SKD 51

V_{RSM} V	V_{RRM}, V_{DRM} V	I_D = 50[1] A (full conduction) (T_c = 127 °C)
500	400	SKD 51/04
900	800	SKD 51/08
1300	1200	SKD 51/12
1500	1400	SKD 51/14
1700	1600	SKD 51/16
1900	1800	SKD 51/18

Power Bridge Rectifiers

SKD 51

Features

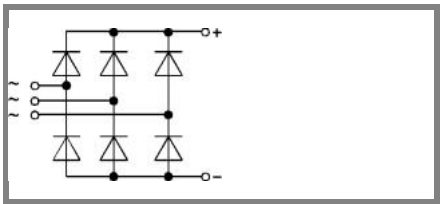
- Glass passivated silicon chips
- Fast-on terminals for pcb solder or plug on connections
- Sturdy insulated metal base plate
- Low thermal impedance through use of direct copper bonded aluminum substrate
- Blocking voltage up to 1800V
- High surge currents
- UL recognized, file no. E63 532

Typical Applications

- Three phase rectifier for power supplies
- Input rectifier for variable frequency drives
- Rectifier for DC motor field supplies
- Battery charger rectifiers
- Recommended snubber network: RC: 0.1 µF, 50 Ω (P_R = 1 W)

Symbol	Conditions	Values	Units
I_D	T_c = 127 °C	50	A
	T_a = 45 °C; isolated [2]	7	A
	T_a = 45 °C; chassis [3]	18	A
	T_a = 45 °C; R4A/120	27	A
	T_a = 45 °C; P5A/100	31	A
I_{FSM}	T_{vj} = 25 °C; 10 ms	775	A
	T_{vj} = 150 °C; 10 ms	700	A
i^2t	T_{vj} = 25 °C; 8,3 ... 10 ms	3000	A²s
	T_{vj} = 150 °C; 8,3 ... 10 ms	2450	A²s
V_F	T_{vj} = 25 °C; I_F = 75 A	max. 1,45	V
$V_{(TO)}$	T_{vj} = 150 °C	0,8	V
r_T	T_{vj} = 150 °C	8,5	mΩ
I_{RD}	T_{vj} = 25 °C; V_{DD} = V_{DRM}; V_{RD} = V_{RRM}	max. 0,2	mA
	T_{vj} = 150 °C; V_{RD} = V_{RRM}	4	mA
t_{rr}	T_{vj} = 25 °C; I_F = I_R = 1A	5	µs
$R_{th(j-c)}$	per diode	1,1	K/W
	total	0,183	K/W
$R_{th(c-s)}$	total	0,1	K/W
$R_{th(j-a)}$	isolated [2] (chassis [3])	9 (3,15)	K/W
T_{vj}		- 40 ... +150	°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	4,5 ± 15 %	Nm
M_t			
m		97	g
Case		G 51	

1) For solder connection. Permissible current for plug connection see DIN IEC 760E and DIN 46249 part 1
2) Freely suspended or mounted on an insulator
3) Mounted on a painted metal sheet of min. 250 x 250 x 1 mm



