



Fast Diode Modules

SKKE 600F

Features

- CAL (controlled axial lifetime) technology, patent No. 43 10 44
- Heat transfer through aluminium oxide DCB ceramic isolated metal baseplate
- Small recovered charge
- Fast & soft recovery CAL diodes
- UL recognized, file no. E 63 532

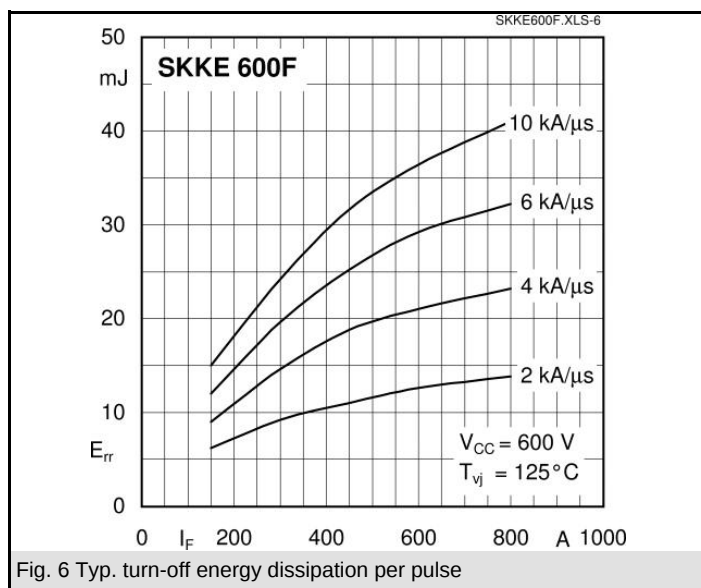
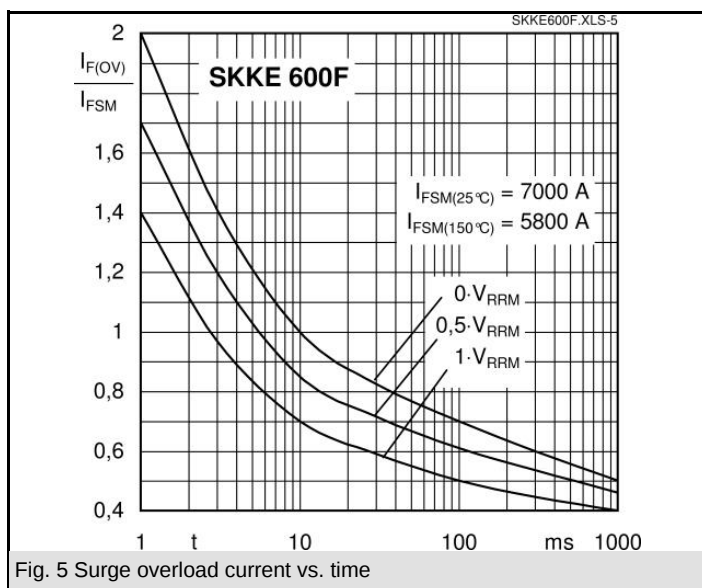
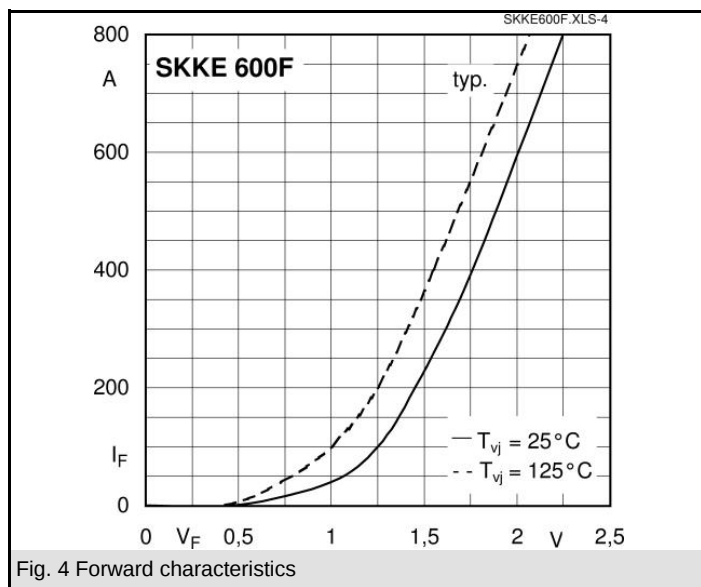
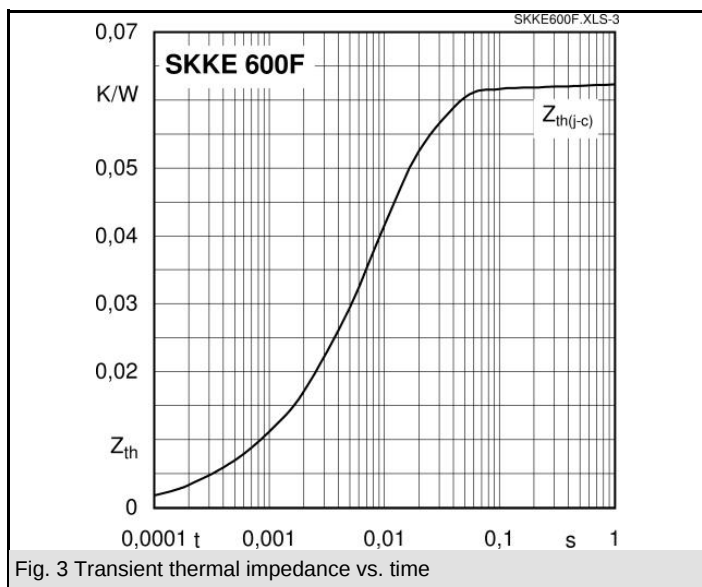
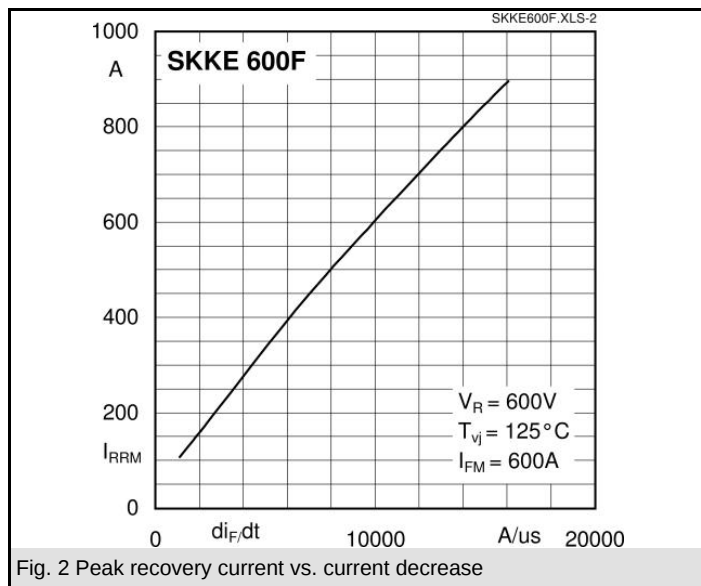
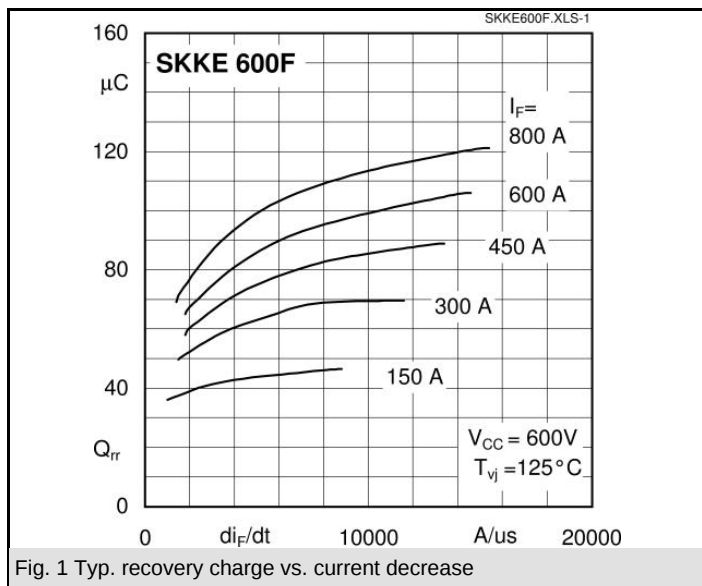
Typical Applications\*

