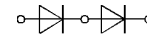


SEMIPACK® 3 Fast Diode Modules SKKD 160 M



SKKD

Features

- Heat transfer through aluminium nitride ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- 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 values for continuous operation) 300 A
V	I_{FAV} (sin. 180; $T_{case} = 85\text{ °C}$; 50 Hz) 160 A
800	SKKD 160 M 08
1000	SKKD 160 M 10
1200	SKKD 160 M 12
1400	SKKD 160 M 14

Symbol	Conditions	SKKD 160 M
I_{FAV}	sin. 180; $T_{case} = 85\text{ °C}$	163 A
I_{FSM}	$T_{vj} = 25\text{ °C}$; 10 ms $T_{vj} = 130\text{ °C}$; 10 ms	7 000 A 6 000 A
i^2t	$T_{vj} = 25\text{ °C}$; 8,3 ... 10 ms $T_{vj} = 130\text{ °C}$; 8,3 ... 10 ms	245 000 A ² s 180 000 A ² s
t_{rr}	$T_{vj} = 25\text{ °C}$; $I_F = 1\text{ A}$; – $di_F/dt = 15\text{ A}/\mu\text{s}$; $V_R = 30\text{ V}$	2 μs
Q_{rr}	} $T_{vj} = 130\text{ °C}$; $I_F = 100\text{ A}$; – $di_F/dt = 30\text{ A}/\mu\text{s}$; $V_R = 30\text{ V}$	65 μC
I_{RM}		45 A
I_R	$T_{vj} = 25\text{ °C}$; $V_R = V_{RRM}$ $T_{vj} = 130\text{ °C}$; $V_R = V_{RRM}$	2 mA 50 mA
V_F	$T_{vj} = 25\text{ °C}$; $I_F = 400\text{ A}$	1,5 V
$V_{(TO)}$	$T_{vj} = 130\text{ °C}$	1,25 V
r_T	$T_{vj} = 130\text{ °C}$	0,5 m Ω
R_{thjc} R_{thch}	} per diode/per module	0,19/0,095 $\text{°C}/\text{W}$ 0,06/0,03 $\text{°C}/\text{W}$
T_{vj} T_{stg}		– 40 ... +130 °C – 40 ... +130 °C
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s/1 min.	3600 V~ / 3000 V~
M_1 M_2	Case to heatsink Busbars to terminals	} SI units/ US units 5 Nm/44 lb. in. $\pm 15\%$ 9 Nm/80 lb. in. $\pm 15\%$
w	approx.	
Case	→ page B 2 – 34	A 16

