

# SKN 141F



**Stud Diode**

## Fast Recovery Rectifier Diode

**SKN 141F**

**SKR 141F**

### Features

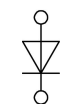
- Small recovered charge
- Soft recovery
- Hermetic metal case with glass insulator
- Threaded stud M12
- SKN: anode to stud;  
SKR: cathode to stud

### 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>$I_{FAV} = 140$ A (sin. 180; 1000 Hz; $T_c = 100$ °C) |            |
|----------------|----------------|--|------------|
| 1200           | 1200           | SKN 141F12   | SKR 141F12 |
| 1400           | 1400           | SKN 141F14   | SKR 141F14 |
| 1500           | 1500           | SKN 141F15   | SKR 141F15 |
| 1700           | 1700           | SKN 141F17   | SKR 141F17 |

| Symbol        | Conditions                              | Values         | Units            |
|---------------|---|----------------|------------------|
| $I_{FAV}$     | sin. 180; $T_c = 85$ (100) °C           | 168 (140)      | A                |
| $I_{FAV}$     | K1,1F; $T_a = 35$ °C; sin. 180; 1000 Hz | 114            | 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. 1,8       | V                |
| $V_{(TO)}$    | $T_{vj} = 150$ °C                       | max. 1,1       | V                |
| $r_T$         | $T_{vj} = 150$ °C                       | max. 2         | 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,       | 90             | μC               |
| $I_{RM}$      | $-di/dt = 100$ A/μs, $V_R = 400$ V      | 90             | A                |
| $t_{rr}$      |   | 2000           | 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.                                 | 75             | g                |
| Case          |   | E 31           |                  |



