



**SEMIPACK® 2**

## Fast Diode Modules

### SKKE 301F

#### Features

- CAL (controlled axial lifetime) technology, patent No. DE 43 10 44
- Heat transfer through ceramic isolated metal baseplate
- Very short recovery times
- Very soft recovery over the whole current range
- Low switching losses
- UL recognized, file no. E 63 532

#### Typical Applications\*

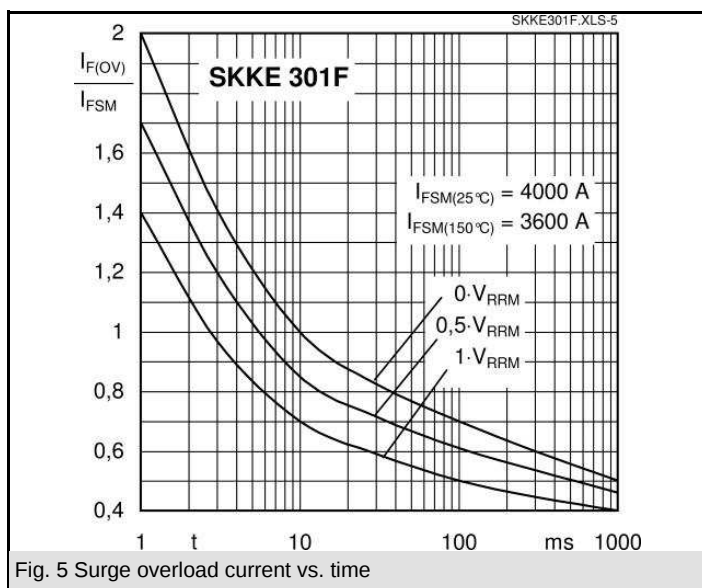
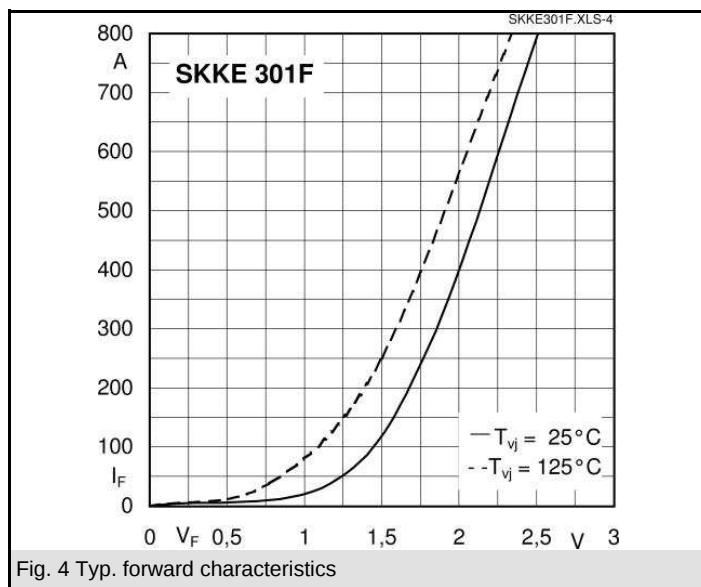
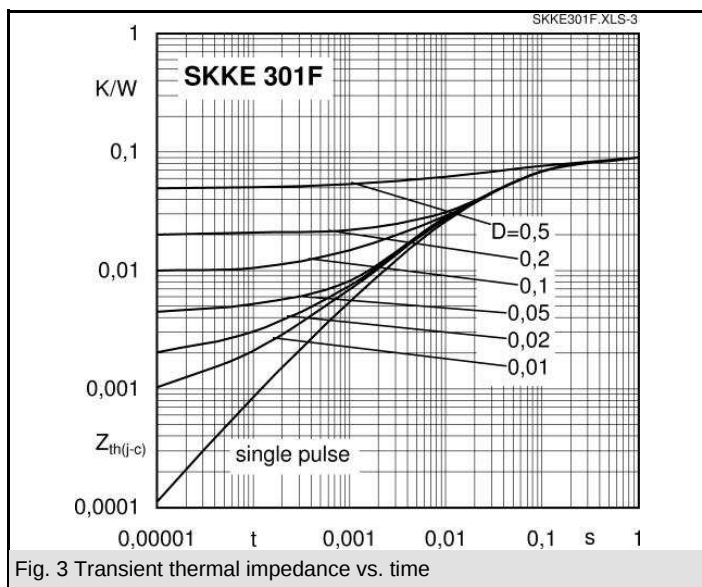
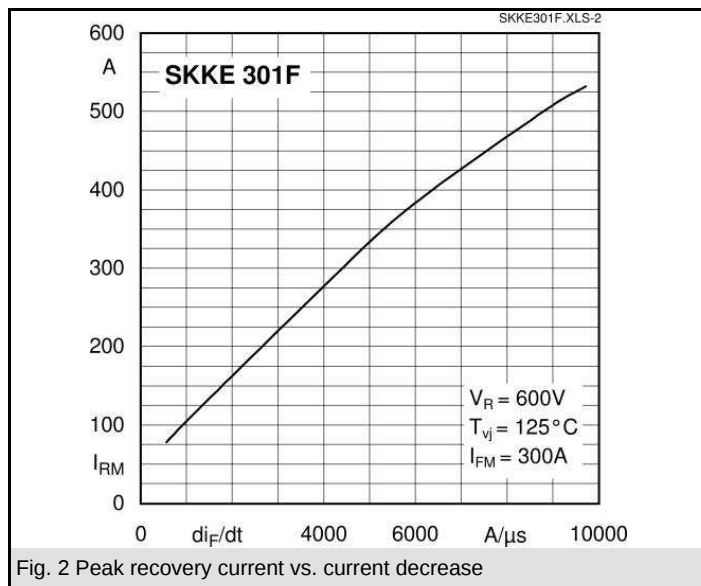
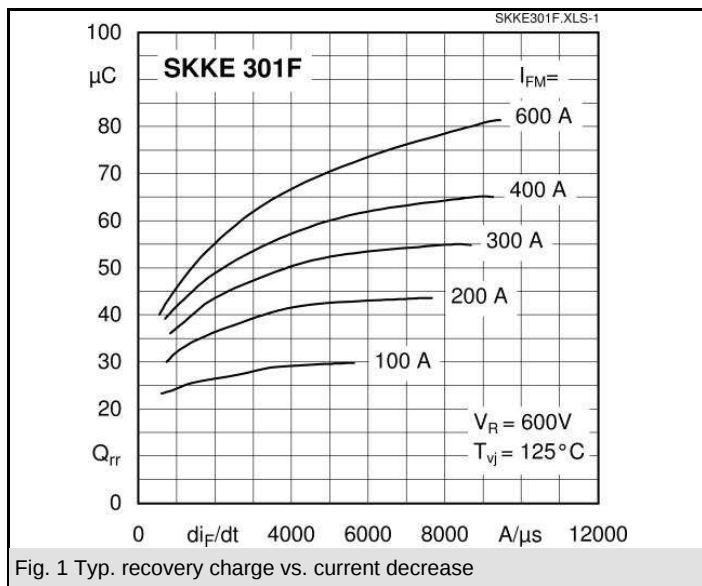
- Self-commutated inverters
- DC choppers
- AC motor speed control
- inductive heating
- Uninterruptible power supplies
- Electronic welders
- General power switching applications

