



**SEMIPACK® 2**

## Fast Diode Modules

### SKKD 60F

#### Features

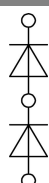
- Heat transfer through ceramic isolated metal baseplate
- Very short recovery times
- Soft recovery
- Low switching losses
- Up to 1600 V peak inverse voltage
- UL recognized, file no. E 63 532

#### 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 | $I_{FRMS} = 110$ A (maximum value for continuous operation)<br>$I_{FAV} = 60$ A (sin. 180; 50 Hz; $T_c = 83$ °C) |  |
|----------------|----------------|------------------------------------------------------------------------------------------------------------------|--|
| 1700           | 1700           | SKKD 60F17                                                                                                       |  |

| Symbol        | Conditions                            | Values         | Units |
|---------------|---------------------------------------|----------------|-------|
| $I_{FAV}$     | sin. 180; $T_c = 85$ (100) °C         | 58 (49)        | A     |
| $I_{FSM}$     | $T_{vj} = 25$ °C; 10 ms               | 1000           | A     |
|               | $T_{vj} = 150$ °C; 10 ms              | 900            | A     |
|               | $T_{vj} = 25$ °C; 8,3 ... 10 ms       | 5000           | A²s   |
|               | $T_{vj} = 150$ °C; 8,3 ... 10 ms      | 4000           | A²s   |
| $V_F$         | $T_{vj} = 25$ °C; $I_F = 100$ A       | max. 2,7       | V     |
| $V_{(TO)}$    | $T_{vj} = 150$ °C                     | max. 1,5       | V     |
| $r_T$         | $T_{vj} = 150$ °C                     | max. 9         | mΩ    |
| $I_{RD}$      | $T_{vj} = 25$ °C; $V_{RD} = V_{RRM}$  | max. 0,4       | mA    |
| $I_{RD}$      | $T_{vj} = 125$ °C; $V_{RD} = V_{RRM}$ | max. 25        | mA    |
| $Q_{rr}$      | $T_{vj} = 125$ °C, $I_F = 60$ A,      | 18             | μC    |
| $I_{RM}$      | -di/dt = 500 A/μs, $V_R = 1200$ V     | 60             | A     |
| $t_{rr}$      |                                       | 800            | ns    |
| $E_{rr}$      |                                       | 5              | mJ    |
| $R_{th(j-c)}$ | per diode / per module                | 0,4 / 0,2      | 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 terminals                          | 5 ± 15%        | Nm    |
| $a$           |                                       | 5 * 9,81       | m/s²  |
| $m$           | approx.                               | 160            | g     |
| Case          |                                       | A 23           |       |



