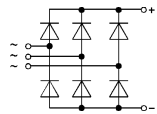


SEMIPONT® 1 Power Bridge Rectifiers

SKD 31



Features

- Sturdy isolated metal baseplate
- Fast-on terminals with solder tips
- Suitable for wave soldering
- High surge current rating
- 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

V_{RSM} V_{RRM}	I_D ($T_{case} = 100\text{ }^\circ\text{C}$) 31 A
200 V	SKD 31/02
400 V	SKD 31/04
800 V	SKD 31/08
1200 V	SKD 31/12
1400 V	SKD 31/14
1600 V	SKD 31/16

Symbol	Conditions	SKD 31	
I_D	$T_{case} = 85\text{ }^\circ\text{C}$	44 A	
	$T_{amb} = 45\text{ }^\circ\text{C}$, isolated ¹⁾ chassis ²⁾	P5A/100	5,3 A
		P5A/100	17 A
		R4A/120, P13A/125	26 A
	P1A/120	27 A	
$T_{amb} = 35\text{ }^\circ\text{C}$, P1A/120 F	56 A		
IFSM	$T_{vj} = 25\text{ }^\circ\text{C}$, 10 ms	370 A	
	$T_{vj} = 125\text{ }^\circ\text{C}$, 10 ms	320 A	
i^2t	$T_{vj} = 25\text{ }^\circ\text{C}$, 8,3...10 ms	685 A ² s	
	$T_{vj} = 125\text{ }^\circ\text{C}$, 8,3...10 ms	510 A ² s	
V_F	$T_{vj} = 25\text{ }^\circ\text{C}$; $I_F = 75\text{ A}$	max. 1,75 V	
$V_{(TO)}$	$T_{vj} = 125\text{ }^\circ\text{C}$	0,85 V	
r_T	$T_{vj} = 125\text{ }^\circ\text{C}$	12 mΩ	
I_{RD}	$T_{vj} = 25\text{ }^\circ\text{C}/125\text{ }^\circ\text{C}$; $V_{RD} = V_{RRM}$	0,2/2 mA	
R_{thjc}	per diode	2,0 °C/W	
	total	0,33 °C/W	
R_{thch}	total	0,1 °C/W	
R_{thja}	isolated ¹⁾	15 °C/W	
	chassis ²⁾	3 °C/W	
	P5A/100	1,85 °C/W	
P1A/120	1,05 °C/W		
T_{vj}		- 40...+ 125 °C	
T_{stg}		- 40...+ 125 °C	
V_{isol}	a.c. 50...60 Hz; r.m.s.; 1 s / 1 min	3600 V- / 3000 V-	
RC	$P_R = 1\text{ W}$	0,1 μF + 50 Ω	
F_u		25 A	
M_1	case to heatsink; SI units/US units	2 Nm/18 lb. in. ± 15 %	
w		66 g	
Case	→ page B11-26	G 26	

¹⁾ Freely suspended or mounted on an insulator

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

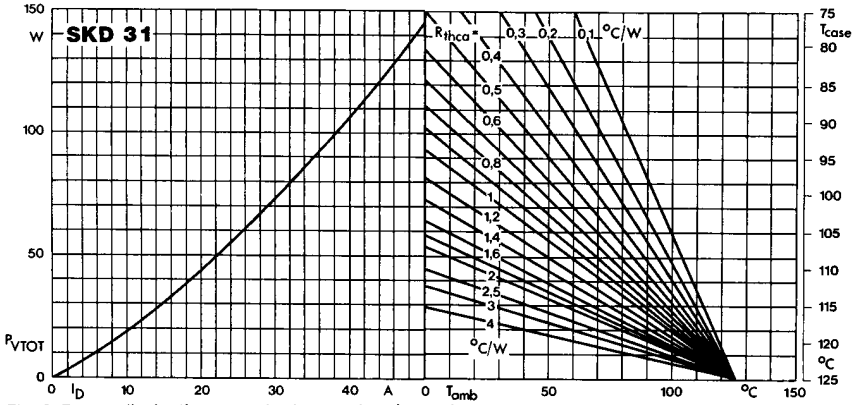


Fig. 3 Power dissipation vs. output current and case temperature

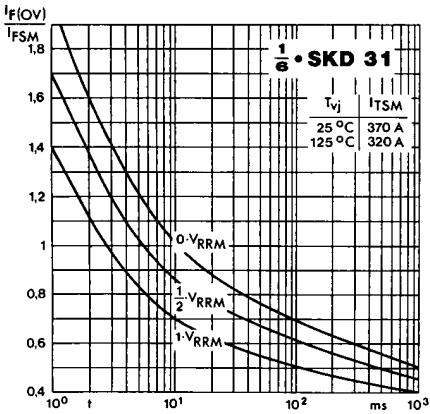


Fig. 5 Surge overload current vs. time

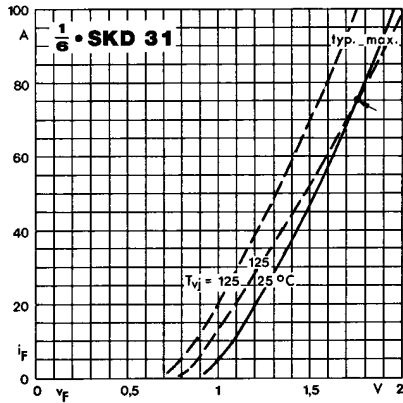


Fig. 9 Forward characteristics of a single diode

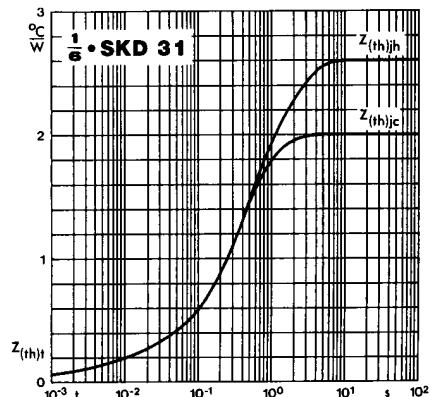


Fig. 12 Transient thermal impedance vs. time