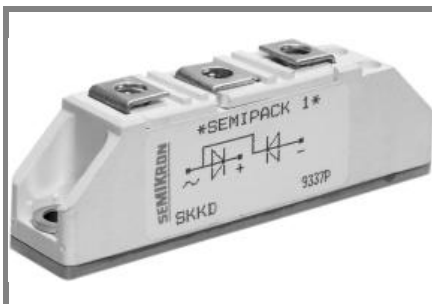


# SKKD 105F, SKMD 105F, SKND 105F



## SEMIPACK<sup>®</sup> 1

### Fast Diode Modules

**SKKD 105F**

**SKMD 105F**

**SKND 105F**

#### Features

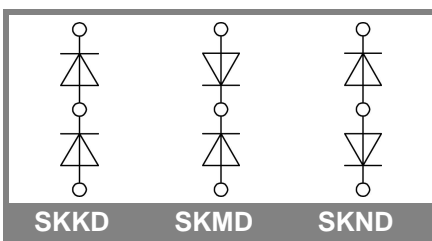
- Heat transfer through ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- SKKD half bridge connection; centre tap connections: SKMD common cathode, SKND common anode
- UL recognized, file no. E 63 532

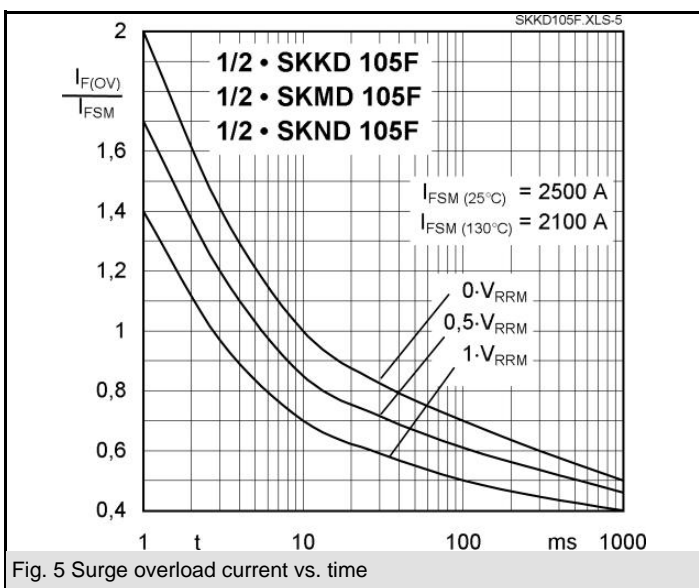
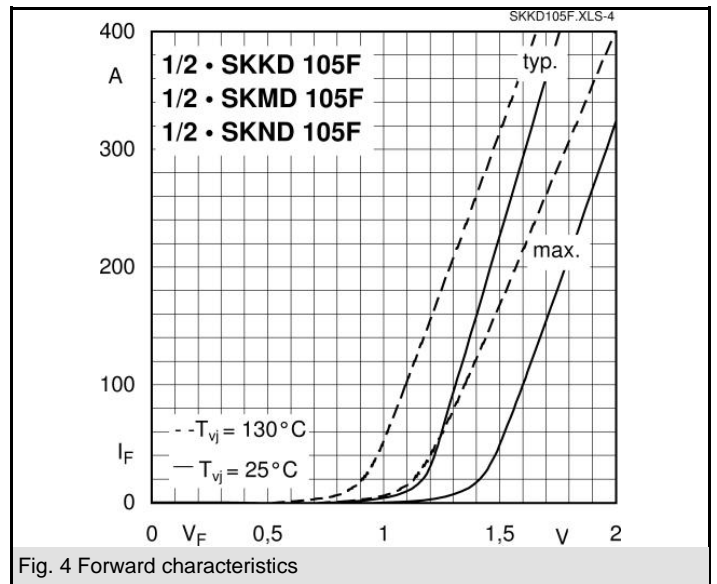
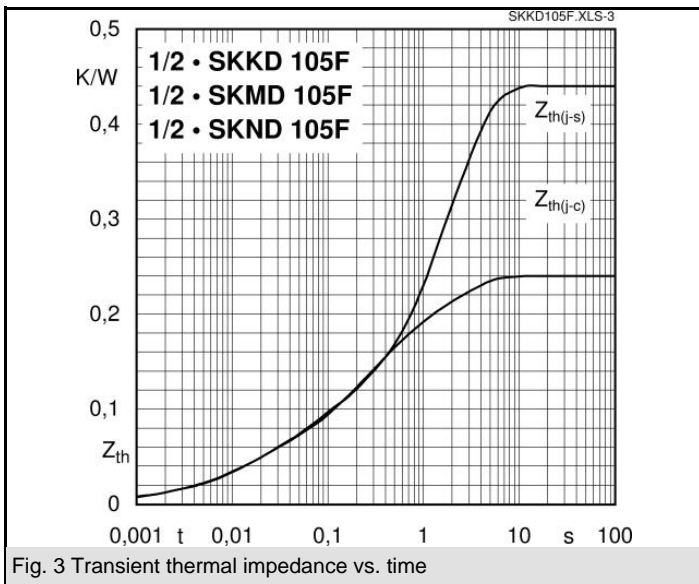
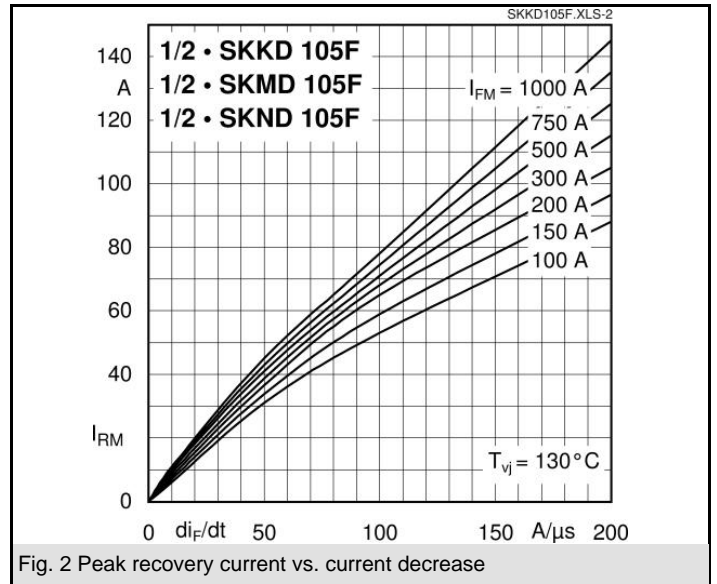
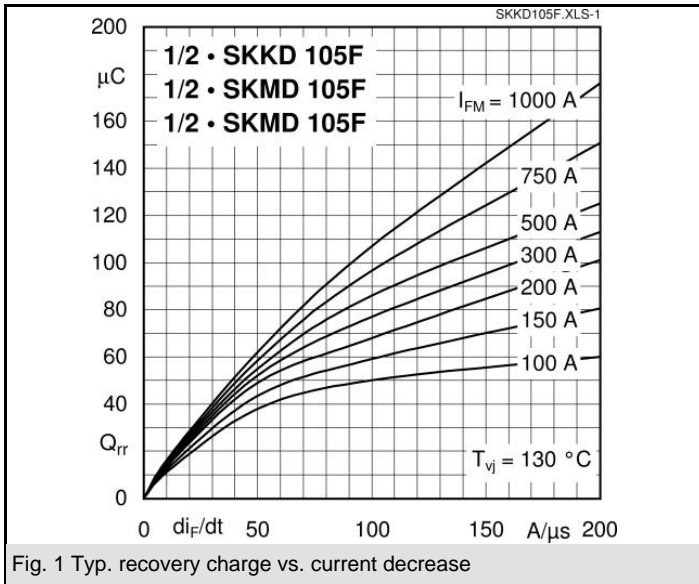
#### Typical Applications\*

