# SKN 133


Stud Diode

| $V_{RSM}$ V | $V_{RRM}$ V | $I_{FRMS}$ = 260 A (maximum value for continuous operation) $I_{FAV}$ = 130 A (sin. 180; $T_c$ = 125 °C) | |
|---|---|---|---|
| 400 | 400 | SKN 133/04 | SKR 133/04 |
| 800 | 800 | SKN 133/08 | SKR 133/08 |
| 1200 | 1200 | SKN 133/12 | SKR 133/12 |
| 1400 | 1400 | SKN 133/14 | SKR 133/14 |
| 1600 | 1600 | SKN 133/16 | SKR 133/16 |
| 1800 | 1800 | SKN 133/18 | SKR 133/18 |

## Rectifier Diode

**SKN 133**
**SKR 133**

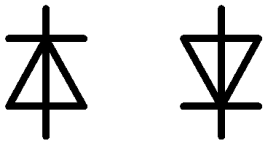
### Features

- Reverse voltages up to 1800 V
- Hermetic metal cases with glass insulator
- Threaded stud ISO M12 (also ½ - 20 UNF, 3/8 – 24 UNF and M12 x 1,5)
- Strap version available
- **SKN:** anode to stud
- **SKR:** cathode to stud

### Typical Applications *

- All-purpose high power rectifier diodes
- Cooling via heatsinks
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes
- Recommended snubber network:
  $R_C$: 0,25 µF, 50 Ω ($P_R$ = 2W),
  $R_p$: 50 kΩ ($P_R$ = 20 W)

| Symbol | Condition | Values | Units |
|---|---|---|---|
| $I_{FAV}$ | sin. 180 ; $T_C$ = 100 °C | 165 | A |
| $I_D$ | K 1,1; $T_a$ = 45 °C; B2 / B6 | 160 / 225 | A |
| | K 1,1F, $T_a$ = 35 °C; B2 / B6 | 290 / 405 | A |
| $I_{FSM}$ | $T_{vj}$ = 25° C ; 10 ms | 2500 | A |
| | $T_{vj}$ = 180° C ; 10 ms | 2000 | A |
| $i^2t$ | $T_{vj}$ = 25° C ; 8,3...10 ms | 31000 | $A^2s$ |
| | $T_{vj}$ = 180° C ; 8,3...10 ms | 20000 | $A^2s$ |
| $V_F$ | $T_{vj}$ = 25° C, $I_F$ = 500 A | max. 1,5 | V |
| $V_{(TO)}$ | $T_{vj}$ = 180° C | max. 0,85 | V |
| $r_T$ | $T_{vj}$ = 180° C | max. 1,3 | mΩ |
| $I_{RD}$ | $T_{vj}$ = 180° C ; $V_R$ = $V_{RRM}$ | max. 22 | mA |
| $Q_{rr}$ | $T_{vj}$ = 160°C, -$di_F/dt$ = 10 A/µs | typ. 120 | µC |
| $R_{th(j-c)}$ | | 0,35 | K/W |
| $R_{th(c-s)}$ | | 0,08 | K/W |
| $T_{vj}$ | | -40...+180 | °C |
| $T_{stg}$ | | -55...+180 | °C |
| $V_{isol}$ | | - | V~ |
| $M_s$ | to heatsink | 10 | Nm |
| a | | 5 * 9,81 | $m/s^2$ |
| m | approx. | 100 | g |
| Case | | E14 | |