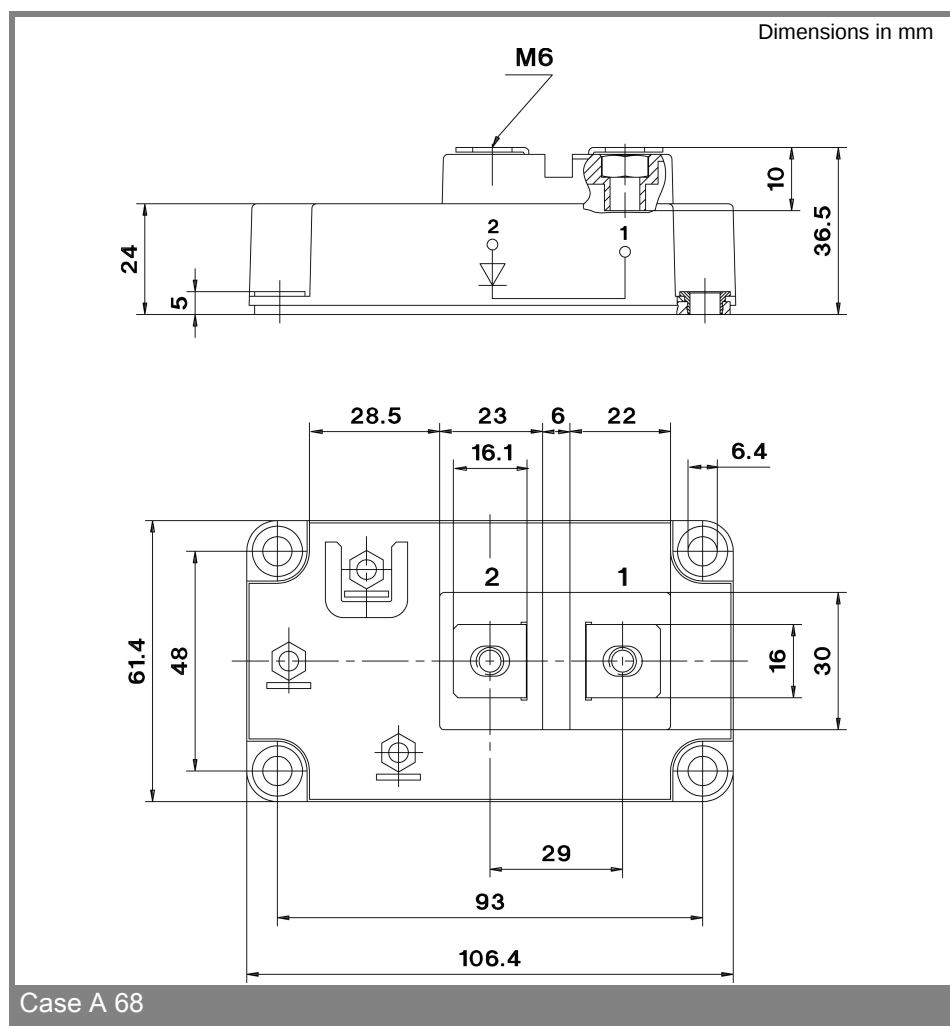
- Freewheeling diodes for IGBT
- Freewheeling diode for inductive loads
- Brake choppers
- Inverters and DC choppers
- AC motor control
- Boost choppers
- up to 20 kHz