**SKN**

**SKR**

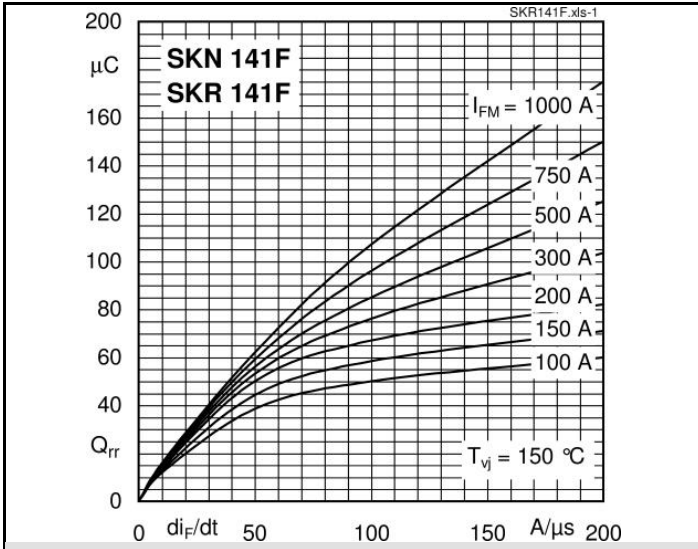


Fig. 1 Typ. recovery charge vs. current decrease

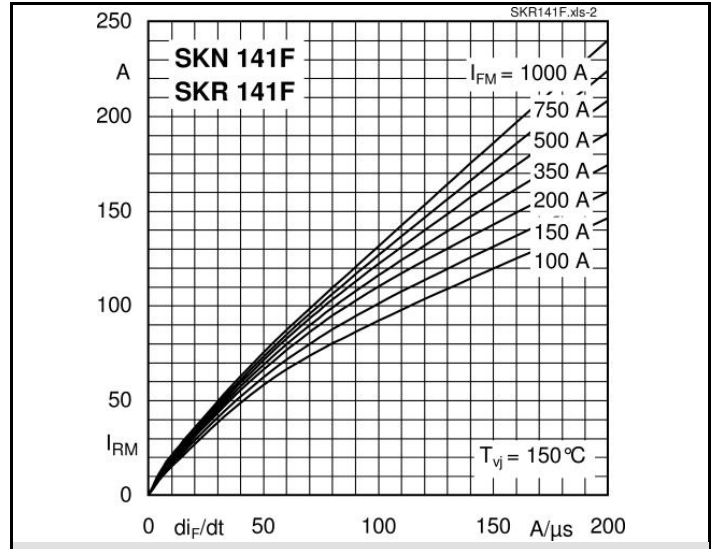


Fig. 2 Peak recovery current vs. current decrease

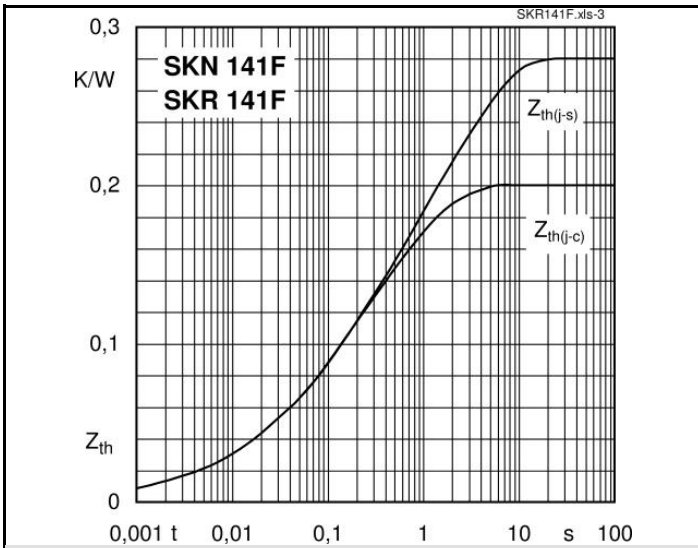


Fig. 3 Transient thermal impedance vs. time

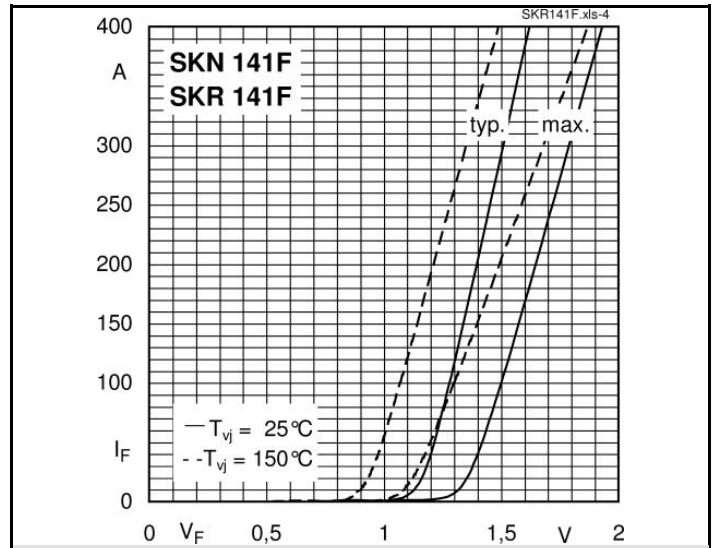


Fig. 4 Forward characteristics

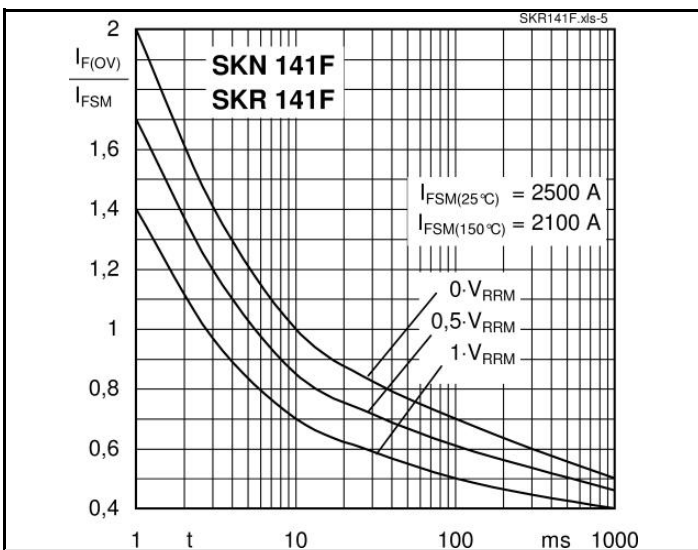
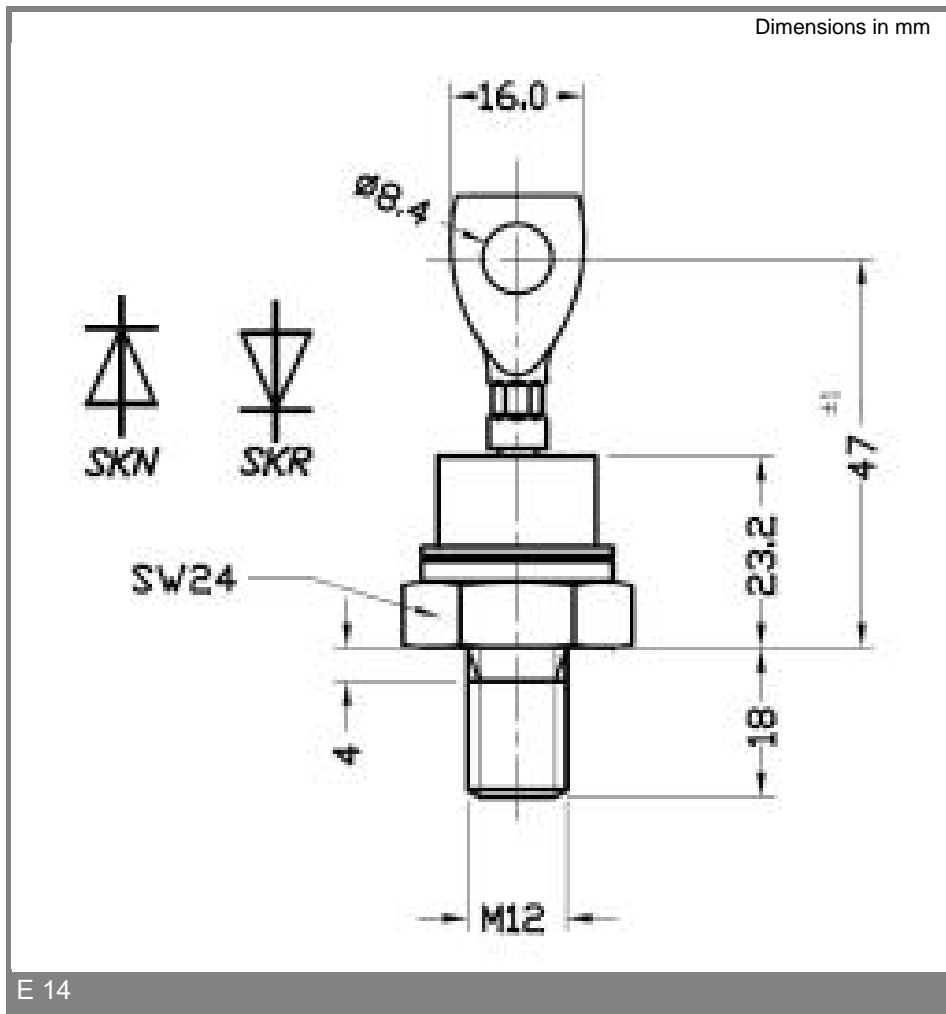


Fig. 5 Surge overload current vs. time

Dimensions in mm



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