



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 130/04 | SKR 130/04 | |
| 800 | 800 | SKN 130/08 | SKR 130/08 | |
| 1200 | 1200 | SKN 130/12 | SKR 130/12 | |
| 1400 | 1400 | SKN 130/14 | SKR 130/14 | |
| 1600 | 1600 | SKN 130/16 | SKR 130/16 | |
| 1800 | 1800 | SKN 130/18 | SKR 130/18 | |

Rectifier Diode

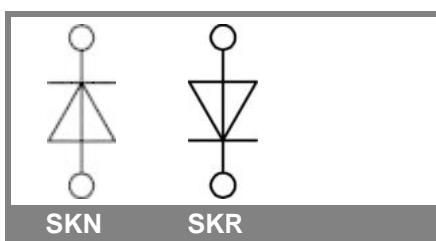
SKN 130

SKR 130

| Symbol | Conditions | 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 $T_{vj} = 180$ °C; 10 ms | 2500 | A |
| i^2t | $T_{vj} = 25$ °C; 8,3 ... 10 ms $T_{vj} = 180$ °C; 8,3 ... 10 ms | 2000 31000 20000 | A²s A²s |
| 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; $V_{RD} = V_{RRM}$ | max. 22 | mA |
| Q_{rr} | $T_{vj} = 160$ °C; $-di_F/dt = 10$ A/μs | 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/s² |
| m | approx. | 100 | g |
| Case | | E 14 | |

