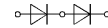


SEMPACK® 3 Fast Diode Modules

SKKD 170 M



SKKD

Features

- Heat transfer through aluminium nitride ceramic isolated metal baseplate
- Precious metal pressure contacts
- 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_{RRM}	I_{FRMS} (maximum value for continuous operation) 400 A
V	I_{FAV} (sin. 180; $T_{case} = 85\text{ °C}$; 50 Hz) 170 A
1500	SKKD 170 M 15
1700	SKKD 170 M 17
1900	SKKD 170 M 19
2400	SKKD 170 M 24

Symbol	Conditions	SKKD 170 M
I_{FAV}	sin. 180; $T_{case} = 85\text{ °C}$	170 A
I_{FSM}	$T_{vj} = 25\text{ °C}$; 10 ms $T_{vj} = 125\text{ °C}$; 10 ms	7000 A 6000 A
i^2t	$T_{vj} = 25\text{ °C}$; 8,3 ... 10 ms $T_{vj} = 125\text{ °C}$; 8,3 ... 10 ms	245 000 A ² s 180 000 A ² s
Q_{rr} I_{RM}	$T_{vj} = 125\text{ °C}$; $I_F = 600\text{ A}$; – $di_F/dt = 100\text{ A/}\mu\text{s}$; $V_R = 100\text{ V}$	300 μC 170 A
t_{rr}	$T_{vj} = 25\text{ °C}$; $I_F = 200\text{ A}$; – $di_F/dt = 85\text{ A/}\mu\text{s}$; $V_R = 100\text{ V}$	2 μs
I_R	$T_{vj} = 25\text{ °C}$; $V_R = V_{RRM}$ $T_{vj} = 125\text{ °C}$; $V_R = V_{RRM}$	5 mA 70 mA
V_F	$T_{vj} = 25\text{ °C}$; $I_F = 400\text{ A}$; max.	1,95 V
$V_{(TO)}$	$T_{vj} = 125\text{ °C}$	1,15 V
r_T	$T_{vj} = 125\text{ °C}$	1,5 m Ω
R_{thjc} R_{thch} T_{vj} T_{stg}	$\left\{ \begin{array}{l} \text{per diode/per module} \end{array} \right.$	0,14/0,07 °C/W 0,04/0,02 °C/W – 40 ... + 125 °C – 40 ... + 125 °C
V_{isol}	a.c. 50 Hz; r.m.s.; 1 s/1 min.	3700 V ~ / 3000 V ~
M_1 M_2	$\left\{ \begin{array}{l} \text{Case to heatsink} \\ \text{Busbars to terminals} \end{array} \right. \quad \left\{ \begin{array}{l} \text{Si units/} \\ \text{US units} \end{array} \right.$	5 Nm/44 lb. in. $\pm 15\%$ 9 Nm/80 lb.in. $\pm 15\%$
w	approx.	940 g
Case		A 27

