

# SKKD 170F



**SEMIPACK<sup>®</sup> 2**

## Fast Diode Modules

### SKKD 170F

#### Features

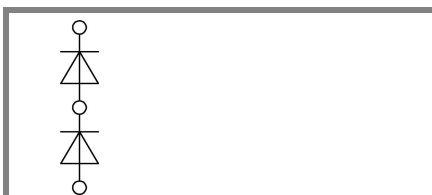
- CAL (controlled axial lifetime) technology, patent No. DE 43 10 44
- Heat transfer through ceramic isolated metal baseplate
- Very short recovery times
- Very soft recovery over the whole current range
- Low switching losses
- UL recognized, file no. E 63532

#### Typical Applications

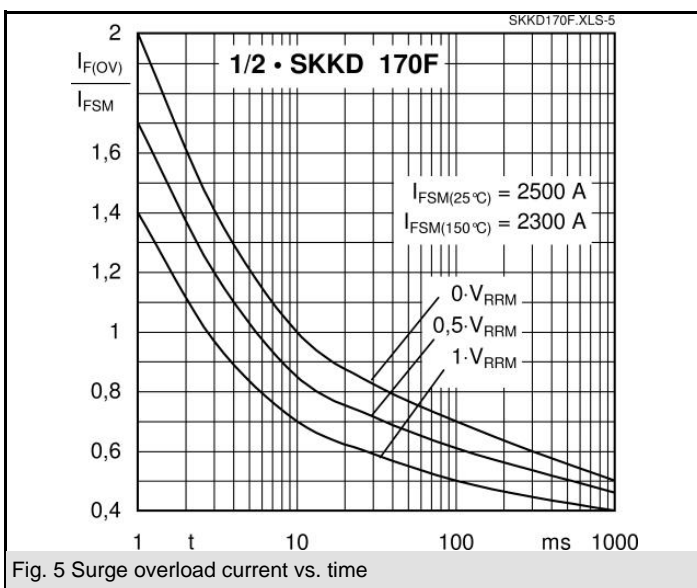
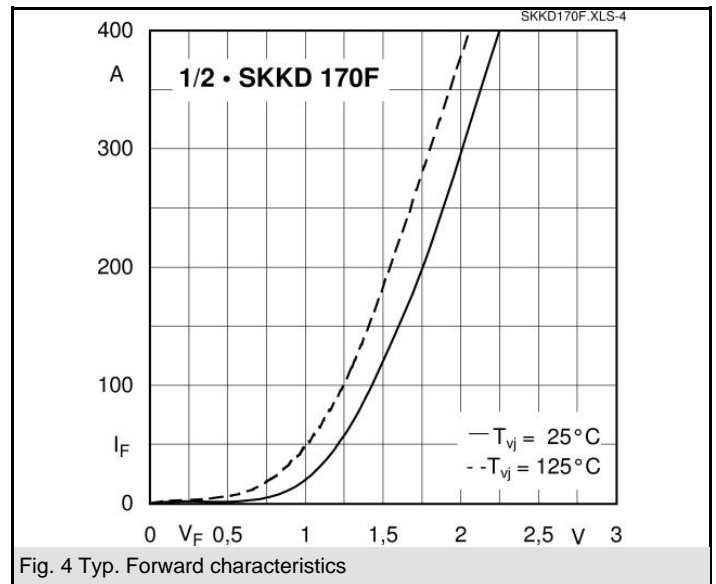
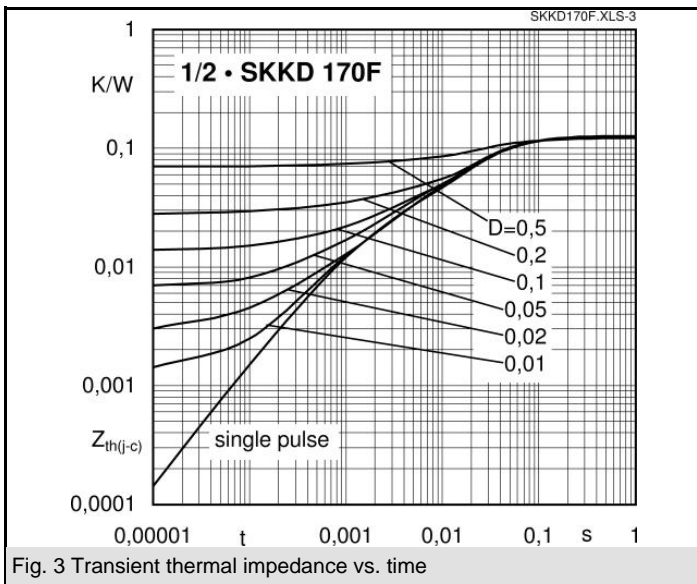
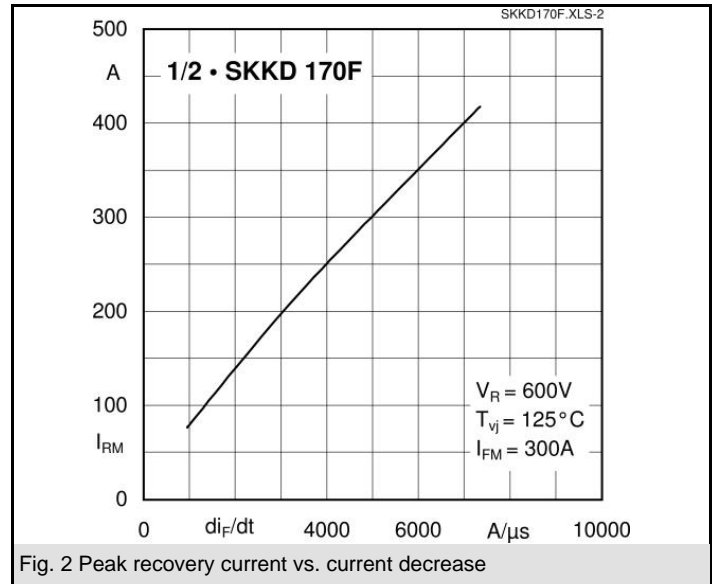
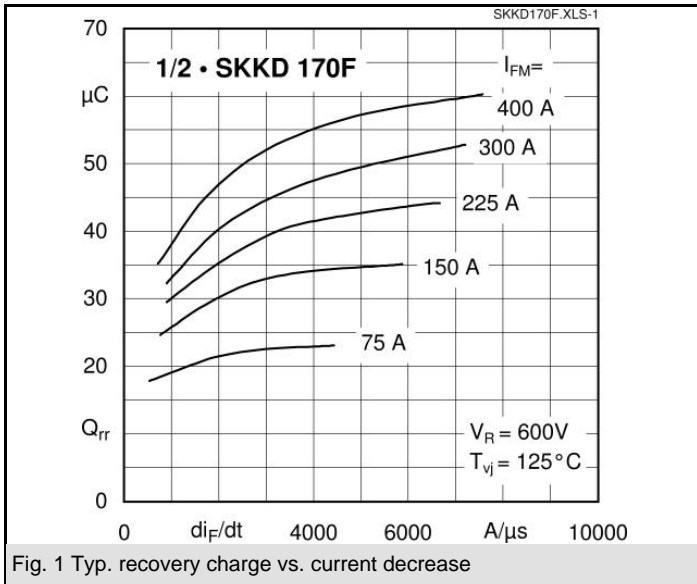
- Self-commutated inverters
- DC choppers
- AC motor speed control
- Inductive heating
- Uninterruptible power supplies
- Electronic welders
- General power switching applications

