



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*

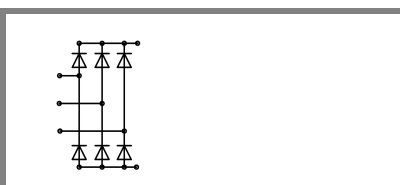
- DC power supply, e.g. for transistorized AC motor controllers
- Battery chargers
- Non-controlled DC motor field supply
- Recommended snubber network:
RC: 0.1 μ F, 50 Ω ($P_R = 1$ W)

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
i^2t	$T_{vj} = 25$ °C; 8,3 ... 10 ms ms	685	A ² s
	$T_{vj} = 125$ °C; 8,3 ... 10 ms ms	510	A ² s
V_F	$T_{vj} = 25$ °C; $I_F = 75$ A	max. 1,75	V
$V_{(TO)}$	$T_{vj} = 125$ °C	max. 0,85	V
r_T	$T_{vj} = 125$ °C	max. 12	m Ω
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 \pm 15 %	Nm
M_t			
m		66	g
Case		G 26	



SKD

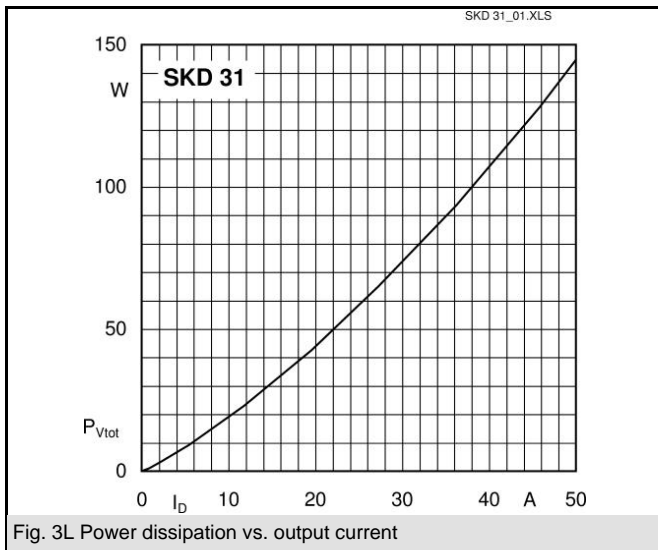


Fig. 3L Power dissipation vs. output current

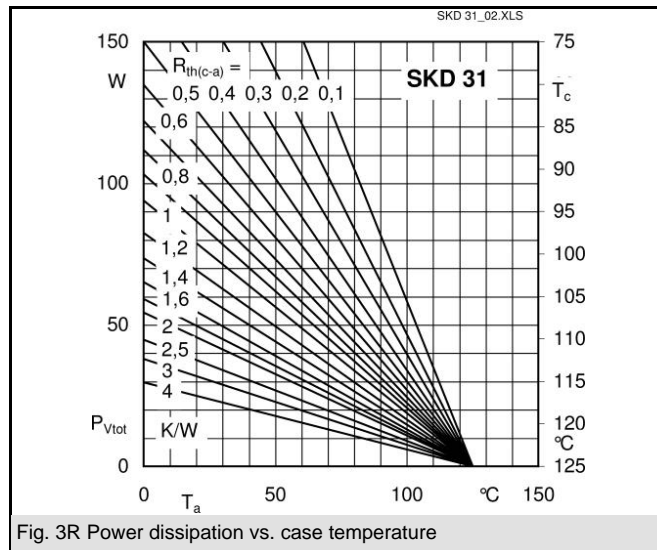


Fig. 3R Power dissipation vs. case temperature

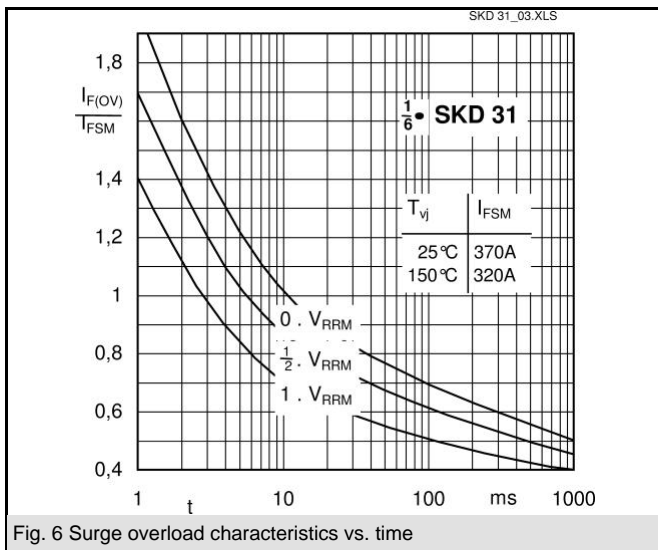


Fig. 6 Surge overload characteristics vs. time

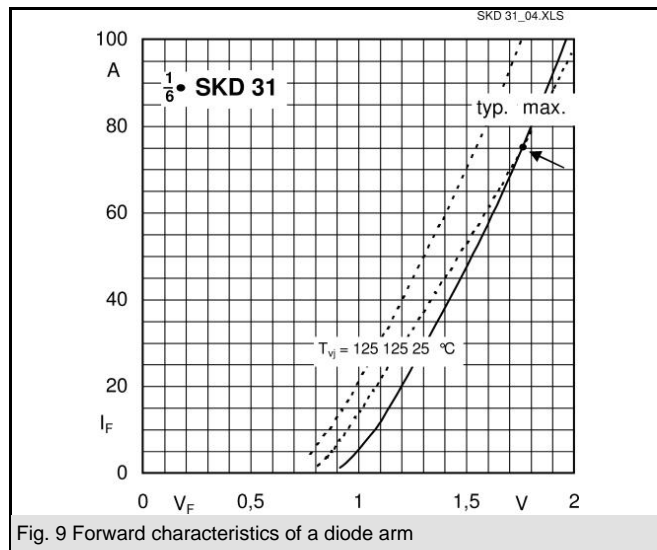


Fig. 9 Forward characteristics of a diode arm

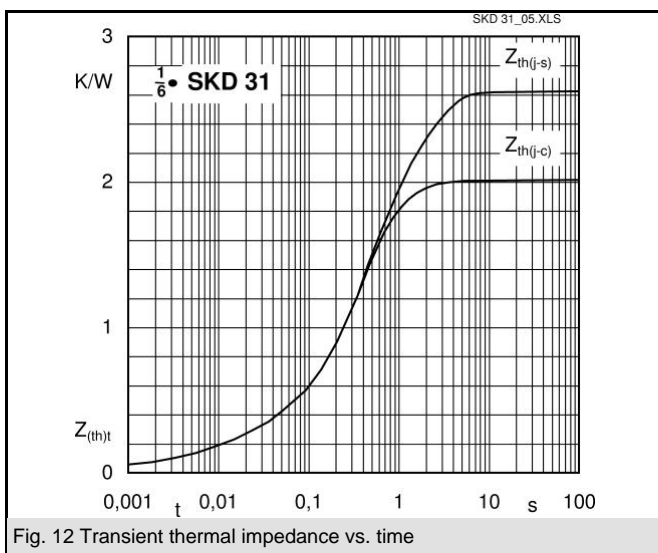
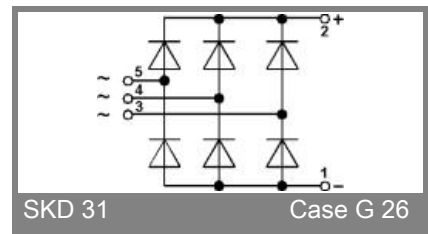
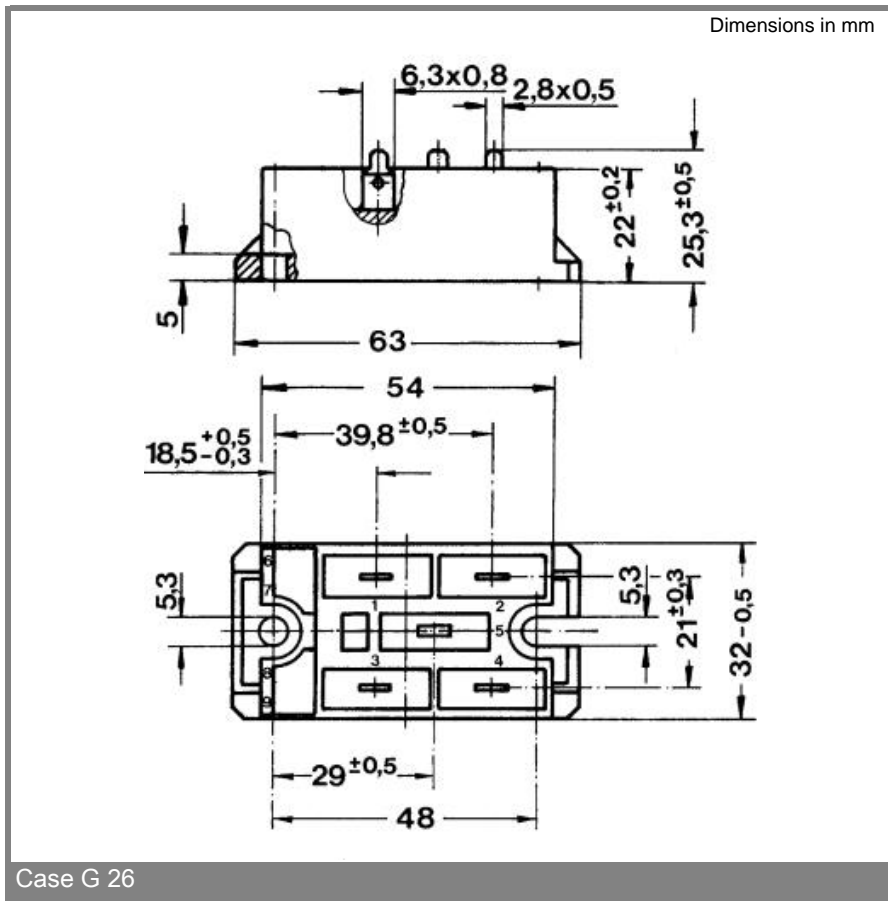


Fig. 12 Transient thermal impedance vs. time



* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.