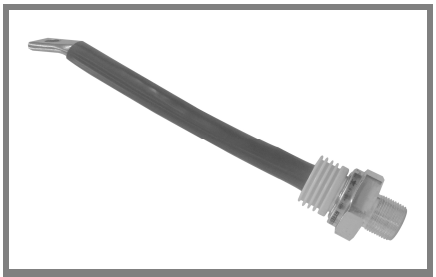
# SKN 400, SKR 400



Stud Diode

| $V_{RSM}$ V | $V_{RRM}$ V | $I_{FRMS}$ = 700 A (maximum value for continuous operation) $I_{FAV}$ = 400 A (sin. 180; $T_c$ = 100 ºC) | |
|---|---|---|---|
| 1800 | 1800 | SKN 400/18 | SKR 400/18 |
| 2000 | 2000 | SKN 400/20 | SKR 400/20 |
| 2400 | 2400 | SKN 400/24 | SKR 400/24 |
| 2700 | 2700 | SKN 400/27 | SKR 400/27 |
| 3000 | 3000 | SKN 400/30 | SKR 400/30 |
| 3600 | 3600 | SKN 400/36 | SKR 400/36 |

## Rectifier Diode

**SKN 400**
**SKR 400**

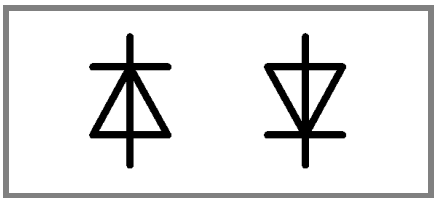
### Features

- Reverse voltages up to 3600 V
- Hermetic metal cases with glass insulator
- Threaded stud M24 x 1,5 mm.
- **SKN:** anode to stud
- **SKR:** cathode to stud

### Typical Applications *

- High voltage rectifier diode, especially for traction applications
- Cooling via heatsinks
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes
- Recommended snubber network:
  RC: 1,0 µF, 20 Ω ($P_R$ = 5W),
  $R_p$: 25 KΩ ($P_R$ = 20 W)

| Symbol | Condition | Values | Units |
|---|---|---|---|
| $I_{FAV}$ | sin. 180 ; $T_C$ = 85 (100) ºC | 445 (400) | A |
| $I_D$ | K 0,55; $T_a$ = 45 ºC; B2 / B6 | 310 / 450 | A |
| | K 0,55F; $T_a$ = 35 ºC; B2 / B6 | 700 / 1000 | A |
| $I_{FSM}$ | $T_{vj}$ = 25º C ; 10 ms | 9000 | A |
| | $T_{vj}$ = 160º C ; 10 ms | 7500 | A |
| $i^2t$ | $T_{vj}$ = 25º C ; 8,3...10 ms | 400000 | $A^2s$ |
| | $T_{vj}$ = 160º C ; 8,3...10 ms | 280000 | $A^2s$ |
| $V_F$ | $T_{vj}$ = 25º C, $I_F$ = 1200 A | max. 1,45 | V |
| $V_{(TO)}$ | $T_{vj}$ = 160º C | max. 0,9 | V |
| $r_T$ | $T_{vj}$ = 160º C | max. 0,5 | mΩ |
| $I_{RD}$ | $T_{vj}$ = 160º C ; $V_R$ = $V_{RRM}$ | max. 60 | mA |
| $Q_{rr}$ | $T_{vj}$ = 160°C, -$di_F$/dt = 10 A/µs | typ. 400 | µC |
| $R_{th(j-c)}$ | | 0,11 | K/W |
| $R_{th(c-s)}$ | | 0,01 | K/W |
| $T_{vj}$ | | -40...+160 | °C |
| $T_{stg}$ | | -55...+160 | °C |
| $V_{isol}$ | | - | V~ |
| $M_s$ | to heatsink (SI units) | 60 | Nm |
| | to heatsink (US units) | 531 | lb.in. |
| a | | 5 * 9,81 | $m/s^2$ |
| m | approx. | 500 | g |
| Case | | E 17 | |



SKN SKR

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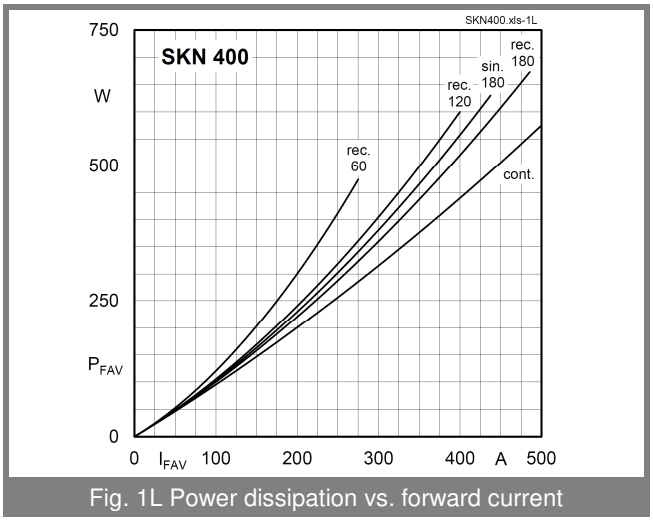