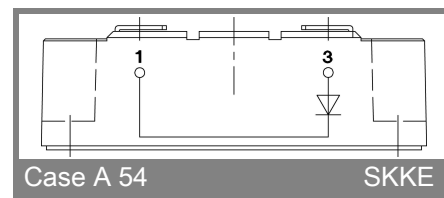
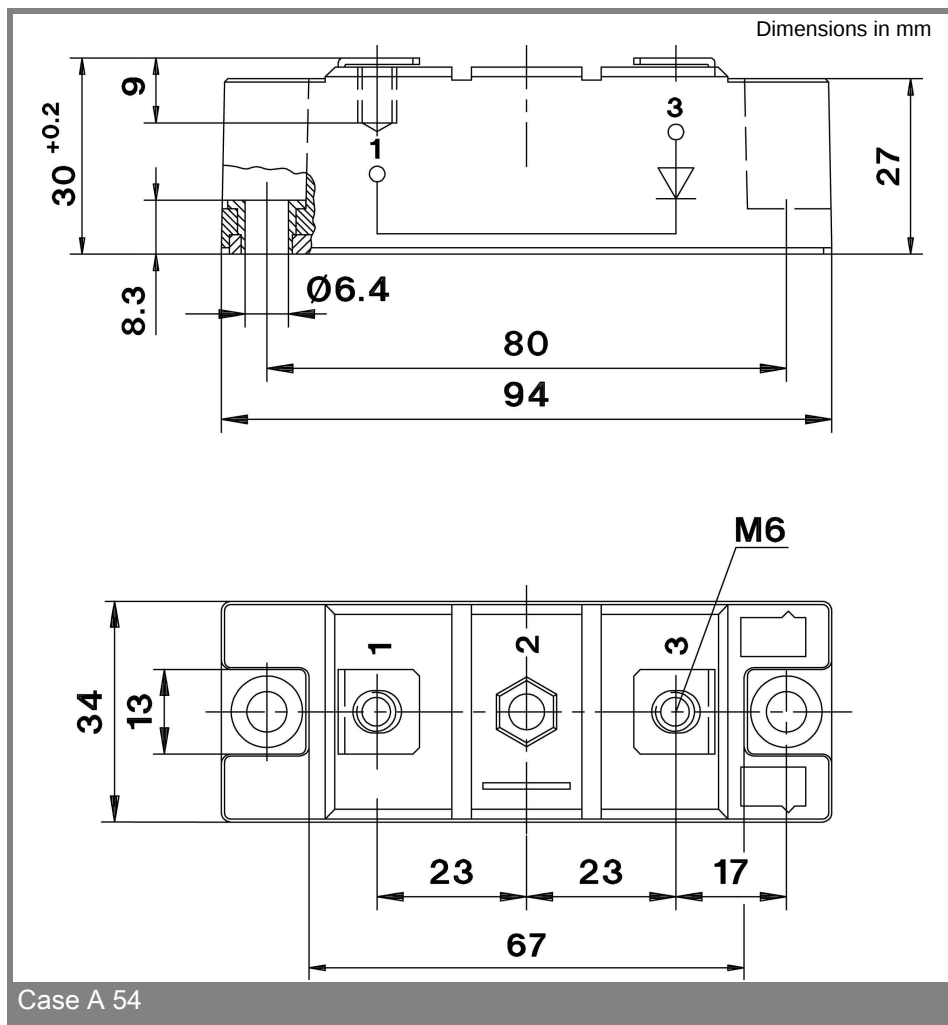
| $V_{RSM}$<br>V | $V_{RRM}$<br>V | $I_{FRMS} = 450$ A (maximum value for continuous operation)<br>$I_{FAV} = 300$ A (sin. 180; 50 Hz; $T_c = 43$ °C) |  |
|----------------|----------------|-------------------------------------------------------------------------------------------------------------------|--|
| 1200           | 1200           | SKKE 301F12                                                                                                       |  |

