

SEMIPACK® 2 Fast Diode¹⁾ Modules

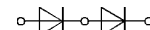
SKKD 150 F
SKMD 150 F
SKND 150 F



V_{RSM} V_{RRM}	I_{FRMS} (maximum values for continuous operation) 220 A		
V	I_{FAV} (sin. 180; $T_{case} = 85\text{ °C}$; 50 Hz) 117 A		
1100	SKKD 150 F 11	SKMD 150 F 11	SKND 150 F 11
1200	SKKD 150 F 12	SKMD 150 F 12	SKND 150 F 12

Symbol	Conditions	SKKD 150 F SKMD 150 F SKND 150 F	Units	
I_{FAV}	sin. 180; $T_{case} = 65\text{ °C}$	140	A	
I_{FSM}	$T_{vj} = 25\text{ °C}$; 10 ms	2 000	A	
	$T_{vj} = 150\text{ °C}$; 10 ms	1 800	A	
i^2t	$T_{vj} = 25\text{ °C}$; 8,3 ... 10 ms	20 000	A^2s	
	$T_{vj} = 150\text{ °C}$; 8,3 ... 10 ms	16 200	A^2s	
I_{RM}	$T_{vj} = 25\text{ °C}$ $\left\{ \begin{array}{l} I_F = 150\text{ A} \\ di/dt = 500\text{ A}/\mu s \\ V_R = 600\text{ V} \end{array} \right.$	40	A	
		70	A	
t_{rr}	$T_{vj} = 25\text{ °C}$	typ. 180	ns	
Q_{rr}	$T_{vj} = 150\text{ °C}$	35	μC	
I_R	$T_{vj} = 25\text{ °C}$; $V_R = V_{RRM}$	1	mA	
	$T_{vj} = 150\text{ °C}$; $V_R = V_{RRM}$	40	mA	
V_F	$T_{vj} = 25\text{ °C}$; $I_F = 150\text{ A}$	2,2	V	
	$T_{vj} = 150\text{ °C}$; $I_F = 150\text{ A}$	2,0	V	
$V_{(TO)}$	$T_{vj} = 150\text{ °C}$	1,2	V	
r_T	$T_{vj} = 150\text{ °C}$	5,5	m Ω	
R_{thjc}	per diode / per module	0,2 / 0,1	$^{\circ}C/W$	
R_{thch}	per diode / per module	0,1 / 0,05	$^{\circ}C/W$	
T_{vj}		- 40 ... +150	$^{\circ}C$	
T_{stg}		- 40 ... +150	$^{\circ}C$	
V_{isol}	a. c. 50 Hz; r.m.s; 1 min	4000	V~	
M_1	to heatsink	SI units	5 \pm 15 %	Nm
		US units	44 \pm 15 %	lb. in
M_2	for terminals	SI units	5 \pm 15 %	Nm
		US units	44 \pm 15 %	lb. in
w	approx.	250	g	
Case	→ page B 2 – 28	SKKD 150 F SKMD 150 F SKND 150 F	A 53 A 51 A 52	

¹⁾ CAL (controlled axial lifetime) technology, patent No. DE 43 10 44



SKKD



SKMD

SKND

Features

- Soft recovery
- Very short recovery times
- Low switching losses
- Up to 1200 V peak inverse voltage
- Heat transfer through ceramic isolated metal baseplate
- **SKKD** half bridge connection
centre tap connections:
SKMD common cathode
SKND common anode
- UL recognized, file no. E63 532