**SKKD**

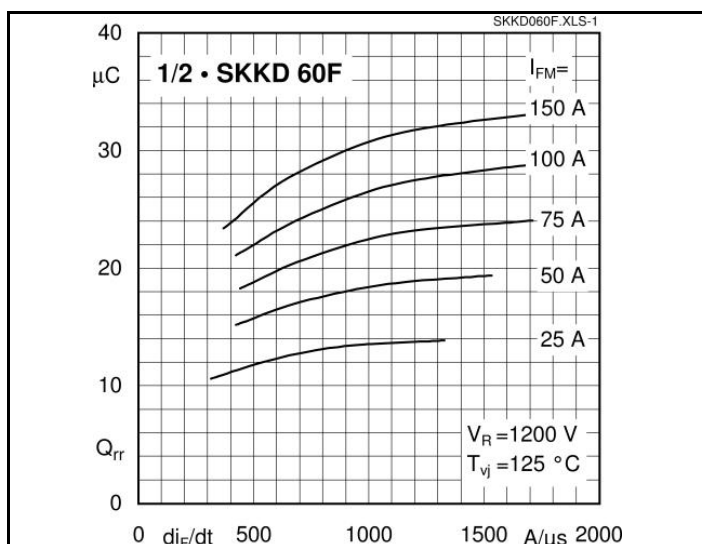


Fig. 1 Typ. recovery charge vs. current decrease

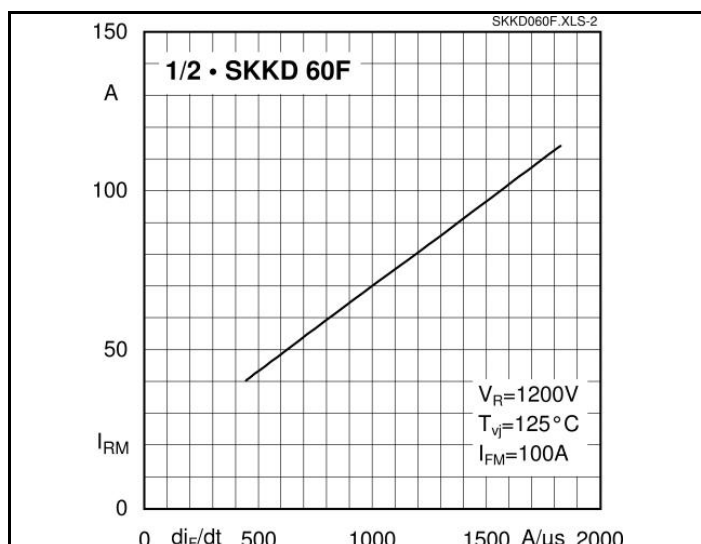


Fig. 2 Peak recovery current vs. current decrease

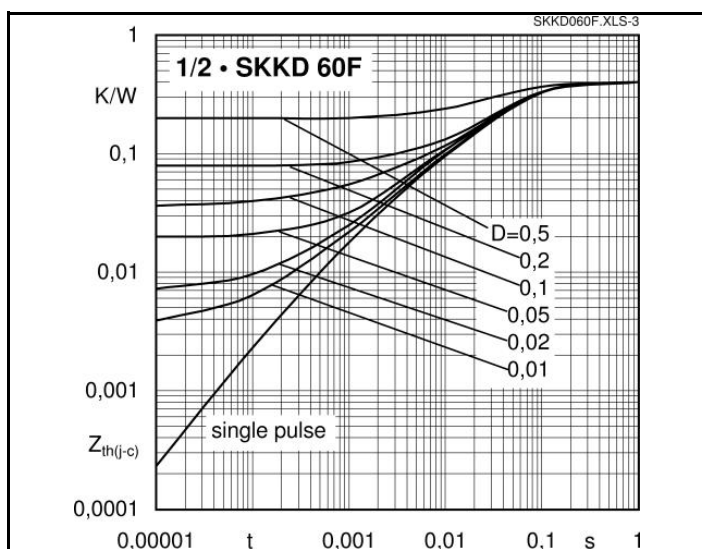


Fig. 3 Transient thermal impedance vs. time