|                |                |                                                                                                                   |  |
|----------------|----------------|-------------------------------------------------------------------------------------------------------------------|--|
| $V_{RSM}$<br>V | $V_{RRM}$<br>V | $I_{FRMS} = 450$ A (maximum value for continuous operation)<br>$I_{FAV} = 360$ A (sin. 180; 50 Hz; $T_c = 85$ °C) |  |
| 1200           | 1200           | SKKE 600F12                                                                                                       |  |

| Symbol        | Conditions                                                             | Values           | Units      |
|---------------|------------------------------------------------------------------------|------------------|------------|
| $I_{FAV}$     | sin. 180; $T_c = 85$ (100) °C                                          | 360 (305)        | A          |
| $I_{FSM}$     | $T_{vj} = 25$ °C; 10 ms<br>$T_{vj} = 150$ °C; 10 ms                    | 7000<br>5800     | A<br>A     |
| $i^2t$        | $T_{vj} = 25$ °C; 8,3 ... 10 ms<br>$T_{vj} = 150$ °C; 8,3 ... 10 ms    | 245000<br>168000 | A²s<br>A²s |
| $V_F$         | $T_{vj} = 25$ °C; $I_F = 600$ A                                        | max. 2,5         | V          |
| $V_{(TO)}$    | $T_{vj} = 150$ °C                                                      | max. 1,2         | V          |
| $r_T$         | $T_{vj} = 150$ °C                                                      | max. 1,9         | mΩ         |
| $I_{RD}$      | $T_{vj} = 25$ °C; $V_{RD} = V_{RRM}$                                   | max. 4           | mA         |
| $I_{RD}$      | $T_{vj} = 150$ °C; $V_{RD} = V_{RRM}$                                  | max. 30          | mA         |
| $Q_{rr}$      | $T_{vj} = 150$ °C, $I_F = 600$ A,<br>-di/dt = 4000 A/μs, $V_R = 600$ V | 80               | μC         |
| $I_{RM}$      |                                                                        | 280              | A          |
| $t_{rr}$      |                                                                        | 780              | ns         |
| $E_{rr}$      |                                                                        | 21               | mJ         |
| $R_{th(j-c)}$ | DC                                                                     | 0,062            | K/W        |
| $R_{th(c-s)}$ |                                                                        | 0,038            | K/W        |
| $T_{vj}$      |                                                                        | - 40 ... + 150   | °C         |
| $T_{stg}$     |                                                                        | - 40 ... + 125   | °C         |
| $V_{isol}$    | a. c. 50 Hz; r.m.s.; 1s / 1 min.                                       | 4800 / 4000      | V~         |
| $M_s$         | to heatsink                                                            | 3 ... 5          | Nm         |
| $M_t$         | to terminals                                                           | 2,5 ... 5        | Nm         |
| $a$           |                                                                        | 5 * 9,81         | m/s²       |
| $m$           | approx.                                                                | 330              | g          |
| Case          | SEMITRANS 4                                                            | A 68             |            |







\* 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.