SKN SKR

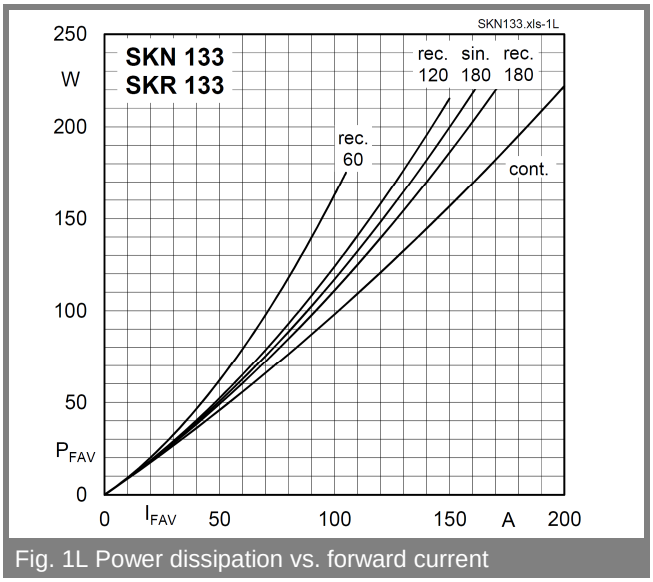



Fig. 1L Power dissipation vs. forward current

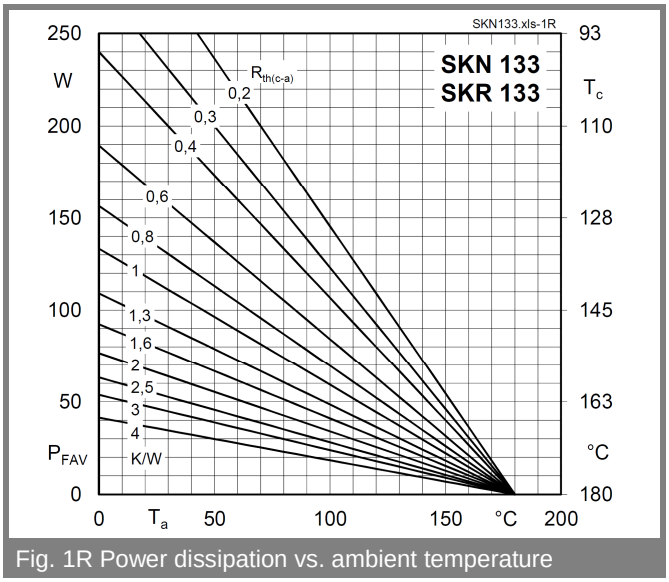



Fig. 1R Power dissipation vs. ambient temperature

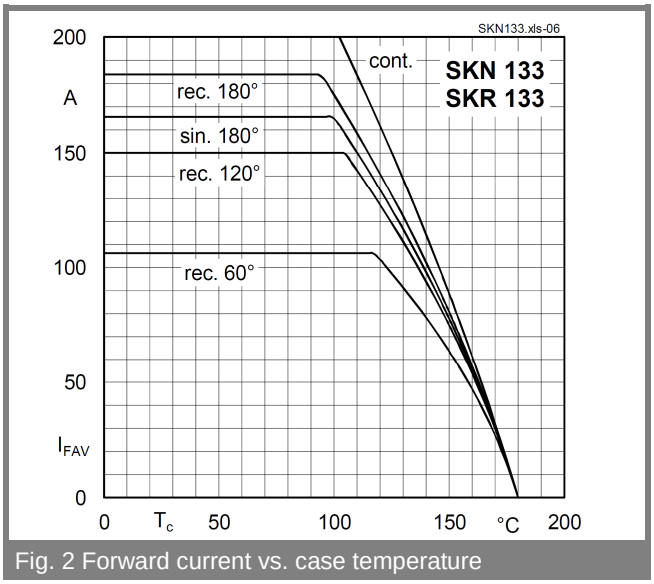



Fig. 2 Forward current vs. case temperature

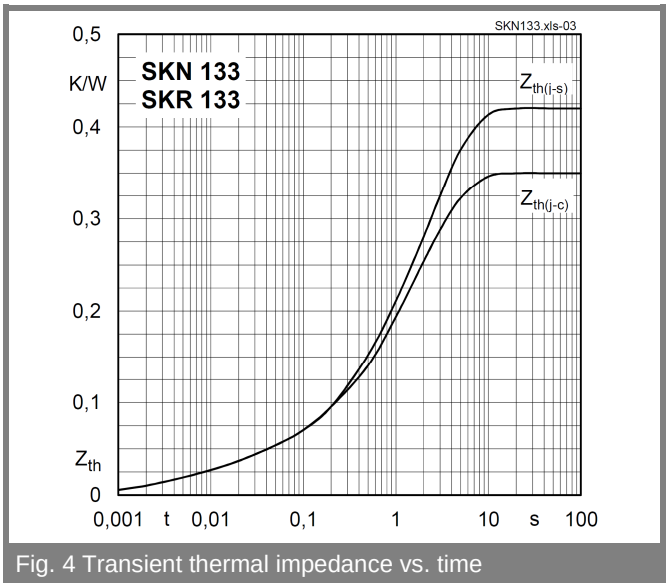



Fig. 4 Transient thermal impedance vs. time