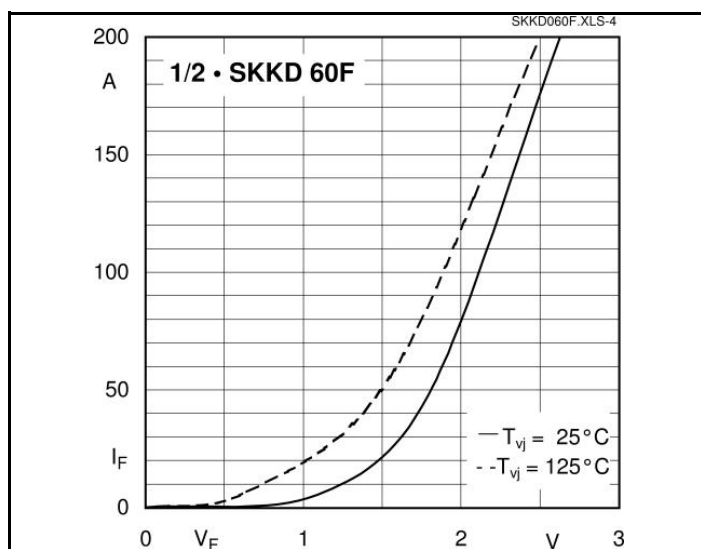


Fig. 4 Typ. forward characteristics

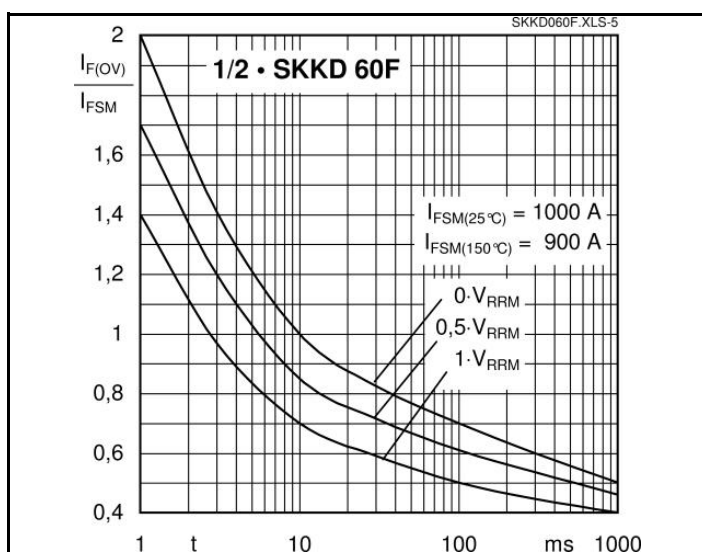
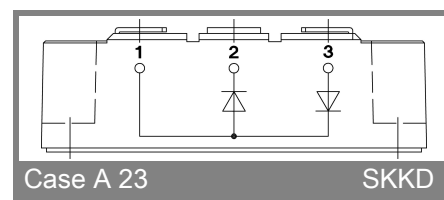
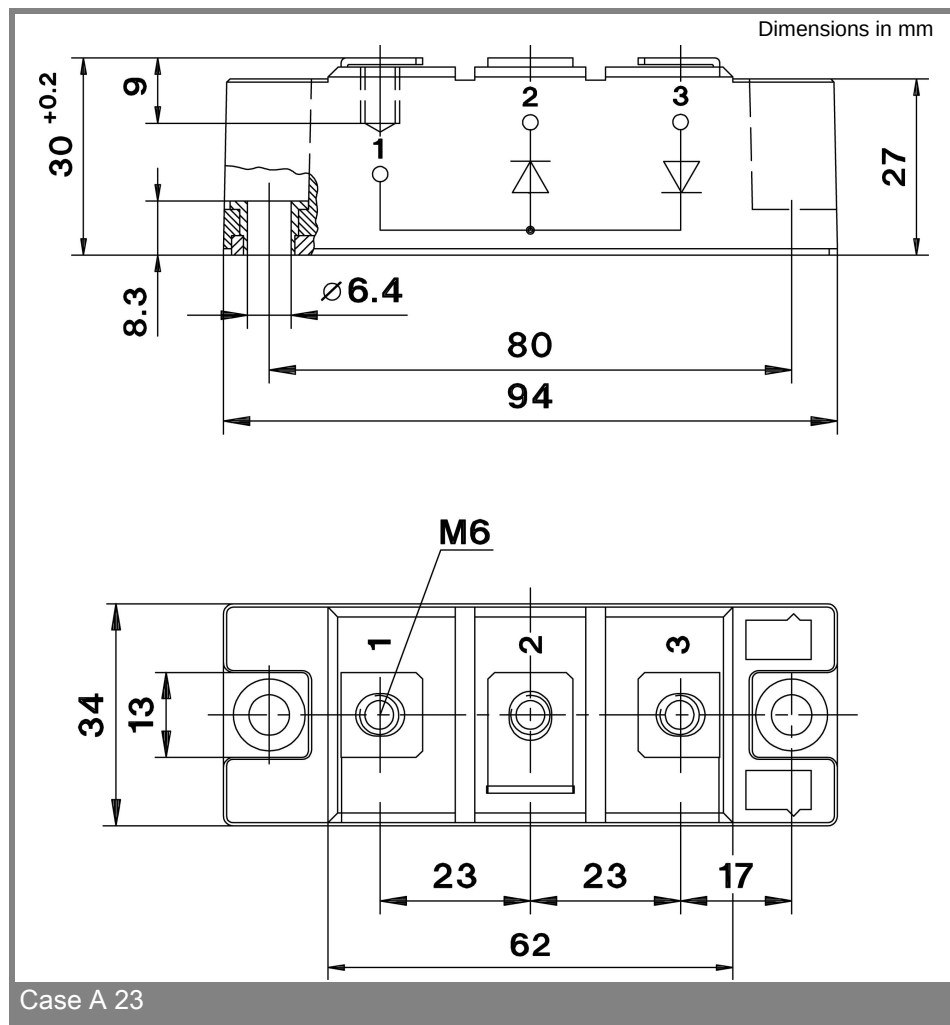


Fig. 5 Surge overload current vs. time



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