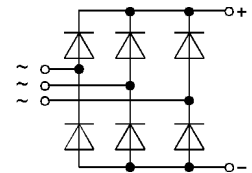


## Power Bridge Rectifiers

### SKD 51

$V_{RRM}$	$V_{RSM}$	$V_{VRMS}$	$I_D$ ( $T_{case} = 127\text{ °C}$ ) 50 <sup>1)</sup> A
V	V	V	
400	500	125	<b>SKD 51/04</b>
800	900	250	<b>SKD 51/08</b>
1200	1300	380	<b>SKD 51/12</b>
1400	1500	440	<b>SKD 51/14</b>
1600	1700	500	<b>SKD 51/16</b>
1800	1900	570	<b>SKD 51/18*</b>



### Features

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

### Typical Applications

- Three phase rectifiers for power supplies
- Input rectifiers for variable frequency drives
- Rectifiers for DC motor field supplies
- Battery charger rectifiers

Symbol	Conditions	SKD 51	Units	
$I_D, I_{DCL}$	$T_{case} = 127\text{ °C}$	50 <sup>1)</sup>	A	
	$T_{amb} = 45\text{ °C}$ ; isolated <sup>2)</sup>	7	A	
	chassis <sup>3)</sup>	18	A	
	R4A/120	27	A	
	P5A/100	31	A	
	P1A/120	52	A	
$I_{FSM}$	$T_{vj} = 25\text{ °C}$ ; 10 ms	775	A	
	$T_{vj} = 150\text{ °C}$ ; 10 ms	700	A	
$i^2t$	$T_{vj} = 25\text{ °C}$ ; 8,3 ... 10 ms	3000	A <sup>2</sup> s	
	$T_{vj} = 150\text{ °C}$ ; 8,3 ... 10 ms	2450	A <sup>2</sup> s	
$V_F$	$T_{vj} = 25\text{ °C}$ ; $I_F = 75\text{ A}$	1,45	V	
$V_{(TO)}$	$T_{vj} = 150\text{ °C}$	0,8	V	
$r_T$	$T_{vj} = 150\text{ °C}$	8,5	mΩ	
$I_{RD}$	$T_{vj} = 25\text{ °C}$ ; $V_{RD} = V_{RRM}$	0,2	mA	
	$T_{vj} = 150\text{ °C}$ ; $V_{RD} = V_{RRM}$	4	mA	
$t_{rr}$	$T_{vj} = 25\text{ °C}$ ; $I_F = I_R = 1\text{ A}$	typ. 5	μs	
$f_G$		2000	Hz	
$R_{thjc}$	per diode	1,1	°C/W	
	total	0,183	°C/W	
	$R_{thch}$ total	0,1	°C/W	
	$R_{thja}$ isolated <sup>2)</sup>	chassis <sup>3)</sup>	9	°C/W
		P5A/100	3,15	°C/W
		R4A/120	1,8	°C/W
		P1A/120	1,15	°C/W
	0,883	°C/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~	
RC	$P_R = 1\text{ W}$	50	Ω	
		0,1	μF	
$M_1$	Case to heatsink SI units	4,5 ± 15 %	Nm	
	US units	40 ± 15 %	lb. in.	
w		97	g	
Case	→ page B 11 – 38	G 51		

