

Rectifier Diode Modules

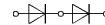
SEMPACK® 1
SKKD 100 **SKMD 100¹⁾**

SEMPACK® 2
SKKD 162 **SKND 162¹⁾**
SKKE 162



V _{RSM}	V _{RRM}	I _F RMS (maximum values for continuous operation)		
		175 A	250 A	250 A
V	V	I _{FAV} (sin. 180; T _{case} = ...)		
		100 A (85 °C)	160 A (95 °C)	160 A (95 °C)
500	400	SKKD 100/04	–	–
900	800	SKKD 100/08	SKKD 162/08	SKKE 162/08
1300	1200	SKKD 100/12	SKKD 162/12	SKKE 162/12
1500	1400	SKKD 100/14	SKKD 162/14	SKKE 162/14
1700	1600	SKKD 100/16	SKKD 162/16	SKKE 162/16
1900	1800	SKKD 100/18	SKKD 162/18	SKKE 162/18
2100	2000	–	SKKD 162/20	SKKE 162/20
2300	2200	–	SKKD 162/22	SKKE 162/22

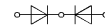
Symbol	Conditions	SKKD 100	SKKD 162 SKKE 162	Units	
I _{FAV} I _D ¹⁾	sin. 180; (T _{case} = ...) B2/B6 T _{amb} = 45 °C, P 3/180 T _{amb} = 35 °C, P 3/180F P16/200F	100 (85°C) 73/91 150/190 –	160 (95°C) 90/115 210/260 320/425	A A A A	
I _{FSM}	T _{vj} = 25 °C; 10 ms T _{vj} = 125 °C; 10 ms	2500 2000	6000 5000	A A	
i ² t	T _{vj} = 25 °C; 8,3 ... 10 ms T _{vj} = 125 °C; 8,3 ... 10 ms	31 250 20 000	180 000 125 000	A ² s A ² s	
I _{RD}	T _{vj} max.; V _{RD} = V _{RRM}	5	9	mA	
V _F	T _{vj} = 25 °C (I _F = ...); max.	1,35 (300 A)	1,5 (500 A)	V	
V _(TO)	T _{vj} max	0,85	0,85	V	
r _T	T _{vj} max	1,3	1,2	mΩ	
R _{thjc} R _{thch} T _{vj} T _{stg}	} per diode/per module ²⁾	0,35/0,175 0,2/0,1 – 40 ... +125 – 40 ... +125	0,18/0,09 0,10/0,05 – 40 ... +135 – 40 ... +135	°C/W °C/W °C °C	
V _{isol}		a. c. 50 Hz; r.m.s.; 1 s/1 min	3600/3000		V~
M ₁		to heatsink	SI units US units	5 ± 15 % 44 ± 15 %	Nm lb.in.
M ₂		to terminals	SI units US units	3 ± 15 % ³⁾ 26 ± 15 % ³⁾	5 ± 15 % ³⁾ 44 ± 15 % ³⁾ Nm lb.in.
a w	approx.	5 · 9,81 120	5 · 9,81 250	m/s ² g	
Case	→ page B 1 – 93; 94	SKKD 100: A 10 (B 1 – 42: SKMD 100: A 33)	SKKD 162: A 23 SKKE 162: A 24 SKMD 162: A 57		



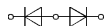
SKKD



SKKE



SKMD



SKND

Features

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

Typical Applications

- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors
- SKKE: Free-wheeling diodes

¹⁾ SKMD 100, SKND 162 available on request

²⁾ SKKD types only

³⁾ See the assembly instructions

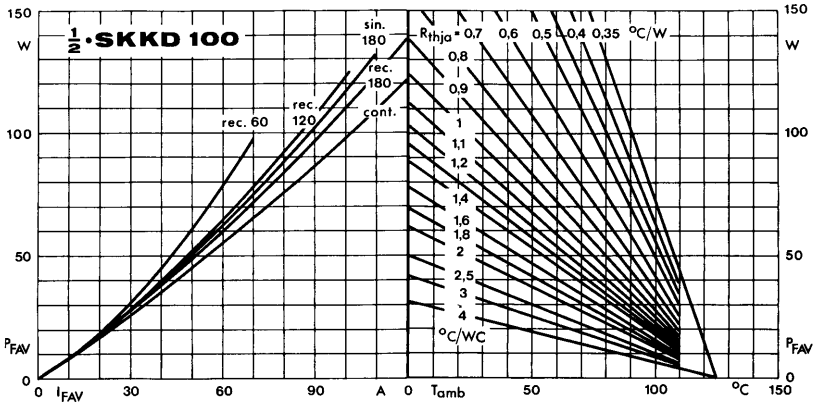


Fig. 11 a Power dissipation per diode vs. forward current and ambient temperature