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

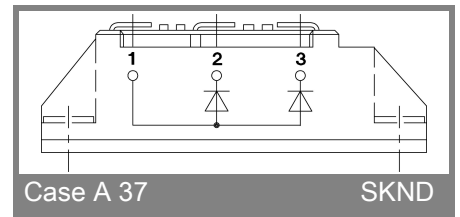
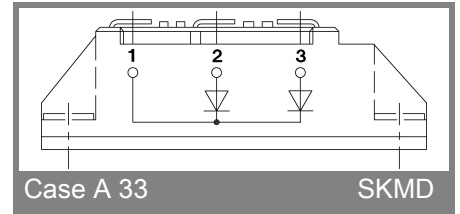
| $V_{RSM}$<br>V | $V_{RRM}$<br>V | $I_{FRMS} = 200$ A (maximum value for continuous operation) |             |             |
|----------------|----------------|---|-------------|-------------|
|                |                | $I_{FAV} = 105$ A (sin. 180; $T_c = 83$ °C)                 |             |             |
| 800            | 800            | SKKD 105F08   | SKMD 105F08 | SKND 105F08 |
| 1000           | 1000           | SKKD 105F10   | SKMD 105F10 | SKND 105F10 |
| 1200           | 1200           | SKKD 105F12   | SKMD 105F12 | SKND 105F12 |
| 1600           | 1600           | SKKD 105F16   |             |             |

| Symbol        | Conditions                            | Values         | Units            |
|---------------|---------------------------------------|----------------|------------------|
| $I_{FAV}$     | sin. 180; $T_c = 85$ (100) °C         | 102 (65)       | A                |
| $I_{FSM}$     | $T_{vj} = 25$ °C; 10 ms               | 2500           | A                |
|               | $T_{vj} = 130$ °C; 10 ms              | 2100           | A                |
| $i^2t$        | $T_{vj} = 25$ °C; 8,3 ... 10 ms       | 31250          | A <sup>2</sup> s |
|               | $T_{vj} = 130$ °C; 8,3 ... 10 ms      | 22000          | A <sup>2</sup> s |
| $V_F$         | $T_{vj} = 25$ °C; $I_F = 300$ A       | max. 2,05      | V                |
| $V_{(TO)}$    | $T_{vj} = 130$ °C                     | max. 1,2       | V                |
| $r_T$         | $T_{vj} = 130$ °C                     | max. 2,5       | mΩ               |
| $I_{RD}$      | $T_{vj} = 25$ °C; $V_{RD} = V_{RRM}$  | max. 1         | mA               |
| $I_{RD}$      | $T_{vj} = 130$ °C; $V_{RD} = V_{RRM}$ | max. 30        | mA               |
| $Q_{rr}$      | $T_{vj} = 130$ °C; $I_F = 100$ A,     | 50             | μC               |
| $I_{RM}$      | $-di/dt = 50$ A/μs; $V_R = 30$ V      | 53             | A                |
| $t_{rr}$      |                                       | 1890           | ns               |
| $E_{rr}$      |                                       | 0,8            | mJ               |
| $R_{th(j-c)}$ | per diode / per module                | 0,24 / 0,12    | K/W              |
| $R_{th(c-s)}$ | per diode / per module                | 0,2 / 0,1      | K/W              |
| $T_{vj}$      |                                       | - 40 ... + 130 | °C               |
| $T_{stg}$     |                                       | - 40 ... + 125 | °C               |
| $V_{isol}$    | a. c. 50 Hz; r.m.s; 1 s / 1 min.      | 3600 / 3000    | V~               |
| $M_s$         | to heatsink                           | 5 ± 15 %       | Nm               |
| $M_t$         | to terminals                          | 3 ± 15 %       | Nm               |
| $a$           |                                       | 5 * 9,81       | m/s <sup>2</sup> |
| $m$           | approx.                               | 120            | g                |
| Case          | SKKD                                  | A 10           |                  |
|               | SKMD                                  | A 33           |                  |
|               | SKND                                  | A 37           |                  |





# SKKD 105F, SKMD 105F, SKND 105F



\* 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.