\* available in limited quantities

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

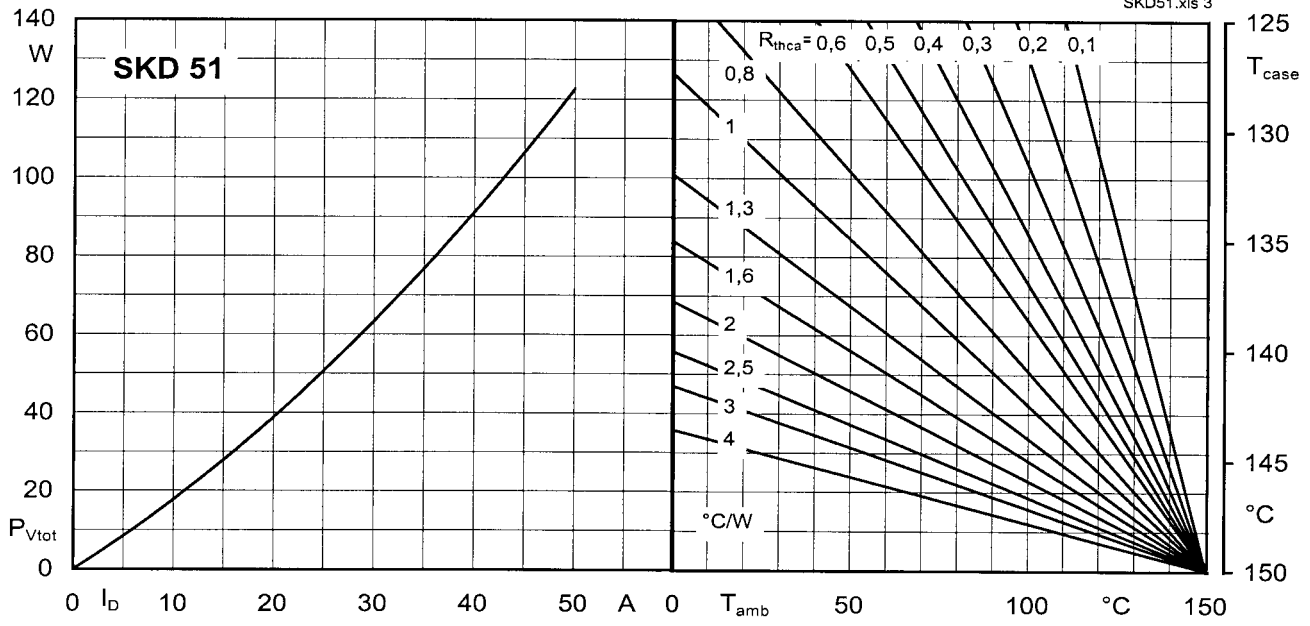
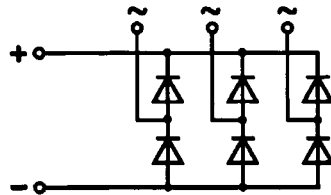
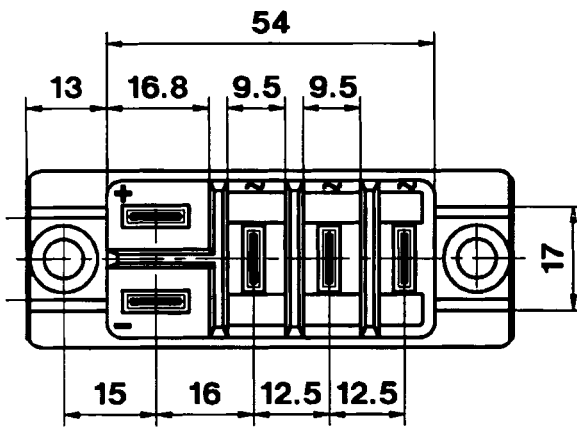
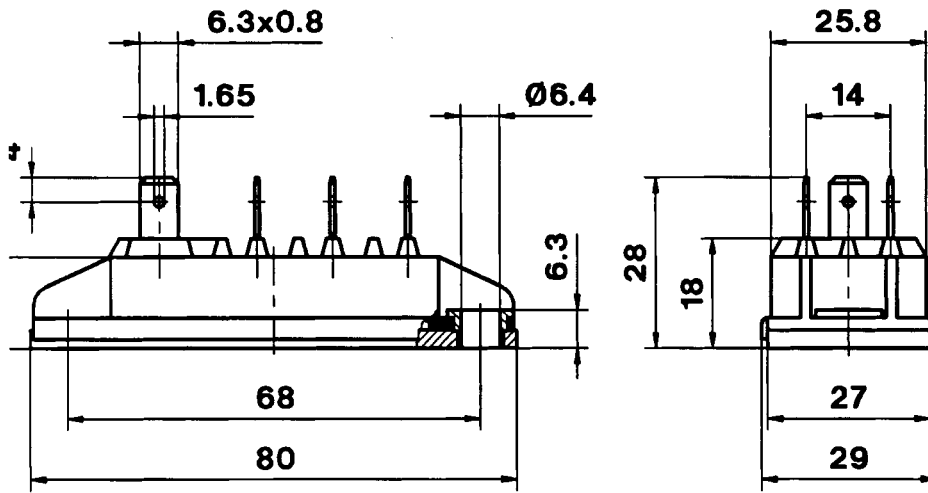


Fig. 3 Power dissipation vs. output current and case temperature

SKD 51  
Case G 51



Dimensions in mm