

# SKN 135F



**Stud Diode**

## Fast Recovery Rectifier Diode

**SKN 135F**

**SKR 135F**

### Features

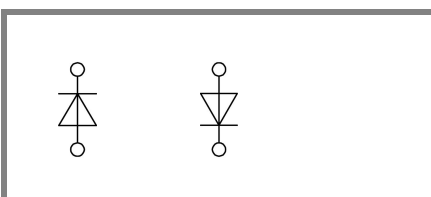
- Small recovered charge
- Soft recovery
- Hermetic metal case with glass insulator
- Threaded stud M12
- SKN: anode to stud;  
SKR: cathode to stud

### Typical Applications\*

- Inverse diode for GTO and asymmetric thyristor
- Inverters and choppers
- A.C. motor control
- Uninterruptible power supplies (UPS)

| $V_{RSM}$<br>V | $V_{RRM}$<br>V | $I_{FRMS} = 260$ A (maximum value for continuous operation)<br>$I_{FAV} = 135$ A (sin. 180; 1000 Hz; $T_c = 100$ °C) |            |
|----------------|----------------|--|------------|
| 800            | 800            | SKN 135F08   | SKR 135F08 |
| 1000           | 1000           | SKN 135F10   | SKR 135F10 |
| 1200           | 1200           | SKN 135F12   | SKR 135F12 |

| Symbol        | Conditions                              | Values         | Units            |
|---------------|---|----------------|------------------|
| $I_{FAV}$     | sin. 180; $T_c = 85$ (100) °C           | 160 (135)      | A                |
| $I_{FAV}$     | K1,1F; $T_a = 35$ °C; sin. 180; 1000 Hz | 110            | A                |
| $I_{FSM}$     | $T_{vj} = 25$ °C; 10 ms                 | 2500           | A                |
|               | $T_{vj} = 150$ °C; 10 ms                | 2100           | A                |
| $i^2t$        | $T_{vj} = 25$ °C; 8,3 ... 10 ms         | 31000          | A <sup>2</sup> s |
|               | $T_{vj} = 150$ °C; 8,3 ... 10 ms        | 22000          | A <sup>2</sup> s |
| $V_F$         | $T_{vj} = 25$ °C; $I_F = 300$ A         | max. 1,95      | V                |
| $V_{(TO)}$    | $T_{vj} = 150$ °C                       | max. 1,1       | V                |
| $r_T$         | $T_{vj} = 150$ °C                       | max. 2,3       | mΩ               |
| $I_{RD}$      | $T_{vj} = 25$ °C; $V_{RD} = V_{RRM}$    | max. 1         | mA               |
| $I_{RD}$      | $T_{vj} = 150$ °C; $V_{RD} = V_{RRM}$   | max. 100       | mA               |
| $Q_{rr}$      | $T_{vj} = 150$ °C; $I_F = 100$ A,       | 50             | μC               |
| $I_{RM}$      | $-di/dt = 100$ A/μs, $V_R = 400$ V      | 53             | A                |
| $t_{rr}$      |   | 1900           | ns               |
| $E_{rr}$      |   | -              | mJ               |
| $R_{th(j-c)}$ |   | 0,2            | K/W              |
| $R_{th(c-s)}$ |   | 0,08           | K/W              |
| $T_{vj}$      |   | - 40 ... + 150 | °C               |
| $T_{stg}$     |   | - 55 ... + 150 | °C               |
| $V_{isol}$    |   | -              | V~               |
| $M_s$         | to heatsink                             | 10             | Nm               |
| $a$           |   | 5 * 9,81       | m/s <sup>2</sup> |
| $m$           | approx.                                 | 100            | g                |
| Case          | 135F                                    | E 14           |                  |



