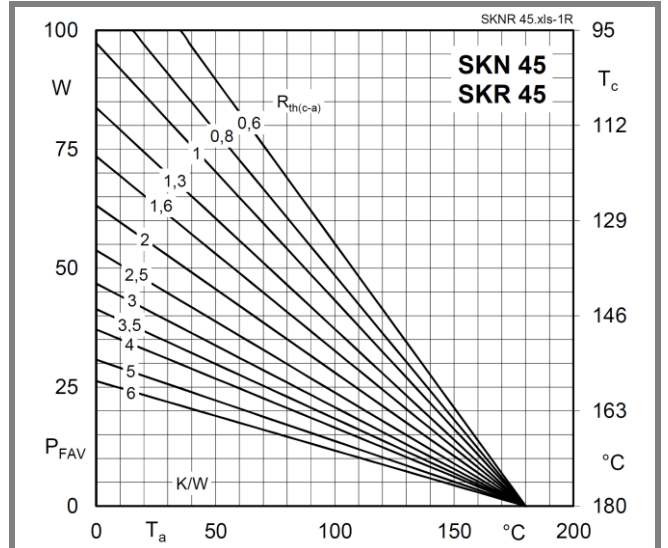


Fig. 1R Power dissipation vs. ambient temperature

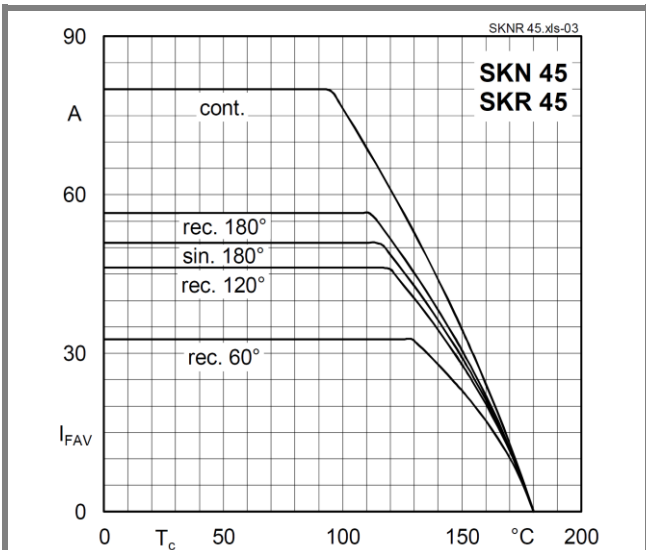


Fig. 3 Forward current vs. case temperature

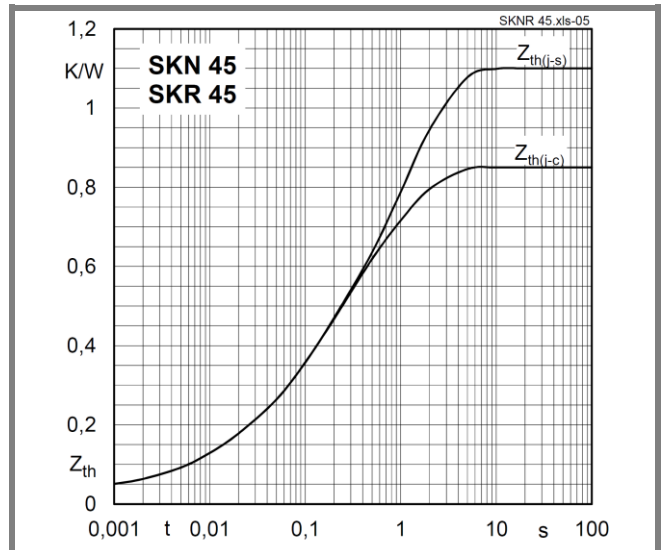


Fig. 5 Transient thermal impedance vs. time

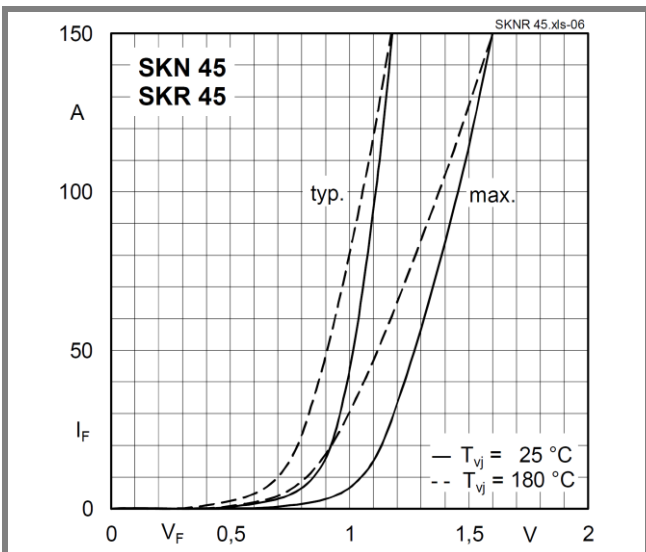