Typical Applications

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

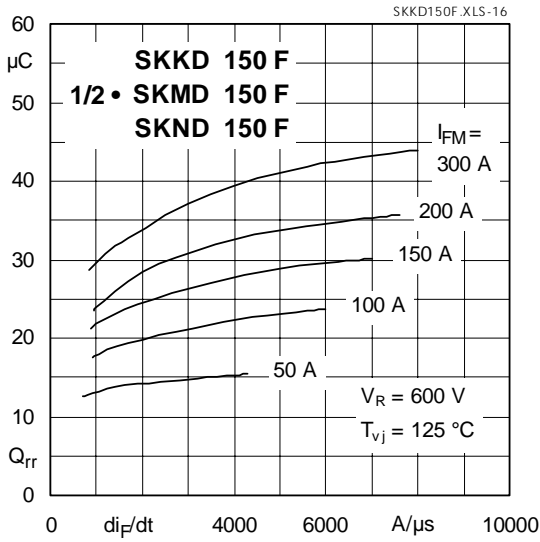


Fig. 16 Typ. recovered charge vs. current decrease

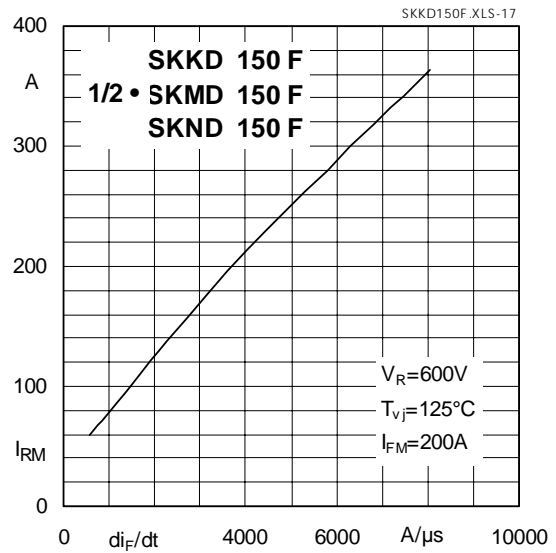


Fig. 17 Typ. peak recovery current vs. current decrease

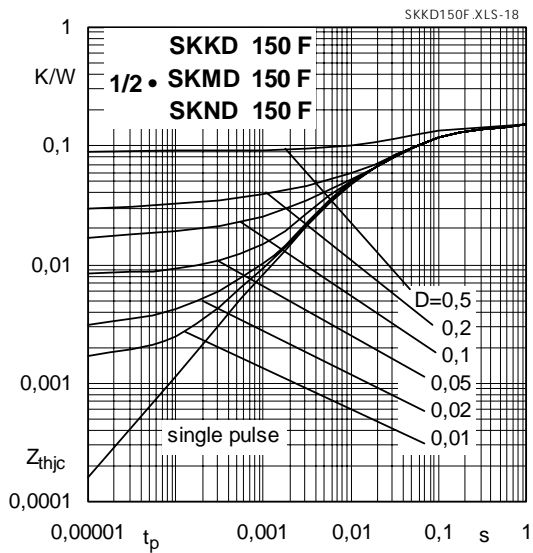


Fig. 18 Typ. transient thermal impedance vs. time

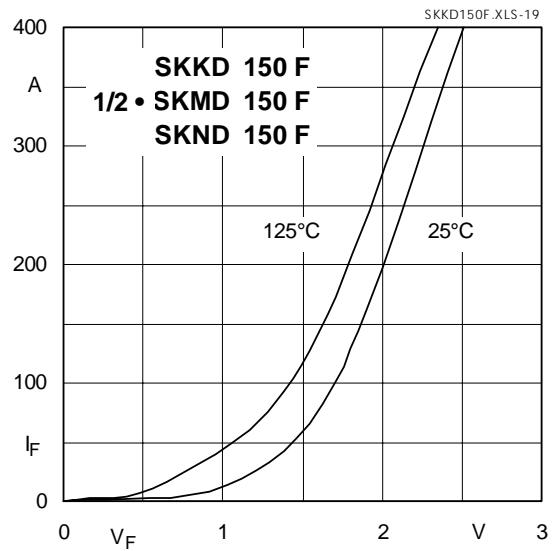


Fig. 19 Typ. forward characteristics

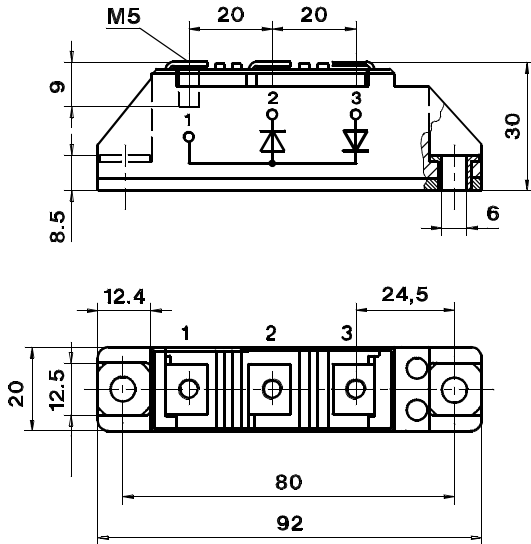
SKKD 105 F, 115 F

Case A 10

IEC 192-2: A 77 A
JEDEC: TO-240 AA

SEMIPACK® 1

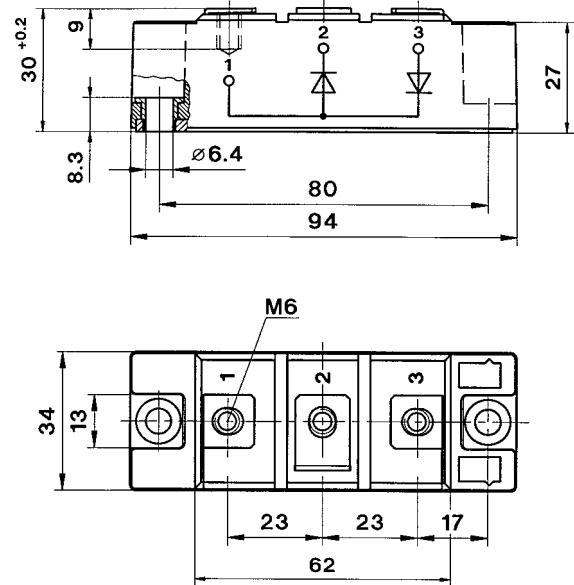
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**SKKD 60 F, 75 F**

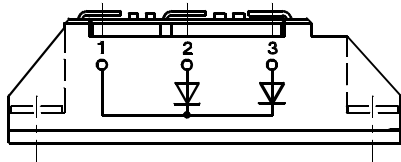
Case A 23

SEMIPACK® 2

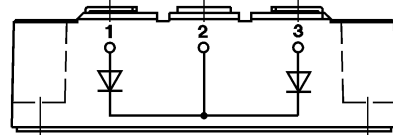
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**SKMD 105 F**

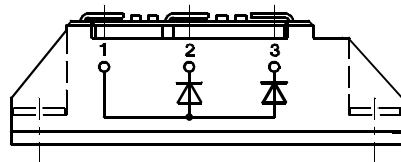
Case A 33

**SKMD 150 F, 202 E**

Case A 51

**SKND 105 F**

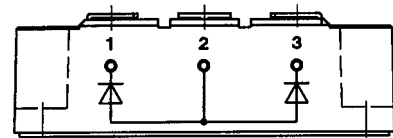
Case A 37



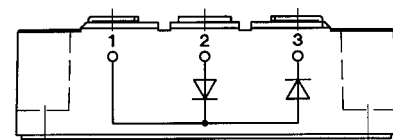
Dimensions in mm

SKND 150 F, 202 E

Case A 52

**SKKD 150 F, 170 F**

Case A 53



Dimensions in mm