**SKN**

**SKR**

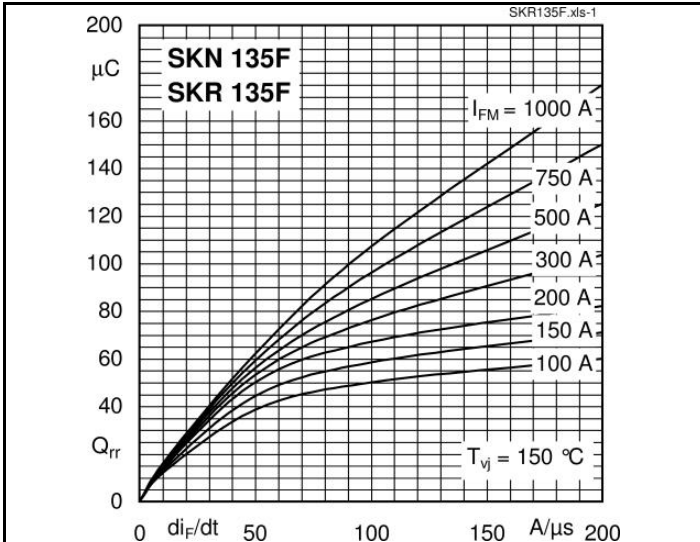


Fig. 1 Typ. recovery charge vs. current decrease

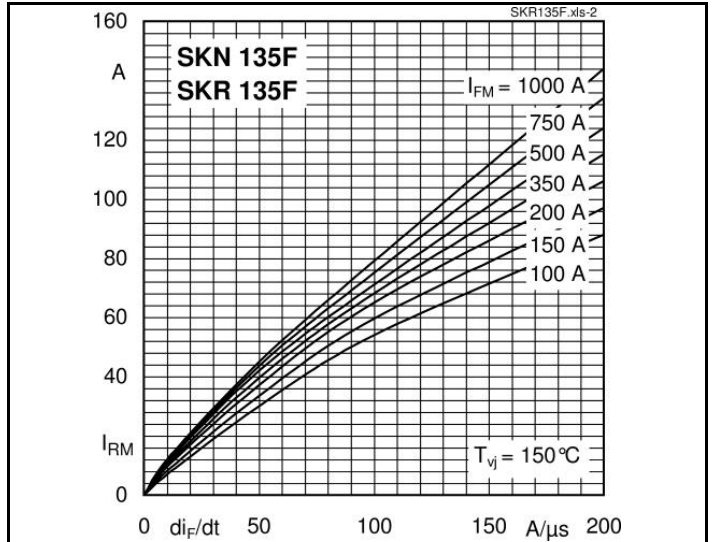


Fig. 2 Peak recovery current vs. current decrease

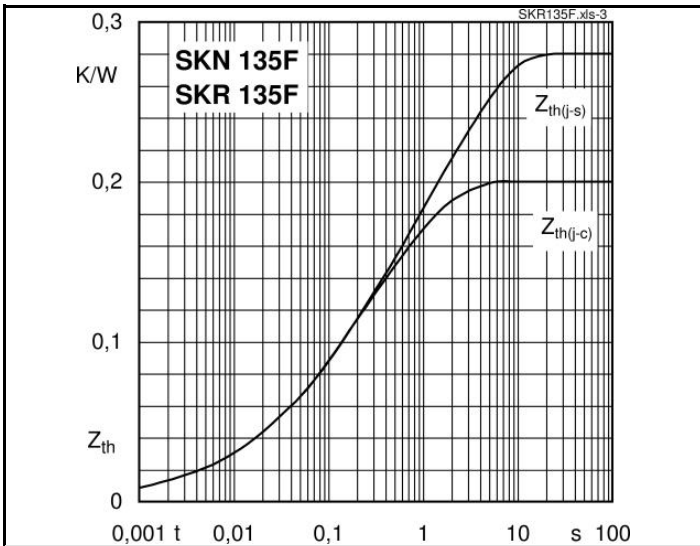


Fig. 3 Transient thermal impedance vs. time

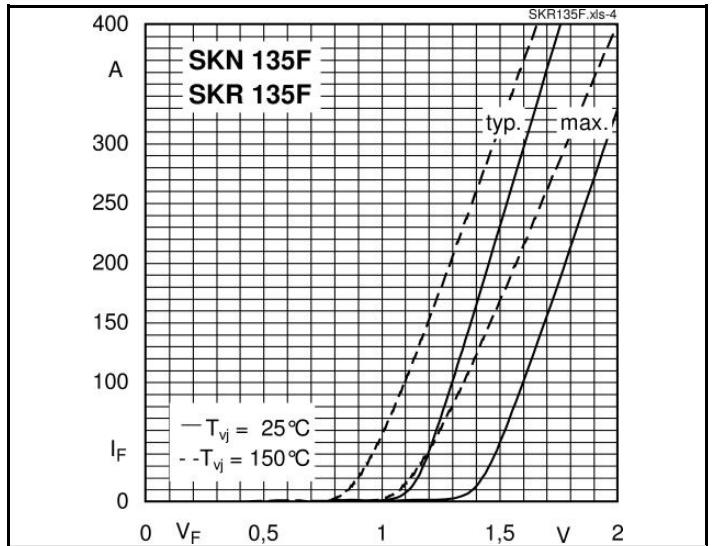