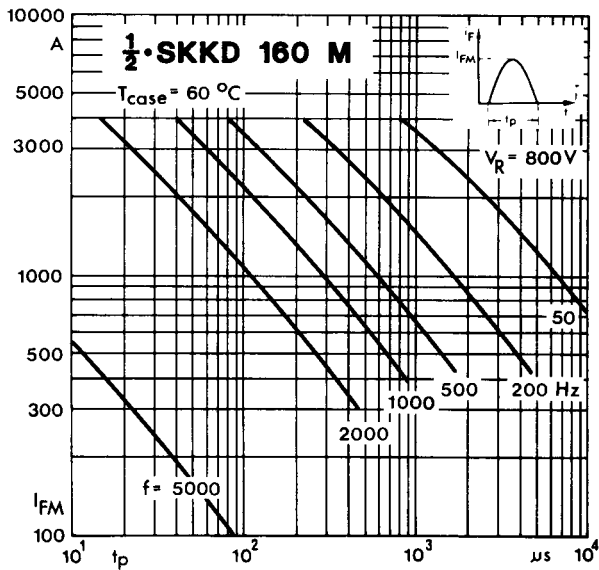


Fig. 12 a Rated sinusoidal peak forward current

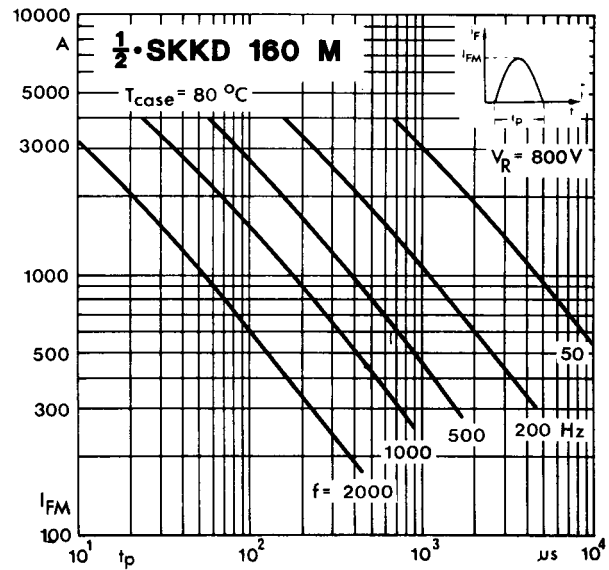


Fig. 12 b Rated sinusoidal peak forward current

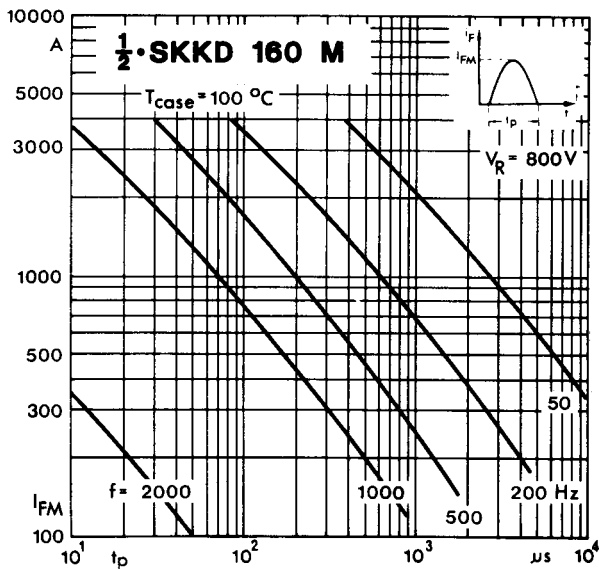


Fig. 12 c Rated sinusoidal peak forward current

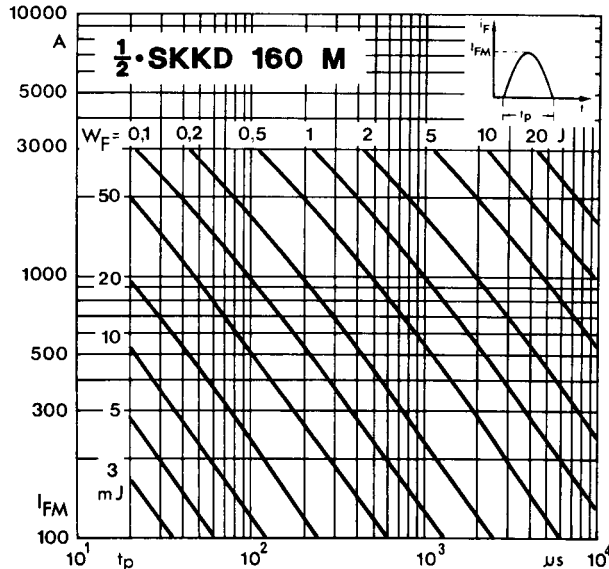


Fig. 13 Forward energy dissipation, sinusoidal

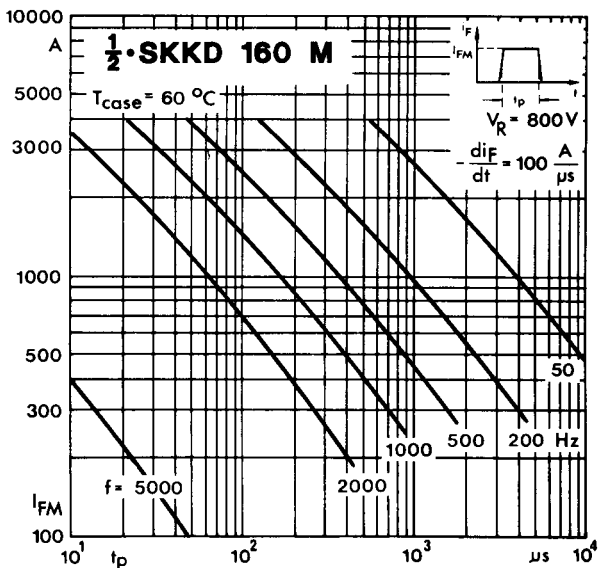


