# SKKD 42F, SKMD 42F, SKND 42F


**SEMIPACK® 1**

| $V_{RSM}$ V | $V_{RRM}$ V | $I_{FRMS}$ = 120 A (maximum value for continuous operation) $I_{FAV}$ = 42 A (sin. 180; 50 Hz; $T_c$ = 85 °C) | | |
|---|---|---|---|---|
| 1000 | 1000 | SKKD 42F10 | SKMD 42F10 | |
| 1200 | 1200 | SKKD 42F12 | SKMD 42F12 | SKND 42F12 |
| 1400 | 1400 | SKKD 42F14 | SKMD 42F14 | SKND 42F14 |
| 1500 | 1500 | SKKD 42F15 | SKMD 42F15 | SKKD 42F15 |

## Fast Diode Modules

**SKKD 42F**

**SKMD 42F**

**SKND 42F**

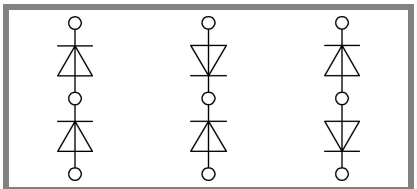
### Features

- Heat transfer through ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- SKKD half bridge connection; 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

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $I_{FAV}$ | sin. 180; $T_c$ = 85 (100) °C | 42 (31) | A |
| $I_{FSM}$ | $T_{vj}$ = 25 °C; 10 ms | 1200 | A |
| | $T_{vj}$ = 130 °C; 10 ms | 1100 | A |
| $i^2t$ | $T_{vj}$ = 25 °C; 8,3 ... 10 ms | 7200 | A²s |
| | $T_{vj}$ = 130 °C; 8,3 ... 10 ms | 6000 | A²s |
| $V_F$ | $T_{vj}$ = 25 °C; $I_F$ = 150 A | max. 1,85 | V |
| $V_{(TO)}$ | $T_{vj}$ = 130 °C | max. 1 | V |
| $r_T$ | $T_{vj}$ = 130 °C | max. 5 | mΩ |
| $I_{RD}$ | $T_{vj}$ = 25 °C; $V_{RD}$ = $V_{RRM}$ | max. 0,4 | mA |
| $I_{RD}$ | $T_{vj}$ = 130 °C; $V_{RD}$ = $V_{RRM}$ | max. 30 | mA |
| $Q_{rr}$ | $T_{vj}$ = 130 °C, $I_F$ = 50 A, | 75 | µC |
| $I_{RM}$ | -di/dt = 50 A/µs, $V_R$ = 30 V | 70 | A |
| $t_{rr}$ | | 2140 | ns |
| $E_{rr}$ | | 1,12 | mJ |
| $R_{th(j-c)}$ | per diode / per module | 0,7 / 0,35 | 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/s² |
| m | approx. | 120 | g |
| Case | SKKD | A 10 | |
| | SKMD | A 33 | |
| | SKND | A 37 | |