Fig. 4 Forward characteristics

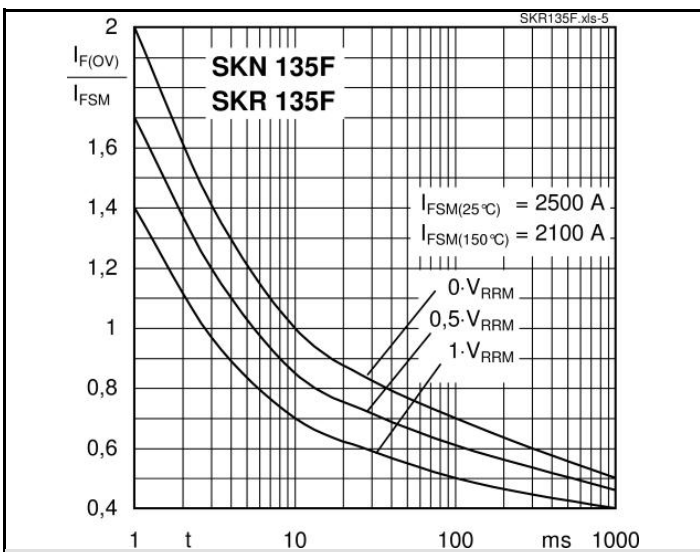
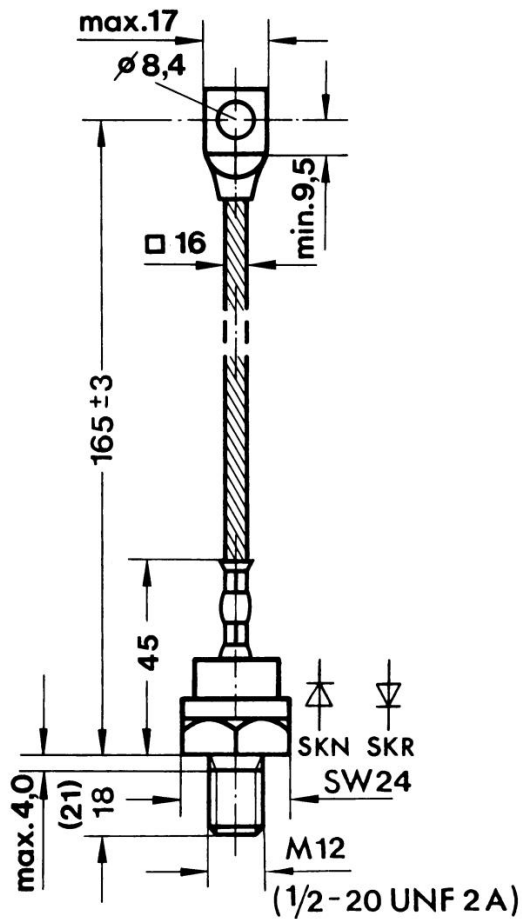


Fig. 5 Surge overload current vs. time

Dimensions in mm



Case E 14 (IEC 60191: A 9 MA modified; JEDEC: DO-205 AC (DO-30) modified)

\* 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.