Fig. 14 a Rated rectangular peak forward current

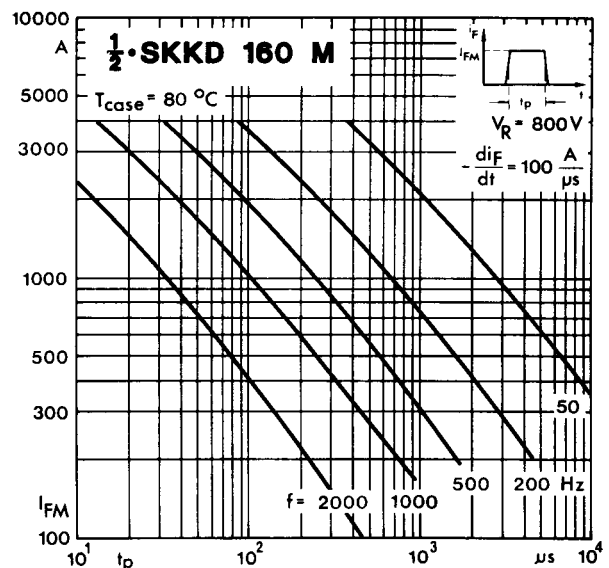


Fig. 14 b Rated rectangular peak forward current

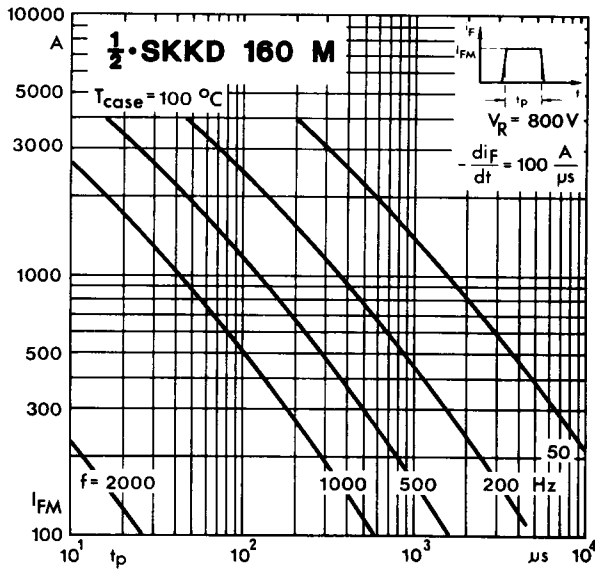


Fig. 14 c Rated rectangular peak forward current

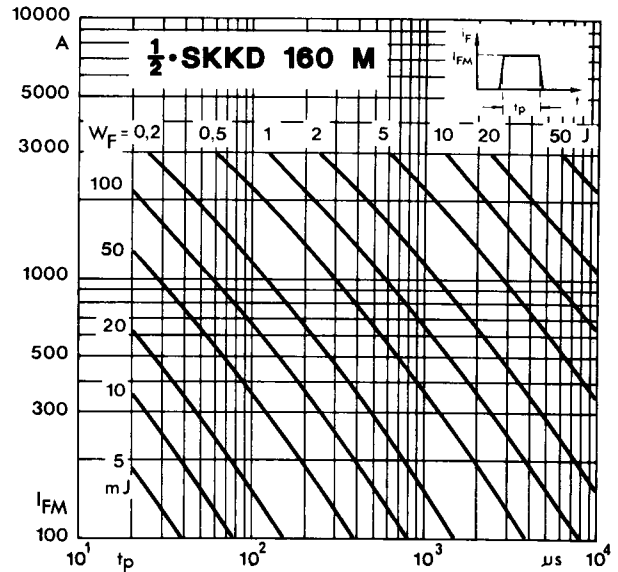


Fig. 15 Forward energy dissipation, rectangular

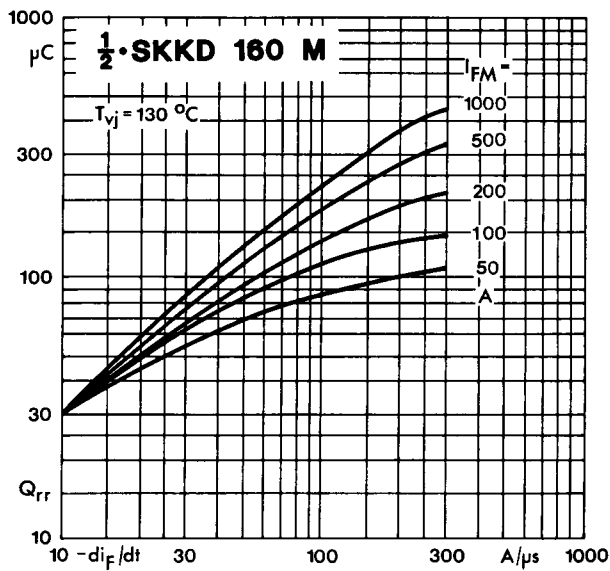