Fig. 1L Power dissipation vs. forward current

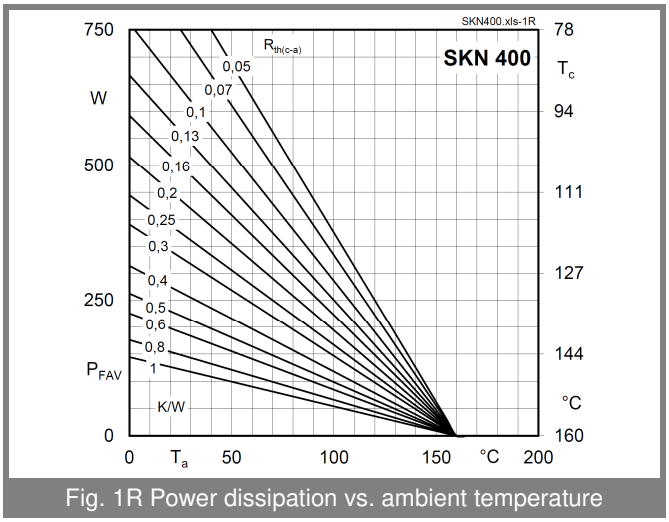


Fig. 1R Power dissipation vs. ambient temperature

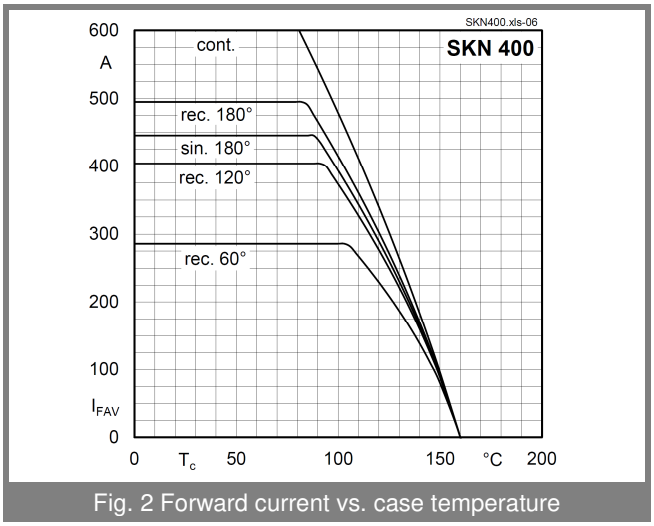


Fig. 2 Forward current vs. case temperature

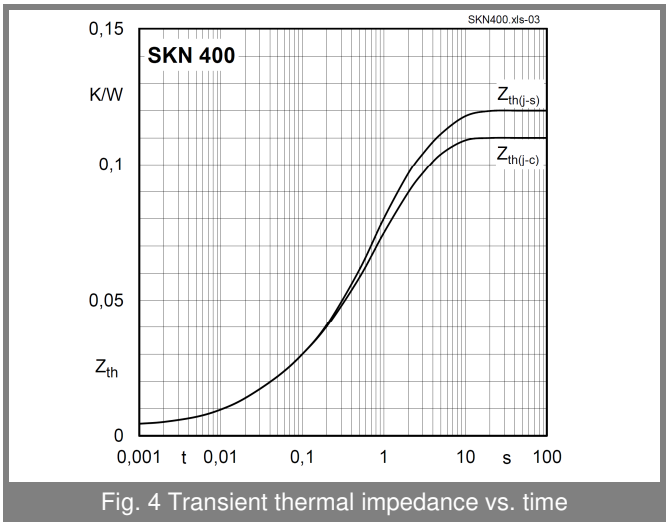


Fig. 4 Transient thermal impedance vs. time