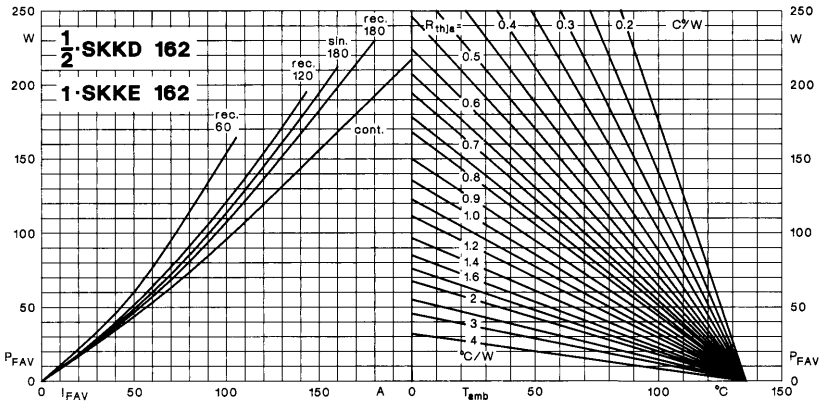


Fig. 11 b Power dissipation per diode vs. forward current and ambient temperature

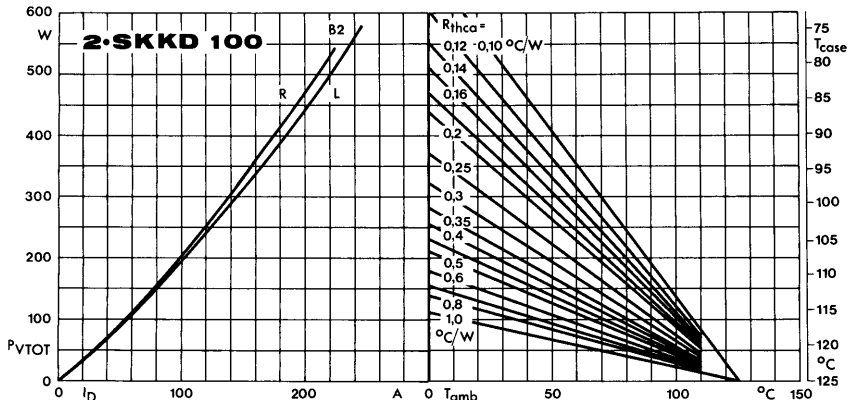


Fig. 12 a Power dissipation of two modules vs. direct current and case temperature

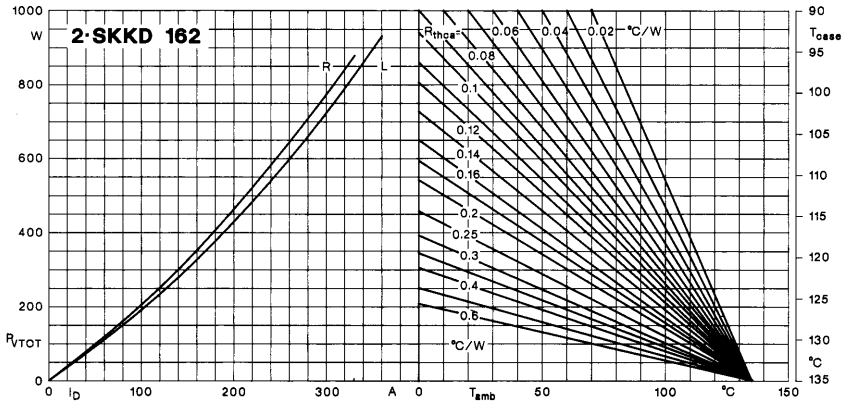


Fig. 12 b Power dissipation of two modules vs. direct current and case temperature

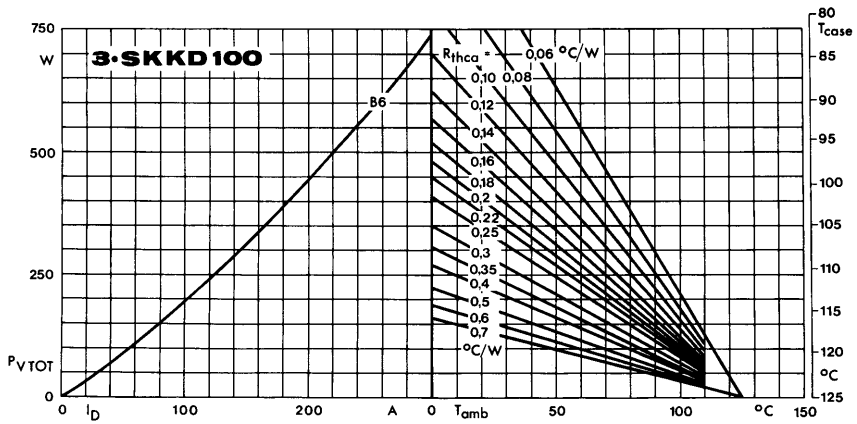


Fig. 13 a Power dissipation of three modules vs. direct current and case temperature