Fig. 16 Recovered charge vs. current decrease

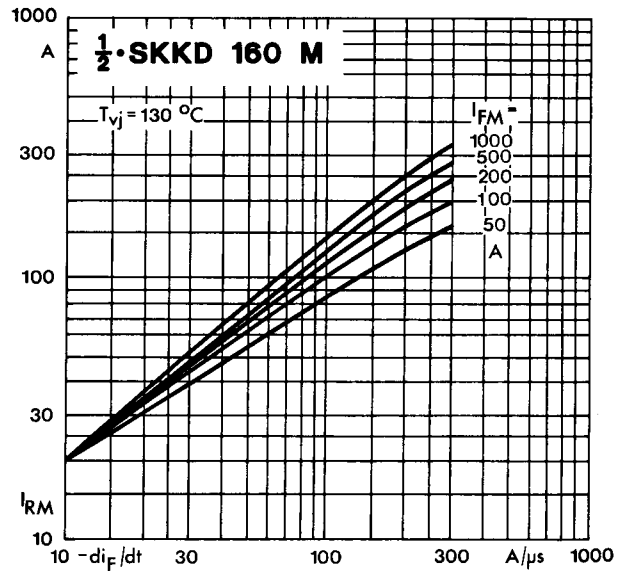


Fig. 17 Peak recovery current vs. current decrease

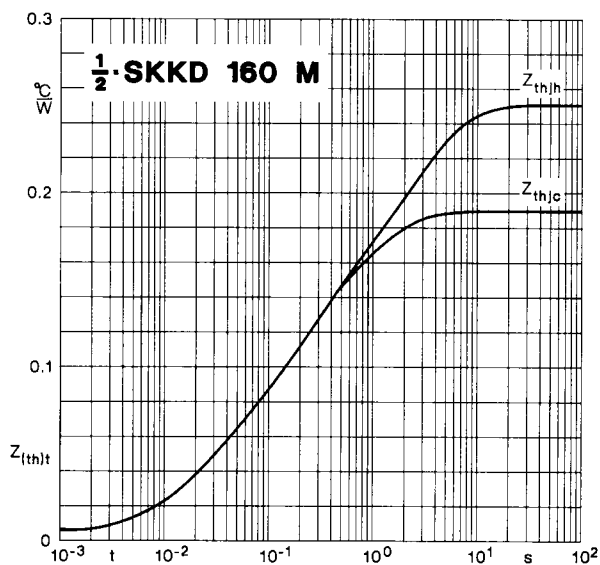


Fig. 18 Transient thermal impedance vs. time

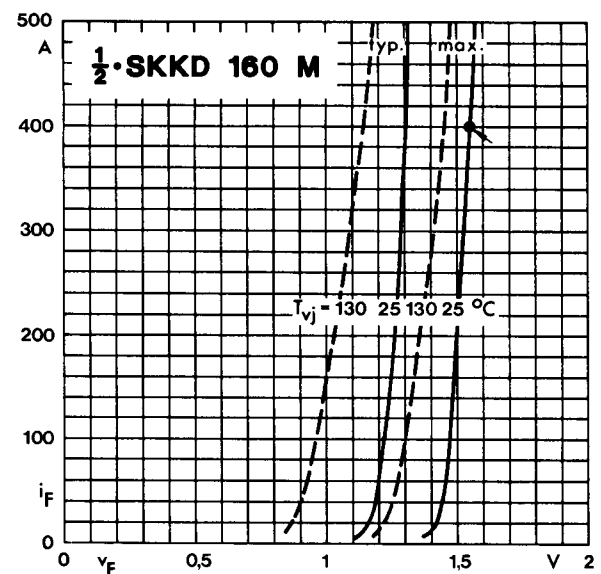


Fig. 19 Forward characteristics

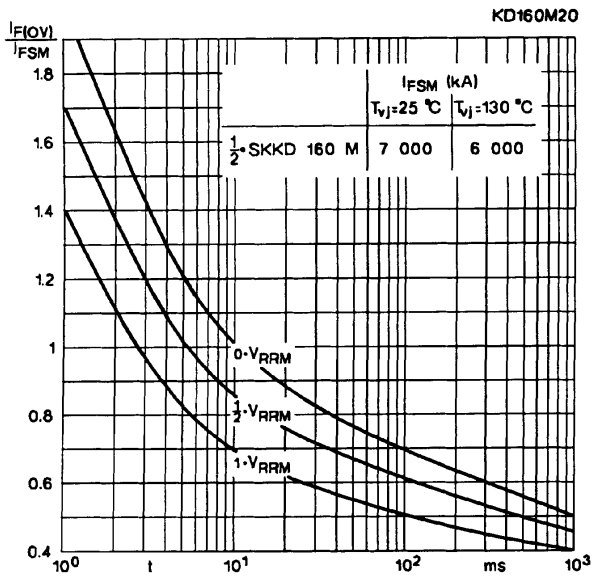


Fig. 20 Surge overload current vs. time