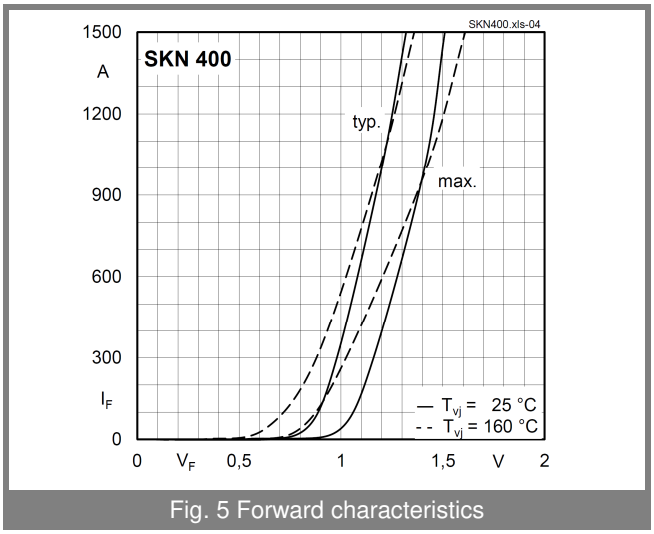


Fig. 5 Forward characteristics

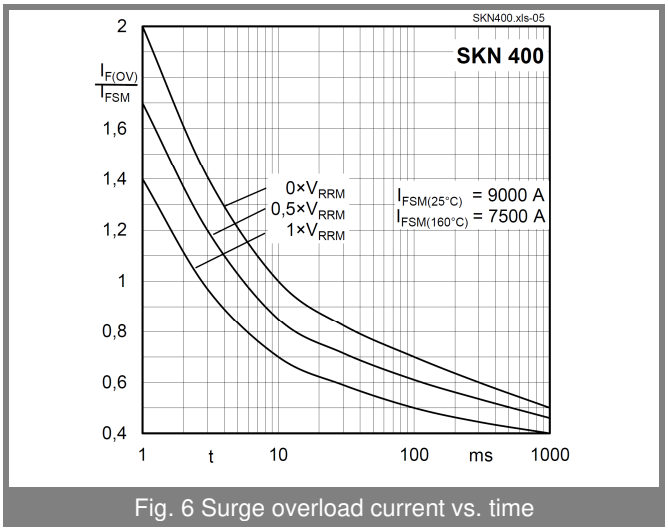


Fig. 6 Surge overload current vs. time

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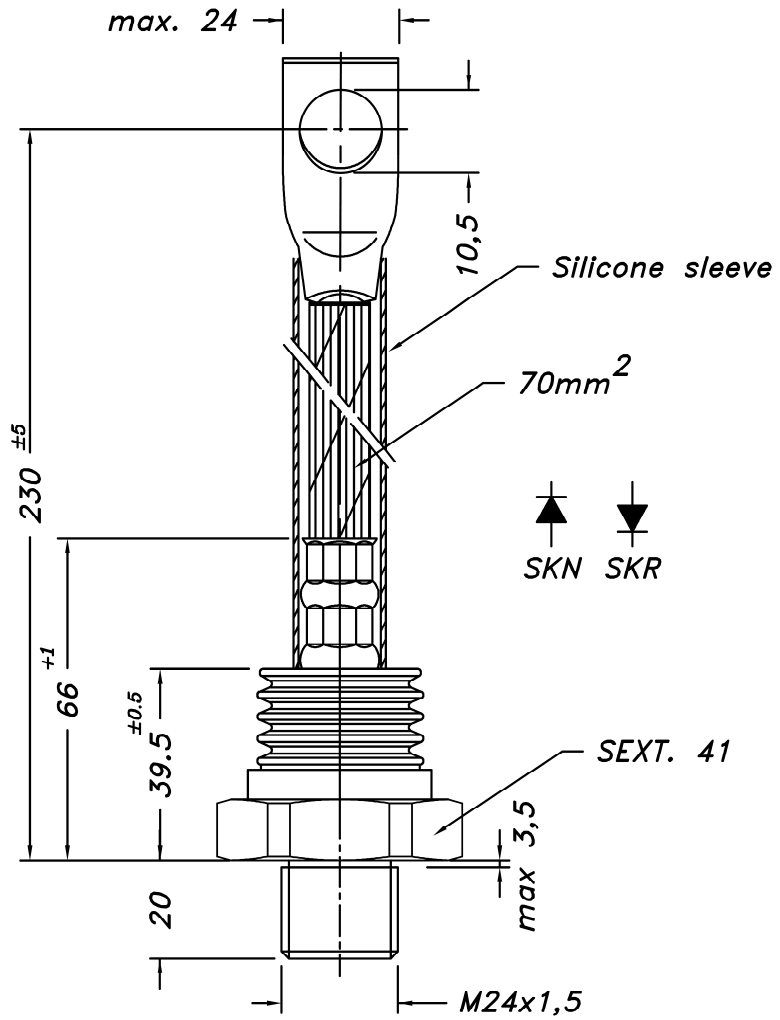
Dimensions in mm




Case E17 (IEC 60191: A 22 B)

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