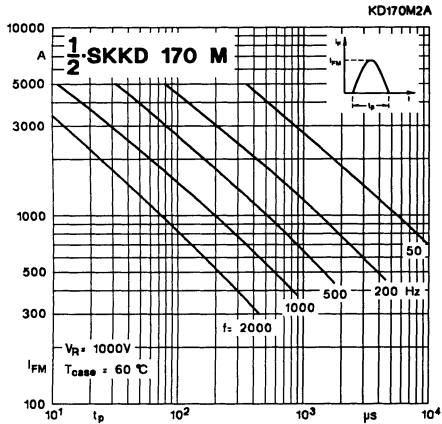


Fig. 12 a Rated sinusoidal peak forward current

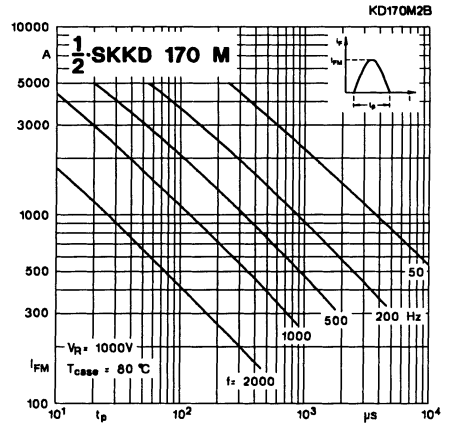


Fig. 12 b Rated sinusoidal peak forward current

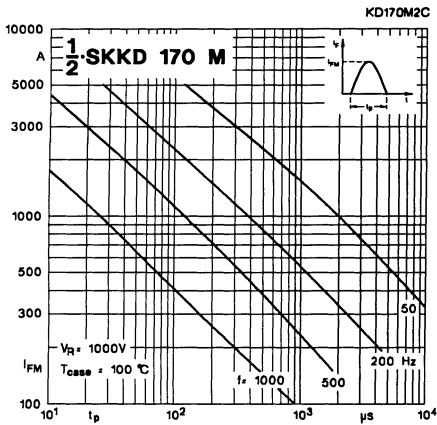


Fig. 12 c Rated sinusoidal peak forward current

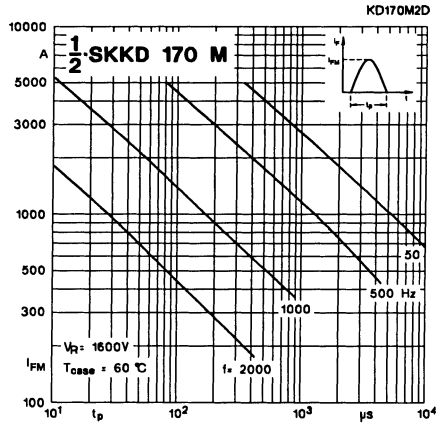


Fig. 12 d Rated sinusoidal peak forward current

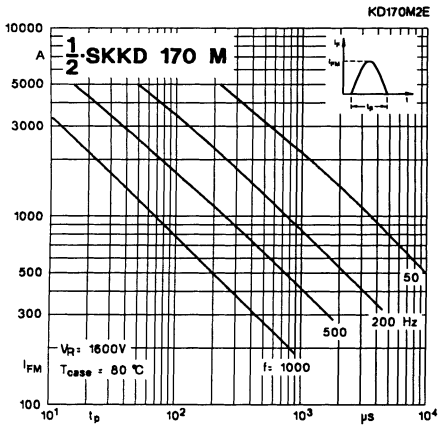


Fig. 12 e Rated sinusoidal peak forward current

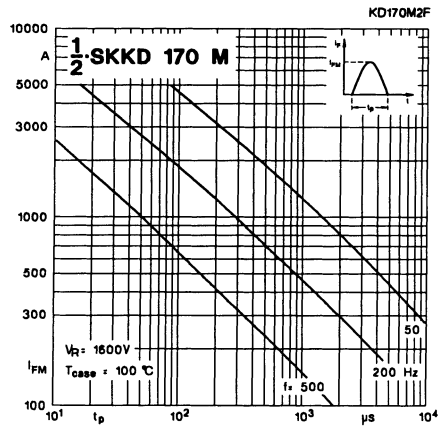


Fig. 12 f Rated sinusoidal peak forward current

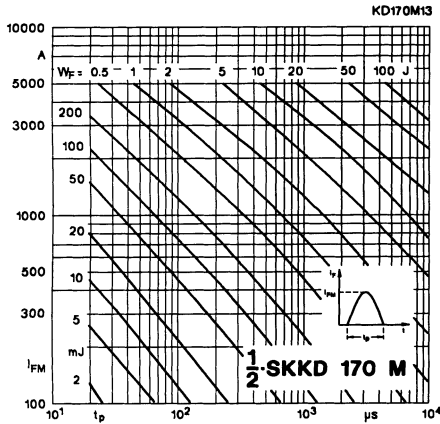