SKKD SKMD SKND

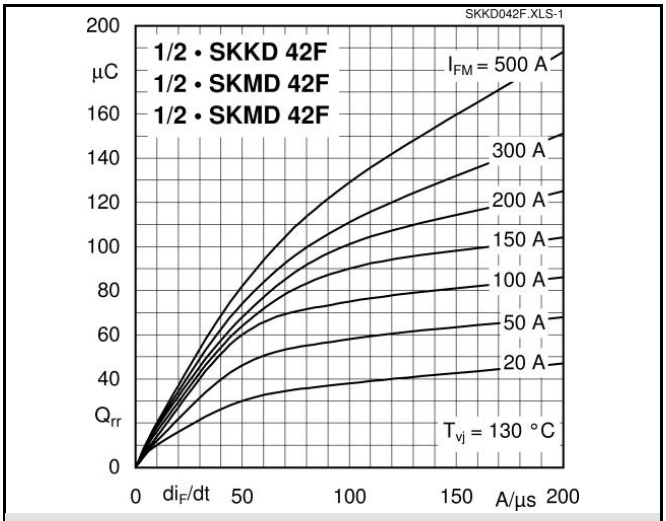



Fig. 1 Typ. recovery charge vs. current decrease

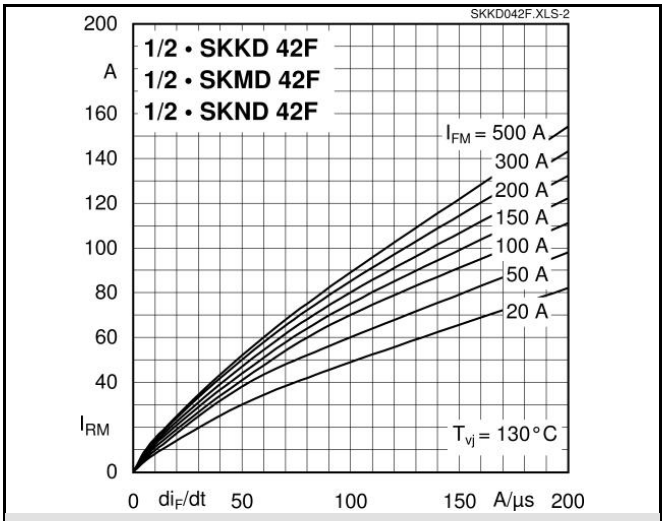



Fig. 2 Peak recovery current vs. current decrease

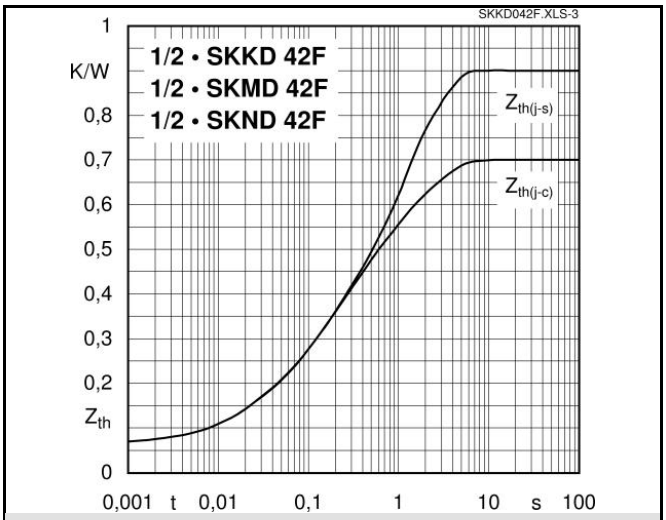



Fig. 3 Transient thermal impedance vs. time

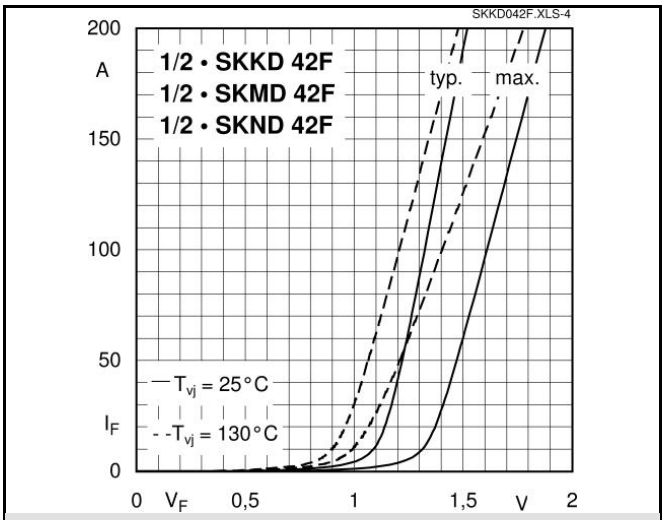



Fig. 4 Forward characteristics