Typical Applications*

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



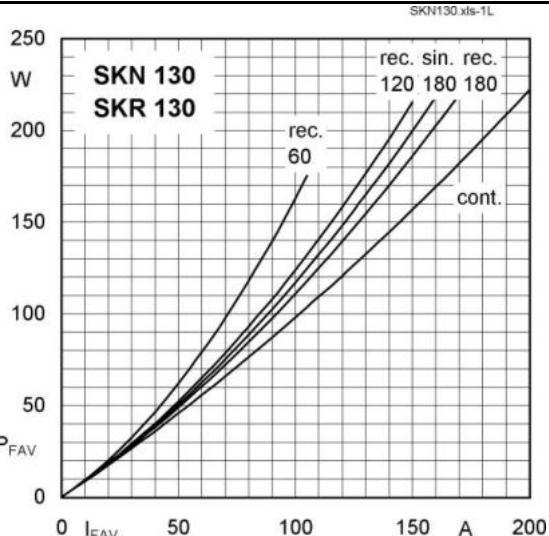


Fig. 1L Power dissipation vs. forward current

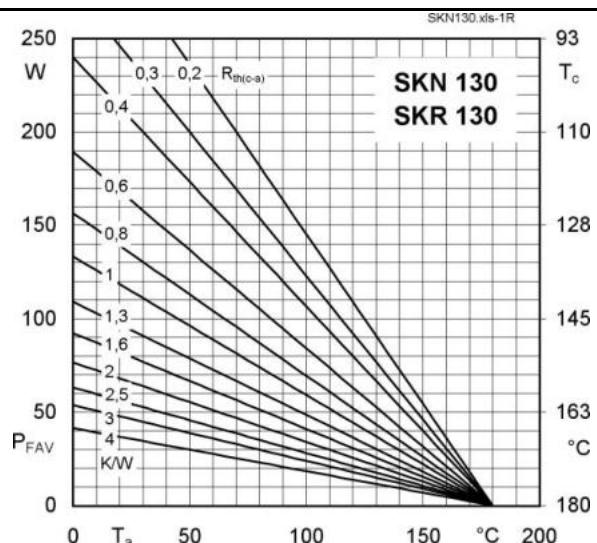


Fig. 1R Power dissipation vs. ambient temperature

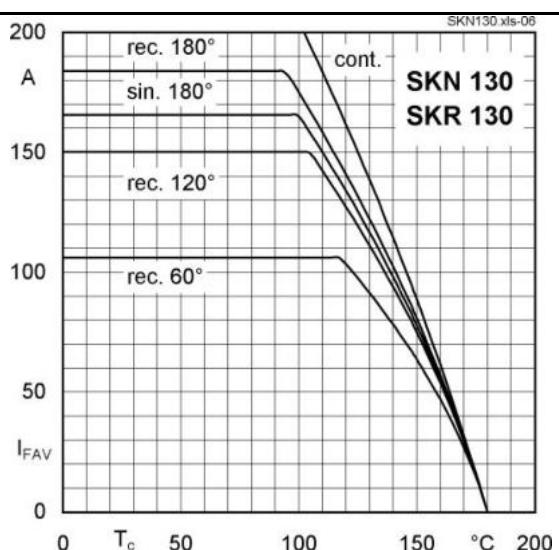


Fig. 2 Forward current vs. case temperature

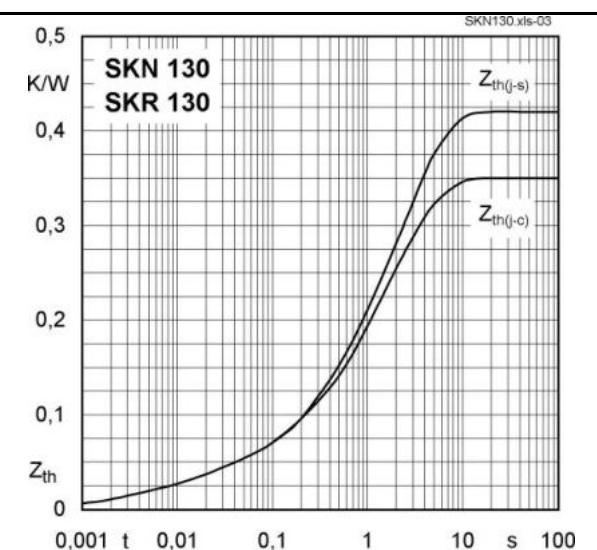


Fig. 4 Transient thermal impedance vs. time

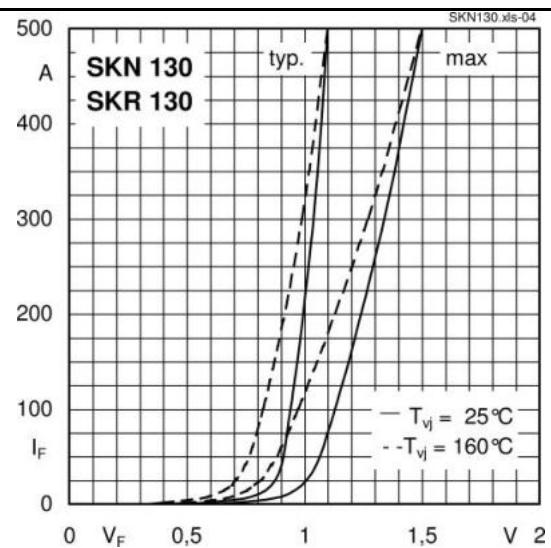


Fig. 5 Forward characteristics

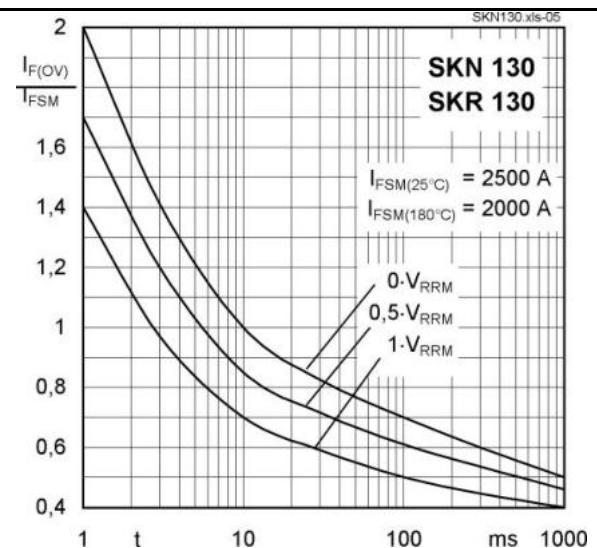
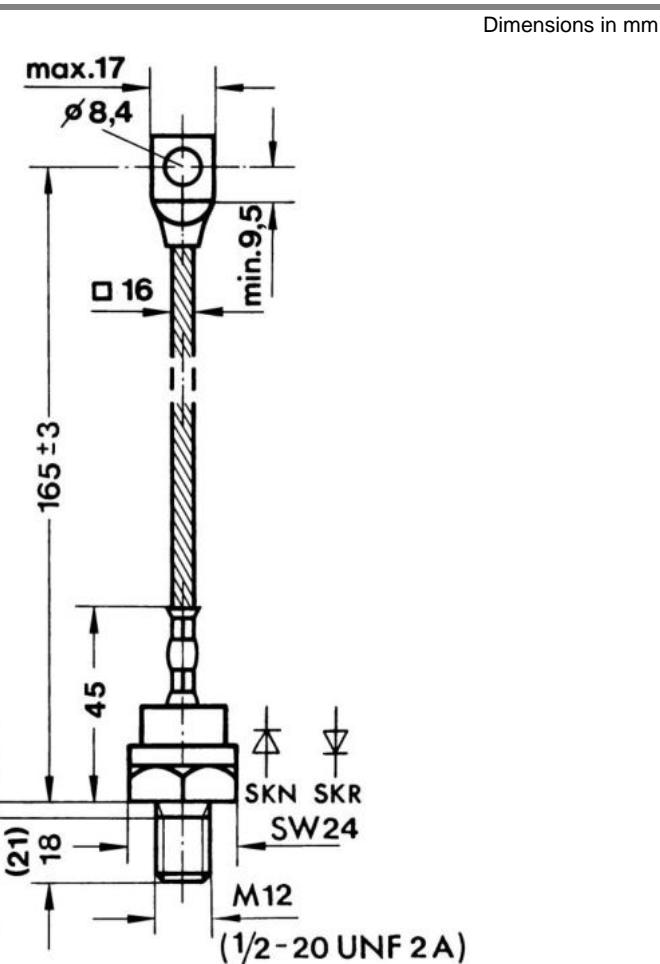


Fig. 6 Surge overload current vs. time



Case E 14 (IEC 60191: A 9 MA modified; JEDEC: DO-205 AC)

* 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.