Fig. 13 Forward energy dissipation, sinusoidal

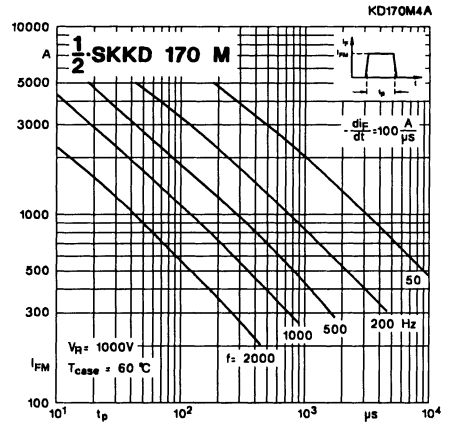


Fig. 14 a Rated rectangular peak forward current

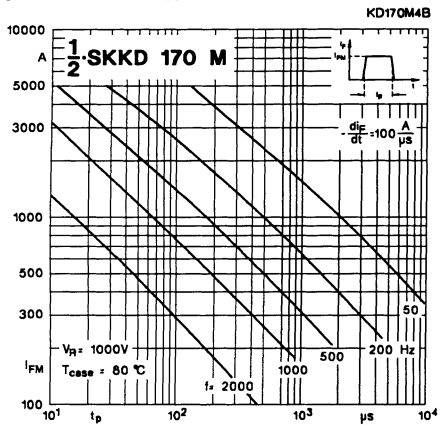


Fig. 14 b Rated rectangular peak forward current

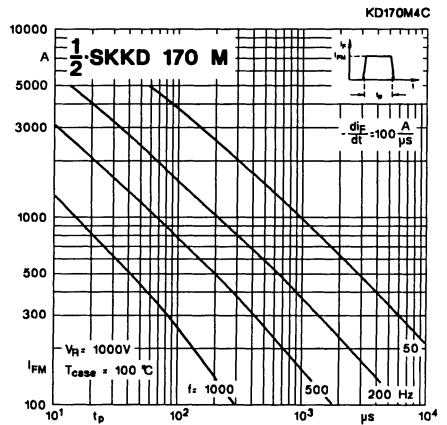


Fig. 14 c Rated rectangular peak forward current

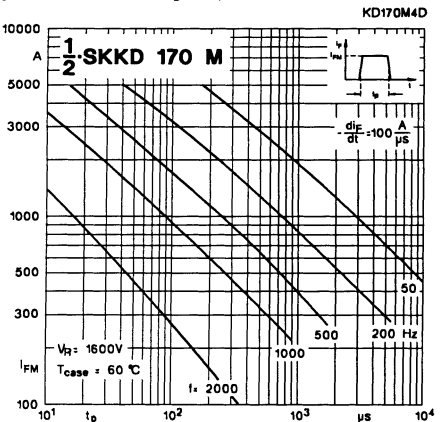


Fig. 14 d Rated rectangular peak forward current

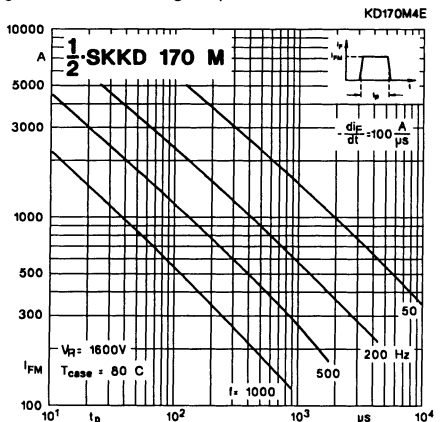


Fig. 14 e Rated rectangular peak forward current

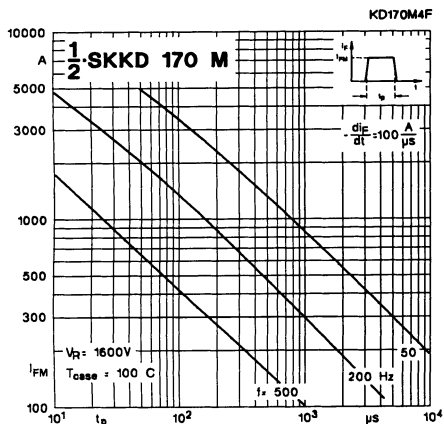


Fig. 14 f Rated rectangular peak forward current