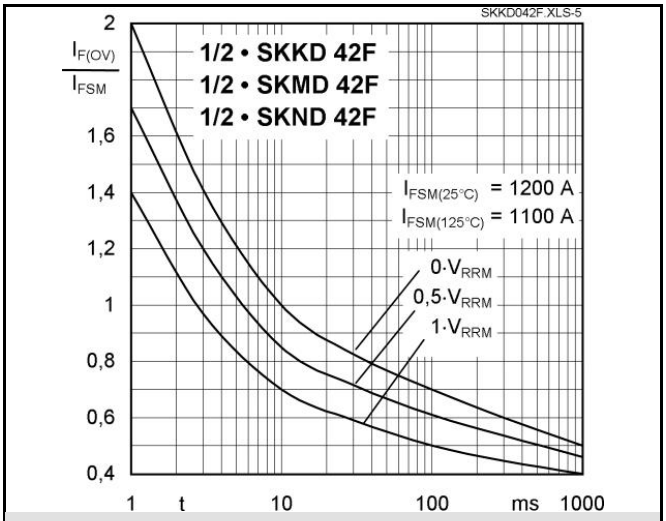
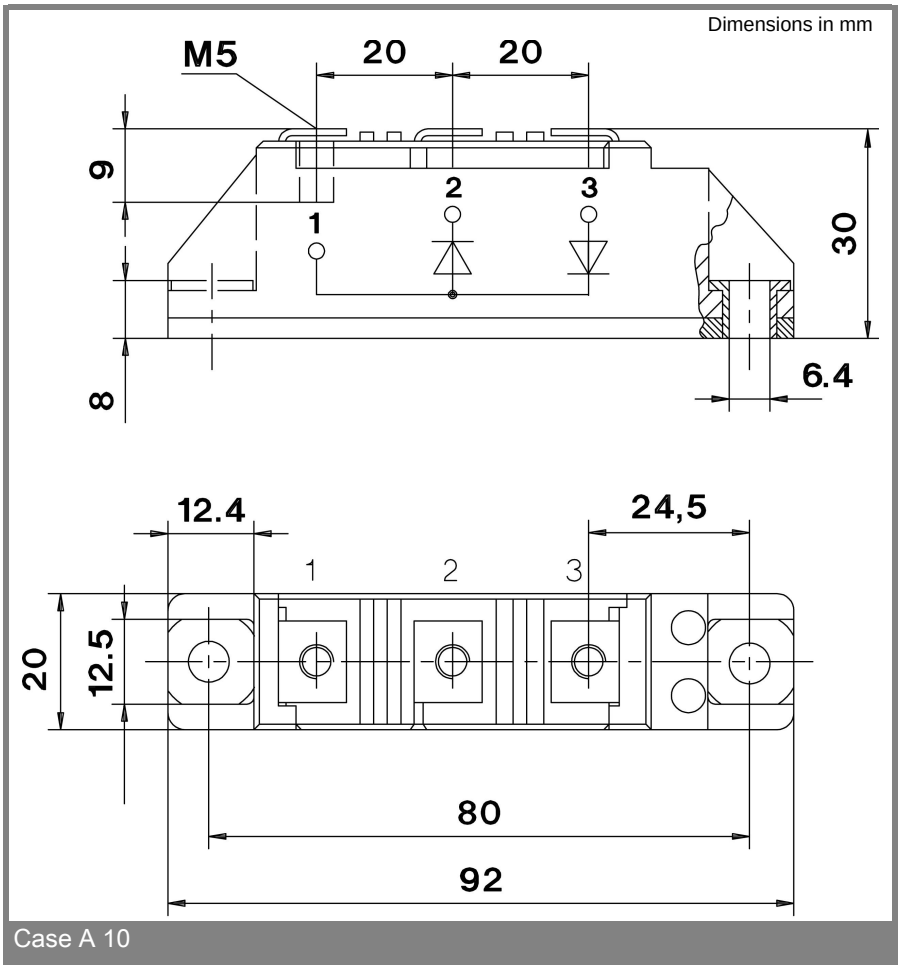
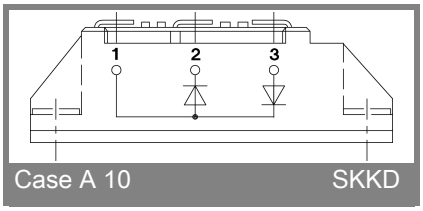


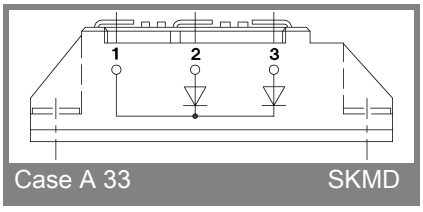

Fig. 5 Surge overload current vs. time



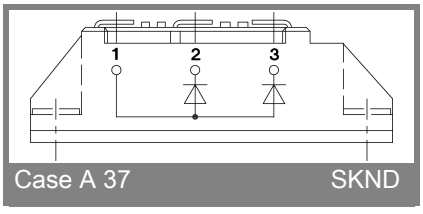
Case A 10



Case A 10 SKKD



Case A 33 SKMD



Case A 37 SKND

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