Fig. 6 Forward characteristics

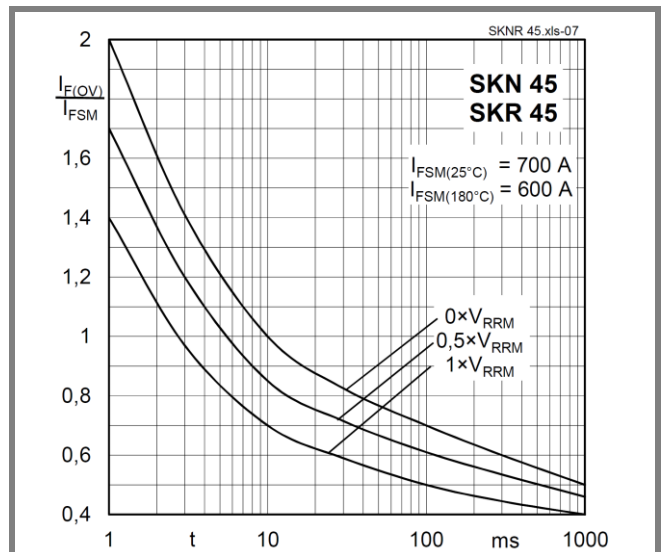
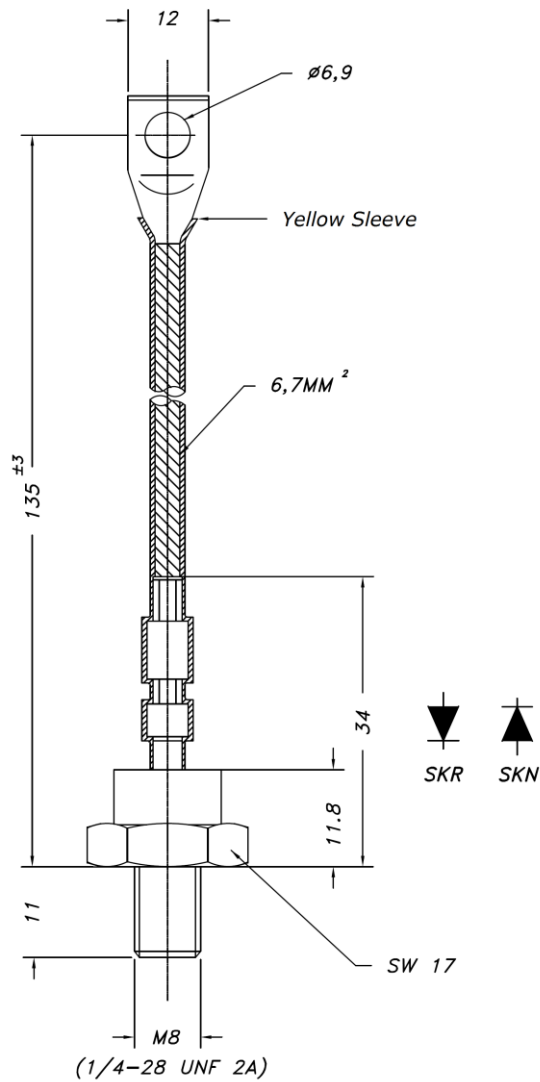


Fig. 7 Surge overload current vs. time



Case E12 (IEC 60191: A 16 U; A 17 MB 2; JEDEC: SO-32B)

*IMPORTANT INFORMATION AND WARNINGS

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