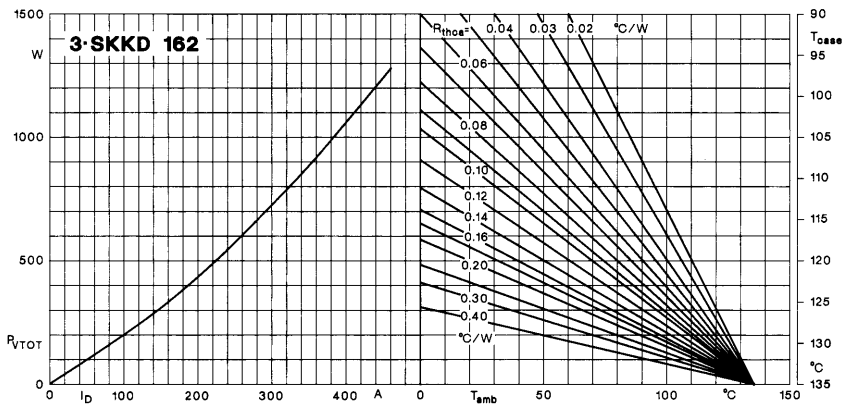


Fig. 13 b Power dissipation of three modules vs. direct current and case temperature

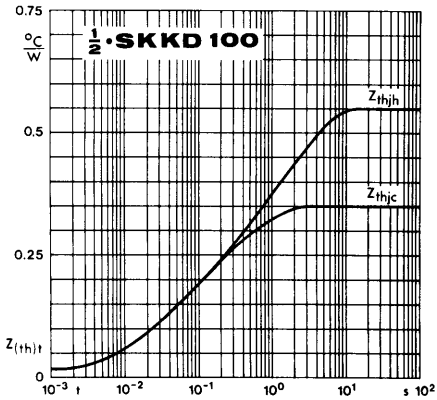


Fig. 14 a Transient thermal impedance vs. time

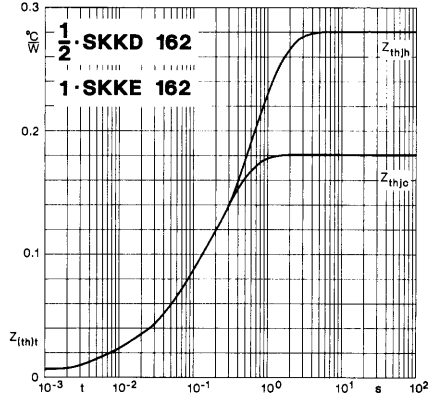


Fig. 14 b Transient thermal impedance vs. time

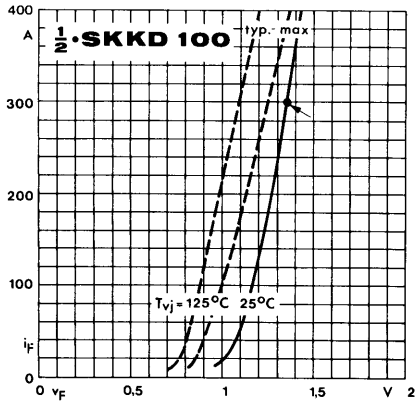


Fig. 15 a Forward characteristics

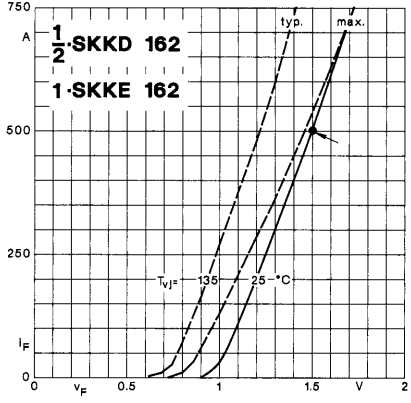


Fig. 15 b Forward characteristics

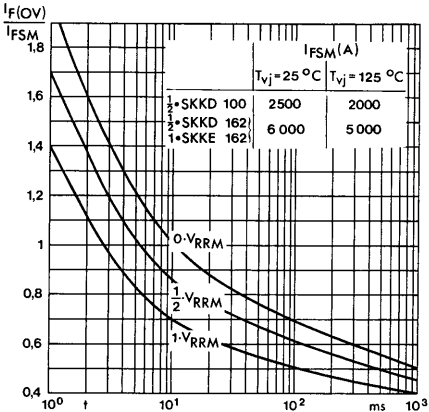


Fig. 16 Surge overload current vs. time