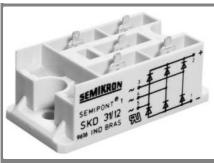# SKD 31

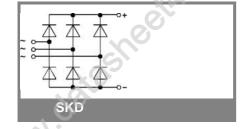## SEMIPONT® 1

Power Bridge Rectifiers

SKD 31

Features

- Sturdy isolated metal baseplate
- Fast-on terminals with solder tips
- Suitable for wave soldering
- High surge current ratings
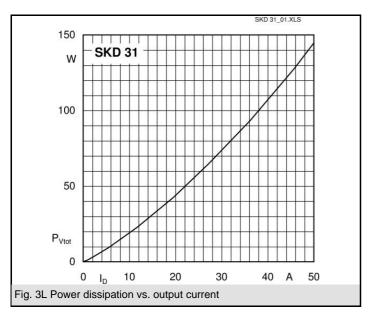- UL recognized, file no. E 63 532
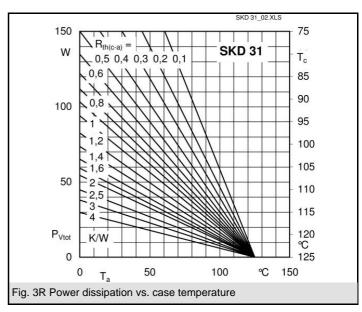
Typical Applications

- DC power supply, e.g. for transistorized AC motor controllers
- Battery chargers
- Non-controlled DC motor field supply
- Recommended snubber network: RC: 0.1 µF, 50 Ω (P_R = 1 W)

1) Freely suspended or mounted on an insulator

2) Mounted on a painted metal sheet of min. 250 x 250 x 1 mm

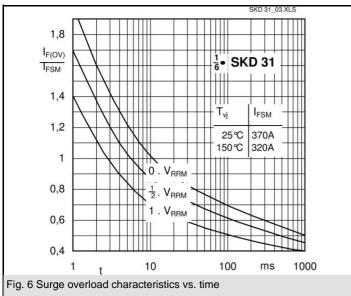| V_{RSM} V	V_{RRM}, V_{DRM} V	I_D = 31 A (full conduction) (T_c = 100 °C)
200	200	SKD 31/02
400	400	SKD 31/04
800	800	SKD 31/08
1200	1200	SKD 31/12
1400	1400	SKD 31/14
1600	1600	SKD 31/16

Symbol	Conditions	Values	Units
I_D	T_c = 85 °C	44	A
	T_a = 45 °C; isolated 1)	5,3	A
	T_a = 45 °C; chassis 2)	17	A
	T_a = 45 °C; R4A/120 (P1A/120)	27 (32)	A
	T_a = 35 °C; P1A/120 F	56	A
I_{FSM}	T_{vj} = 25 °C; 10 ms	370	A
	T_{vj} = 125 °C; 10 ms	320	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms ms	685	A²s
	T_{vj} = 125 °C; 8,3 ... 10 ms ms	510	A²s
V_F	T_{vj} = 25 °C; I_F = 75 A	max. 1,75	V
$V_{(TO)}$	T_{vj} = 125 °C	0,85	V
r_T	T_{vj} = 125 °C	12	mΩ
I_{RD}	T_{vj} = 25 °C; V_{DD} = V_{DRM}; V_{RD} = V_{RRM}	max. 0,2	mA
	T_{vj} = 125 °C, V_{DD} = V_{DRM}, V_{RD} = V_{RRM}	2	mA
$R_{th(j-c)}$	per diode	2	K/W
	total	0,33	K/W
$R_{th(c-s)}$	total	0,1	K/W
$R_{th(j-a)}$	isolated 1) (chassis 2))	15 (3)	K/W
T_{vj}		- 40 ... + 125 °C	°C
T_{stg}		- 40 ... + 125 °C	°C
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 (3000)	V
M_s	to heatsink	2 ± 15 %	Nm
M_t			
m		66	g
Case		G 26	

SKD

SKD 31_01.XLS

SKD 31

Fig. 3L Power dissipation vs. output current

SKD 31_02.XLS

$R_{th(c-a)} =$
0,5 0,4 0,3 0,2 0,1
0,6
0,8
1
1,2
1,4
1,6
2
2,5
3
4
K/W

SKD 31

Fig. 3R Power dissipation vs. case temperature

SKD 31_03.XLS

$\frac{1}{6}$• **SKD 31**

T_{vj}	I_{FSM}
25 °C	370A
150 °C	320A

0 . V_{RRM}
$\frac{1}{2}$. V_{RRM}
1 . V_{RRM}

Fig. 6 Surge overload characteristics vs. time

SKD 31_04.XLS

$\frac{1}{6}$• **SKD 31**

typ. max.

T_{vj} = 125 125 25 °C

Fig. 9 Forward characteristics of a diode arm

SKD 31_05.XLS

$\frac{1}{6}$• **SKD 31**

$Z_{th(j-s)}$
$Z_{th(j-c)}$

Fig. 12 Transient thermal impedance vs. time

06-04-2004 SCT

SKD 31

Dimensions in mm

6,3x0,8 2,8x0,5

22±0,2
25,3±0,5
5
63

54
39,8±0,5
18,5 +0,5 -0,3
5,3
5,3
21±0,3
32 -0,5
29±0,5
48

Case G 26

SKD 31   Case G 26
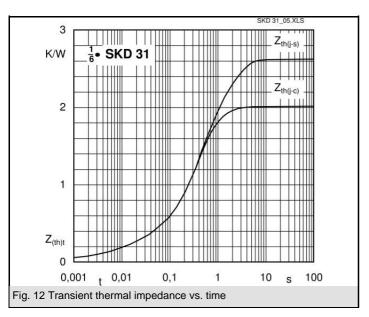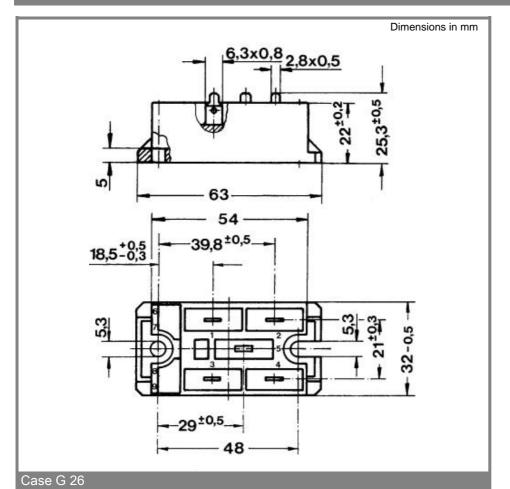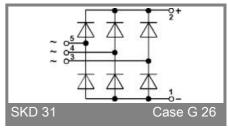
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