SKD

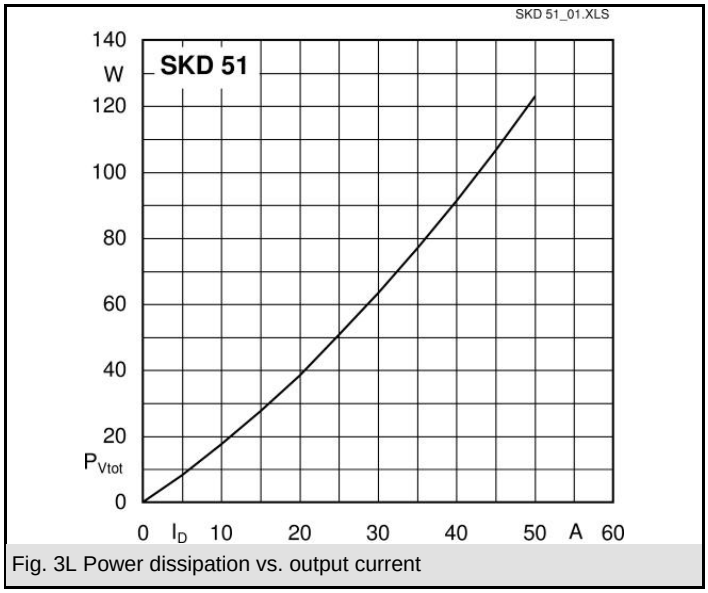


Fig. 3L Power dissipation vs. output current

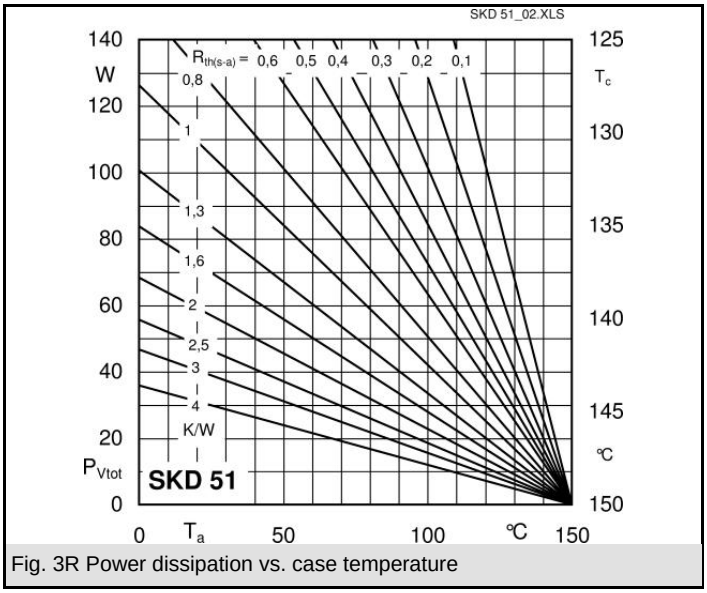


Fig. 3R Power dissipation vs. case temperature

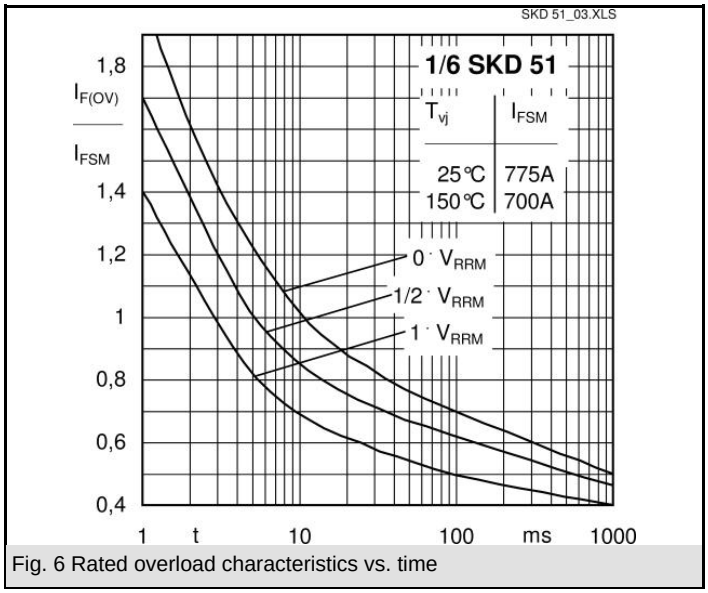
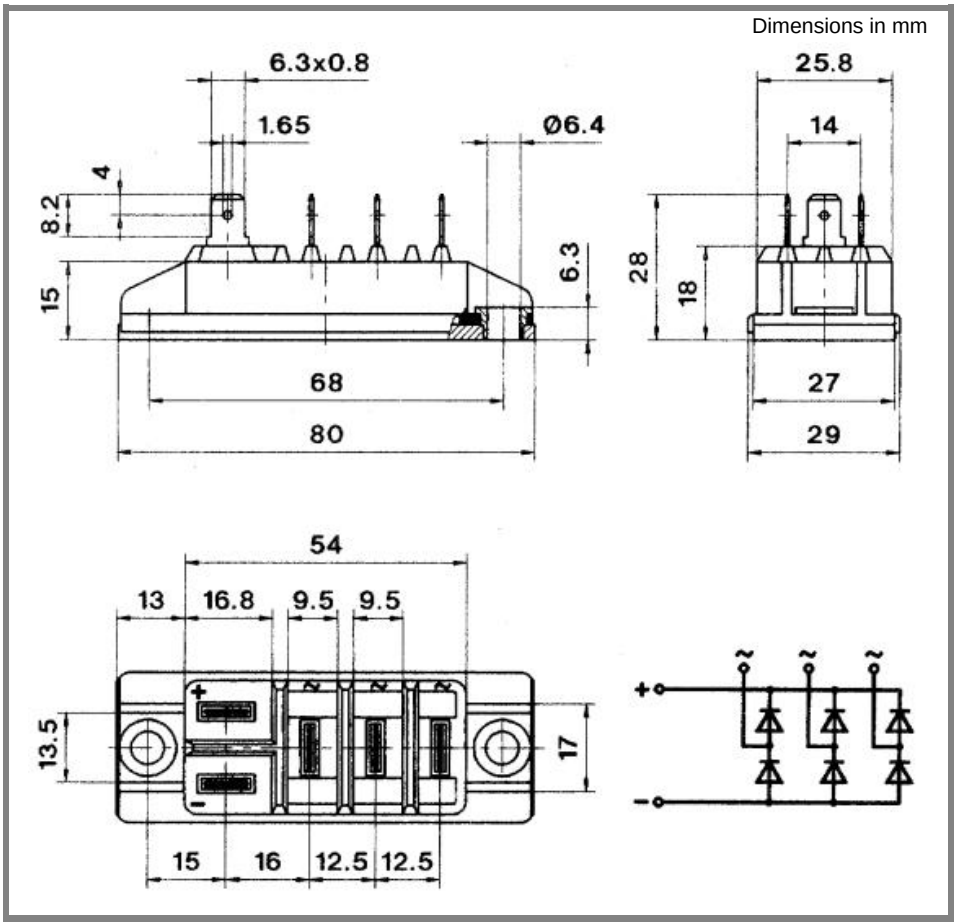


Fig. 6 Rated overload characteristics vs. time

SKD 51



Case G 51

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