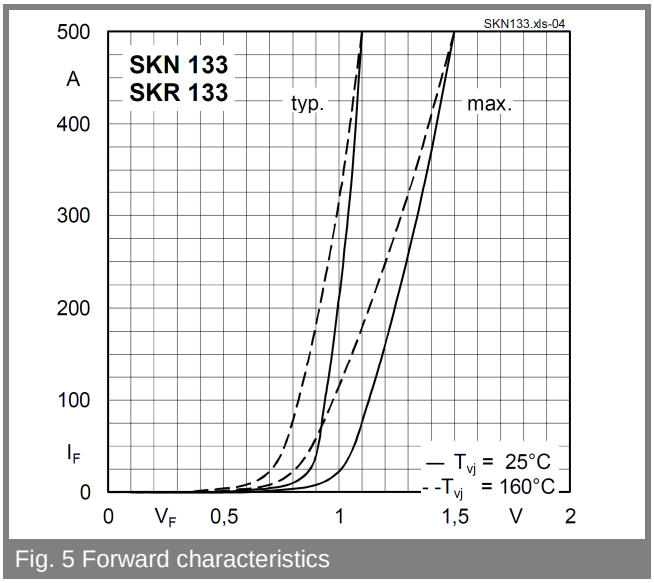



Fig. 5 Forward characteristics

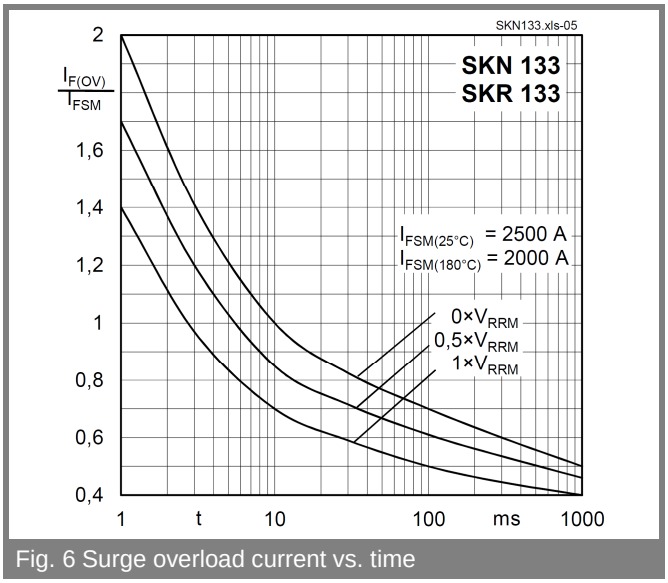
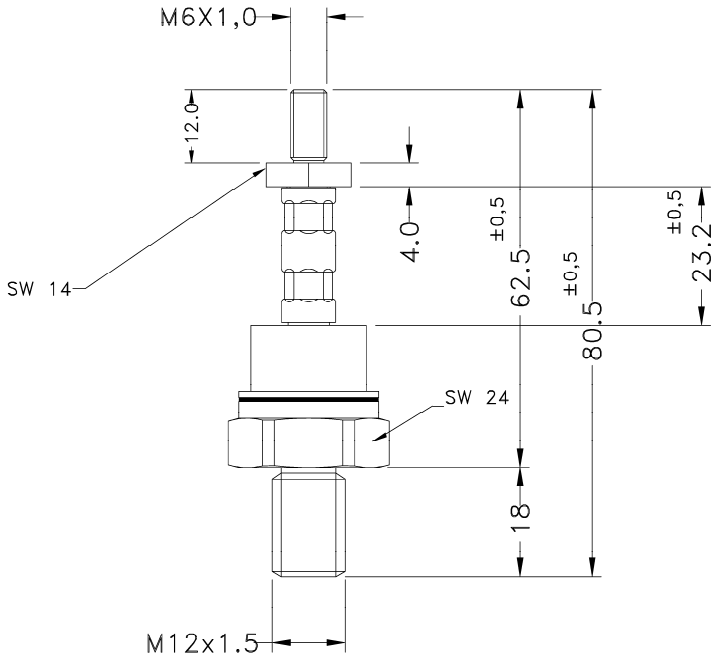



Fig. 6 Surge overload current vs. time

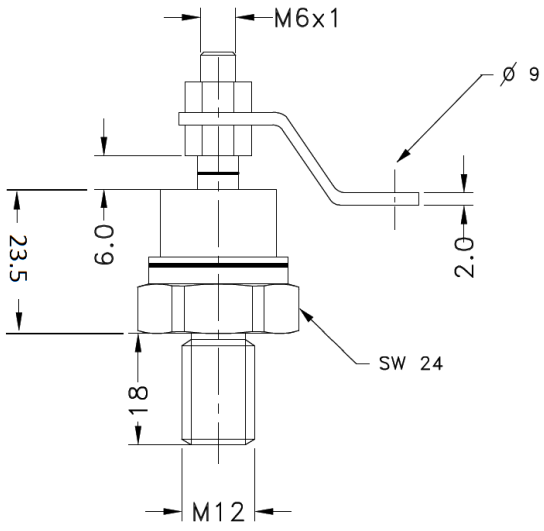
 

Dimensions in mm

Standard Version




Strap Version




Case E14 (IEC 60191: A 9 MA modified; JEDEC: DO-205 AC)

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