

SKKD 42F, SKMD 42F, SKND 42F



SEMIPACK® 1

Fast Diode Modules

SKKD 42F

SKMD 42F

SKND 42F

Features

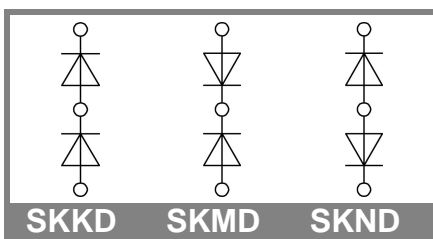
- Heat transfer through ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- SKKD half bridge connection; SKMD common cathode; SKND common anode
- UL recognized, file no. E 63 532

Typical Applications

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

| 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) | | |
|----------------|----------------|--|------------|------------|
| | | SKKD 42F10 | SKMD 42F10 | SKND 42F10 |
| 1000 | 1000 | SKKD 42F10 | SKMD 42F10 | SKND 42F10 |
| 1200 | 1200 | SKKD 42F12 | SKMD 42F12 | SKND 42F12 |
| 1400 | 1400 | SKKD 42F14 | SKMD 42F14 | SKND 42F14 |
| 1500 | 1500 | SKKD 42F15 | SKMD 42F15 | SKND 42F15 |

| 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 | A ² s |
| | $T_{vj} = 130$ °C; 8,3 ... 10 ms | 6000 | A ² s |
| V_F | $T_{vj} = 25$ °C; $I_F = 150$ A | max. 1,85 | V |
| $V_{(TO)}$ | $T_{vj} = 130$ °C | 1 | V |
| r_T | $T_{vj} = 130$ °C | 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/s ² |
| m | approx. | 120 | g |
| Case | SKKD | A 10 | |
| | SKMD | A 33 | |
| | SKND | A 37 | |