| Symbol        | Conditions                                                             | Values         | Units      |
|---------------|------------------------------------------------------------------------|----------------|------------|
| $I_{FAV}$     | sin. 180; $T_c = 85$ (100) °C                                          | 220 (185)      | A          |
| $I_{FSM}$     | $T_{vj} = 25$ °C; 10 ms<br>$T_{vj} = 150$ °C; 10 ms                    | 4000<br>3600   | A          |
| $i^2t$        | $T_{vj} = 25$ °C; 8,3 ... 10 ms<br>$T_{vj} = 150$ °C; 8,3 ... 10 ms    | 80000<br>64800 | A²s<br>A²s |
| $V_F$         | $T_{vj} = 25$ °C; $I_F = 300$ A                                        | max. 2,2       | V          |
| $V_{(TO)}$    | $T_{vj} = 150$ °C                                                      | max. 1,2       | V          |
| $r_T$         | $T_{vj} = 150$ °C                                                      | max. 2,75      | 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. 80        | mA         |
| $Q_{rr}$      | $T_{vj} = 125$ °C; $I_F = 300$ A,<br>-di/dt = 2000 A/μs, $V_R = 600$ V | 42             | μC         |
| $I_{RM}$      |                                                                        | 165            | A          |
| $t_{rr}$      |                                                                        | 690            | ns         |
| $E_{rr}$      |                                                                        | 10,8           | mJ         |
| $R_{th(j-c)}$ |                                                                        | 0,11           | K/W        |
| $R_{th(c-s)}$ |                                                                        | 0,05           | K/W        |
| $T_{vj}$      |                                                                        | - 40 ... + 150 | °C         |
| $T_{stg}$     |                                                                        | - 40 ... + 125 | °C         |
| $V_{isol}$    | a. c. 50 Hz; r.m.s.; 1 s / 1 min.                                      | 4800 / 4000    | V~         |
| $M_s$         | to heatsink                                                            | 5 ± 15 %       | Nm         |
| $M_t$         | to terminal                                                            | 5 ± 15 %       | Nm         |
| $a$           |                                                                        | 5 * 9,81       | m/s²       |
| $m$           | approx.                                                                | 160            | g          |
| Case          |                                                                        | A 54           |            |



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\* 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.