|                |                |   |  |
|----------------|----------------|---|--|
| $V_{RSM}$<br>V | $V_{RRM}$<br>V | $I_{FRMS} = 320$ A (maximum value for continuous operation) |  |
| 1200           | 1200           | $I_{FAV} = 170$ A (sin. 180; $T_c = 85$ °C)                 |  |
|                |                | SKKD 170F12   |  |

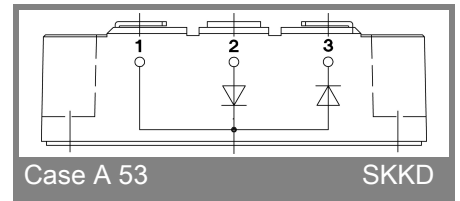
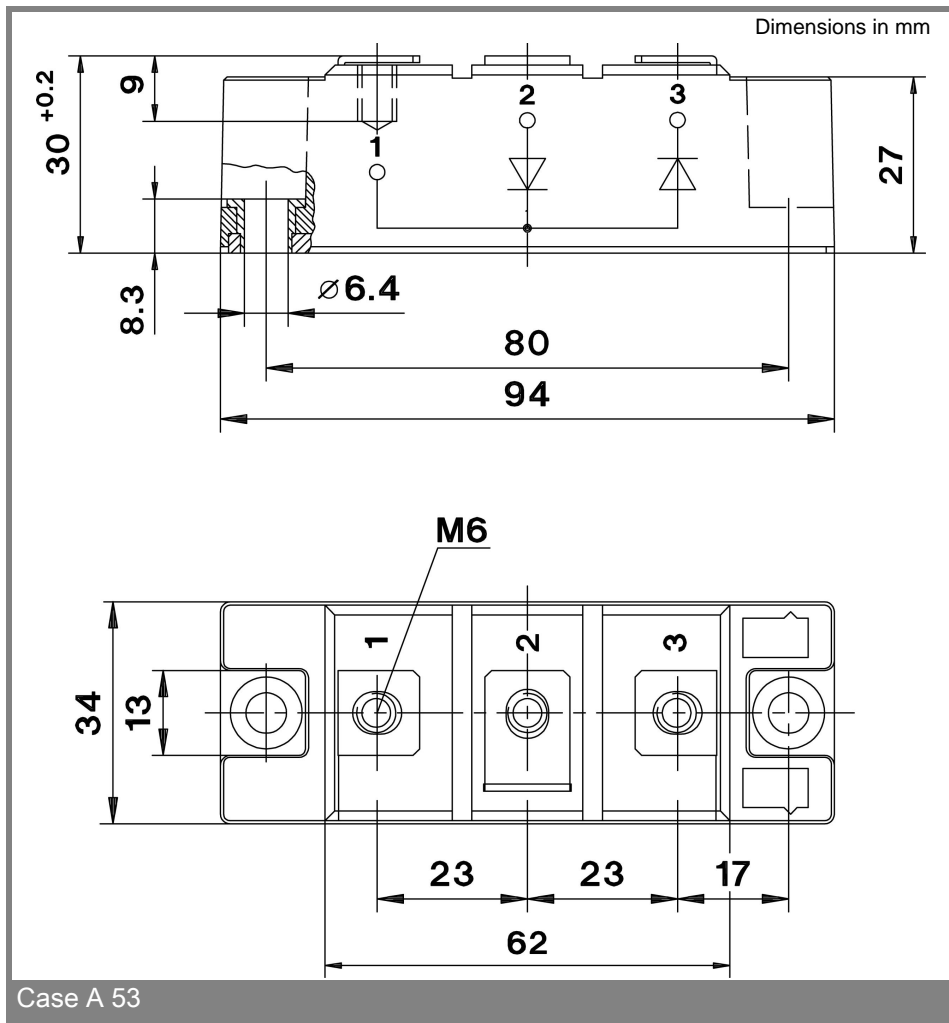
| Symbol        | Conditions                            | Values         | Units            |
|---------------|---------------------------------------|----------------|------------------|
| $I_{FAV}$     | sin. 180; $T_c = 85$ (100) °C         | 170 (145)      | A                |
| $I_{FSM}$     | $T_{vj} = 25$ °C; 10 ms               | 2500           | A                |
|               | $T_{vj} = 150$ °C; 10 ms              | 2300           | A                |
| $i^2t$        | $T_{vj} = 25$ °C; 8,3 ... 10 ms       | 31250          | A <sup>2</sup> s |
|               | $T_{vj} = 150$ °C; 8,3 ... 10 ms      | 26450          | A <sup>2</sup> s |
| $V_F$         | $T_{vj} = 25$ °C; $I_F = 170$ A       | max. 2         | V                |
| $V_{(TO)}$    | $T_{vj} = 150$ °C                     | max. 1,2       | V                |
| $r_T$         | $T_{vj} = 150$ °C                     | max. 3,5       | 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. 60        | mA               |
| $Q_{rr}$      | $T_{vj} = 125$ °C, $I_F = 170$ A,     | 28             | μC               |
| $I_{RM}$      | $-di/dt = 1000$ A/μs, $V_R = 600$ V   | 80             | A                |
| $t_{rr}$      |                                       | 960            | ns               |
| $E_{rr}$      |                                       | 5              | mJ               |
| $R_{th(j-c)}$ | per diode / per module                | 0,14 / 0,07    | K/W              |
| $R_{th(c-s)}$ | per diode / per module                | 0,1 / 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/s <sup>2</sup> |
| $m$           | approx.                               | 153            | g                |
| Case          |                                       | A 53           |                  |



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