SKKD

SKMD

SKND

SKKD 42F, SKMD 42F, SKND 42F

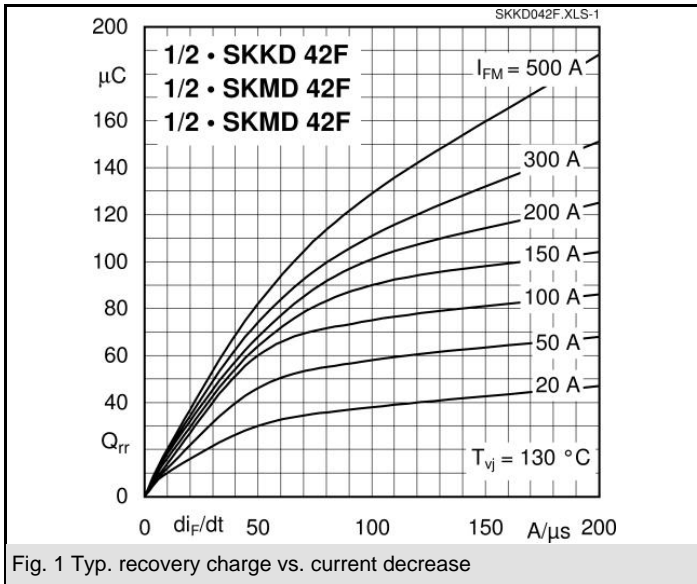


Fig. 1 Typ. recovery charge vs. current decrease

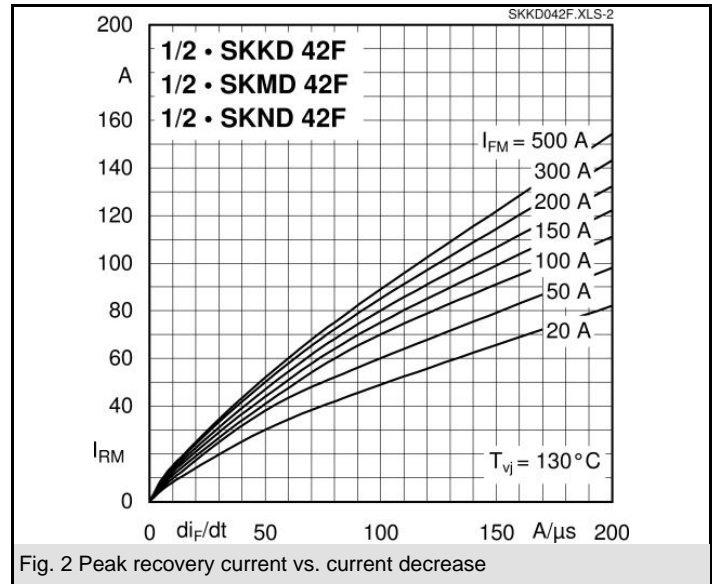


Fig. 2 Peak recovery current vs. current decrease

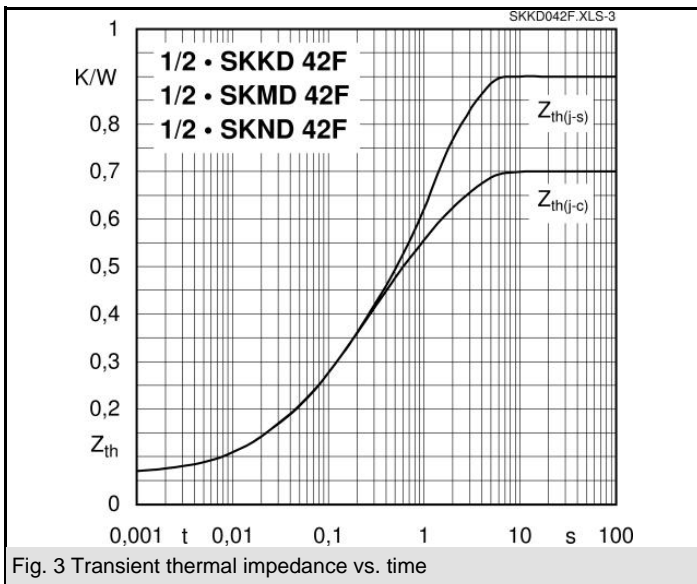


Fig. 3 Transient thermal impedance vs. time

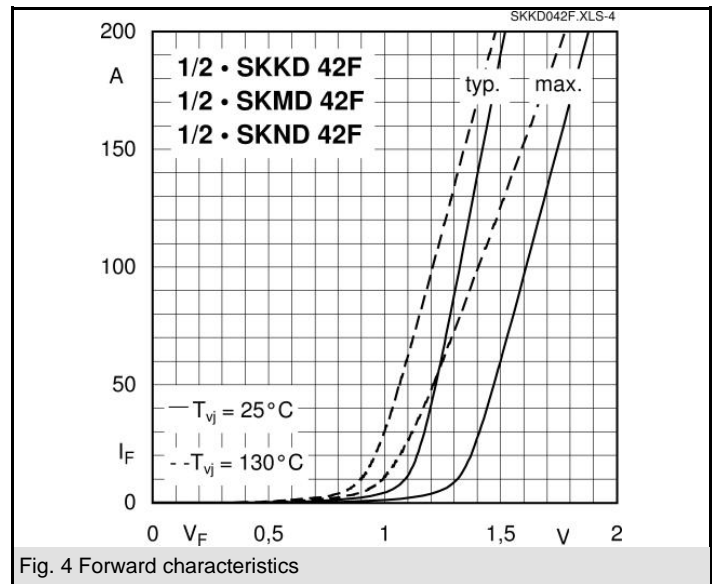


Fig. 4 Forward characteristics

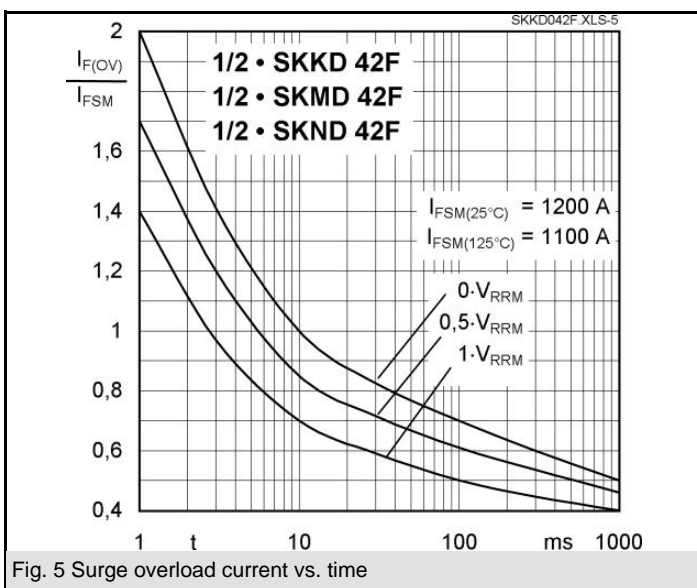
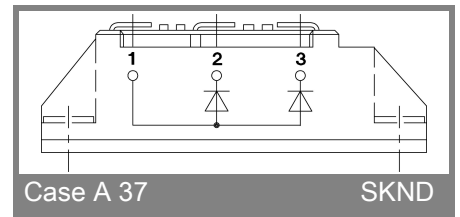
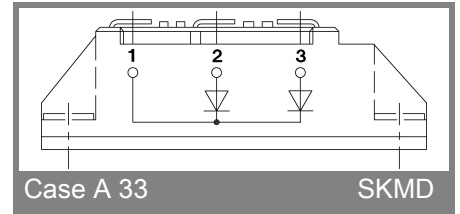


Fig. 5 Surge overload current vs. time

SKKD 42F, SKMD 42F, SKND 42F



This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.