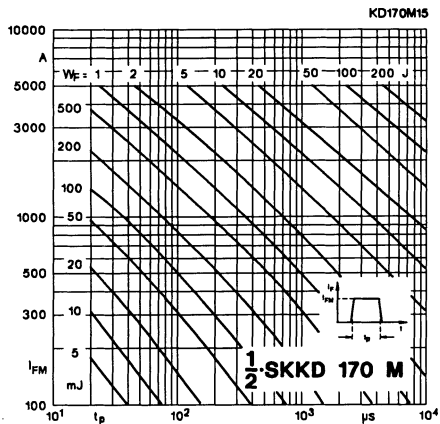


Fig. 15 Forward energy dissipation, rectangular

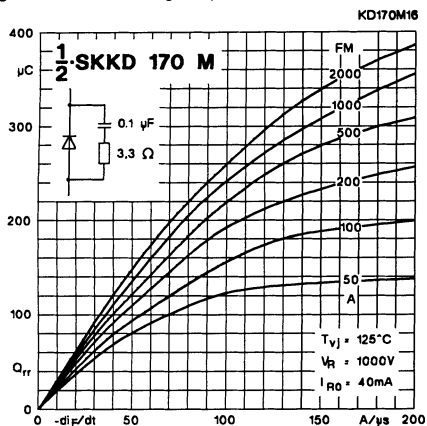


Fig. 16 Recovered charge vs. current decrease

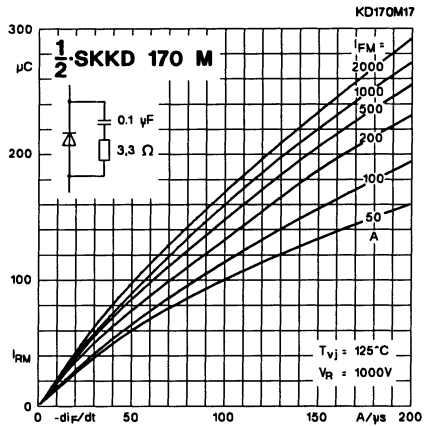


Fig. 17 Peak recovery current vs. current decrease

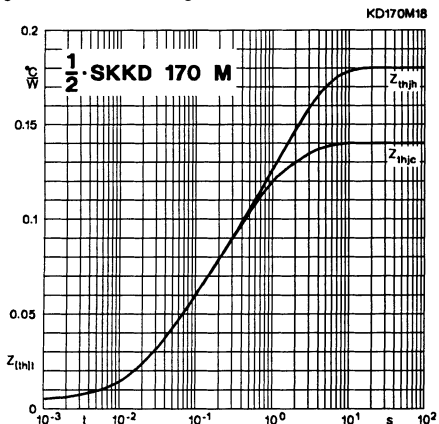


Fig. 18 Transient thermal impedance vs. time

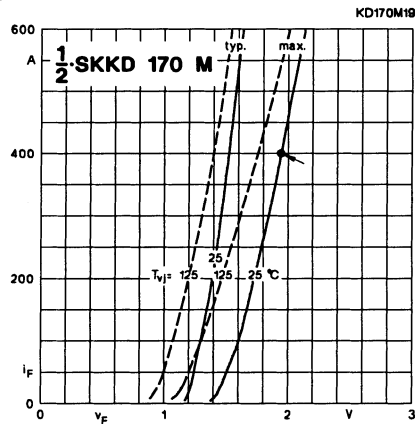


Fig. 19 Forward characteristics

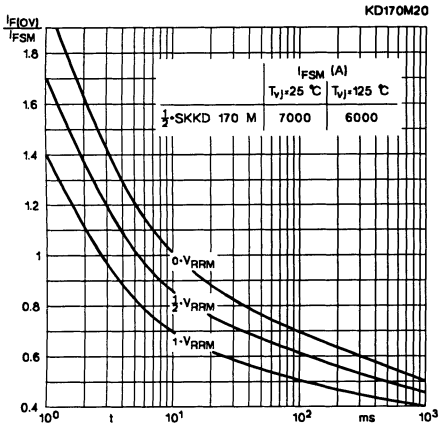
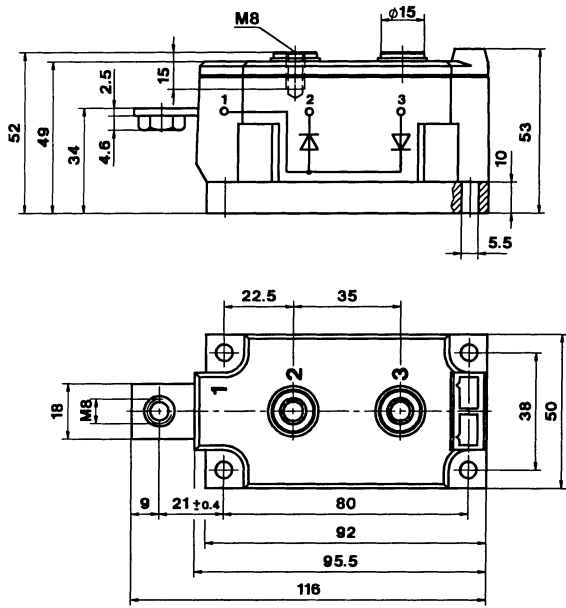


Fig. 20 Surge overload current vs. time

SKKD 170 M

Case A 27

SEMIPACK® 3



Dimensions in mm

