

Power Bridge Rectifiers

SKD 83

Features

- Glass passivated silicon chips
- Low thermal impedance through use of direct copper bonded aluminum substrate (DCB) base plate
- Blocking voltage up to 1800 V
- Suitable for PCB mounting and wave soldering
- For applications with high vibrations we recommend to fasten the bridge to the pcb with 4 selftapping screw

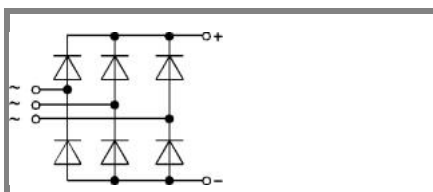
Typical Applications

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

1) Freely suspended or mounted on an insulator

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

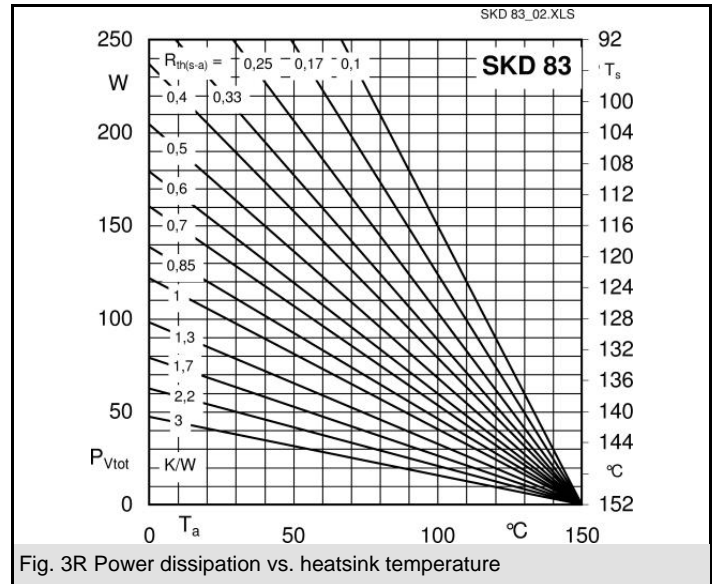
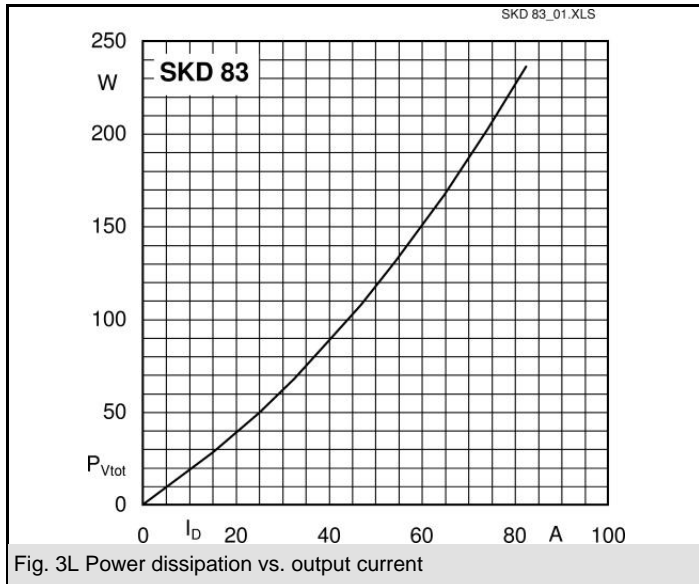
3) $T_{\text{solder}} = 250 \pm 10 \text{ }^\circ\text{C}$ (10 s)

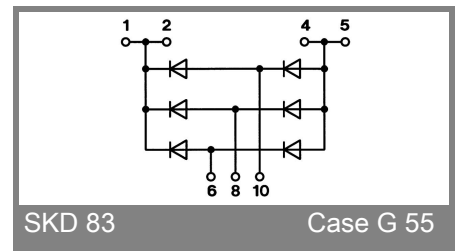
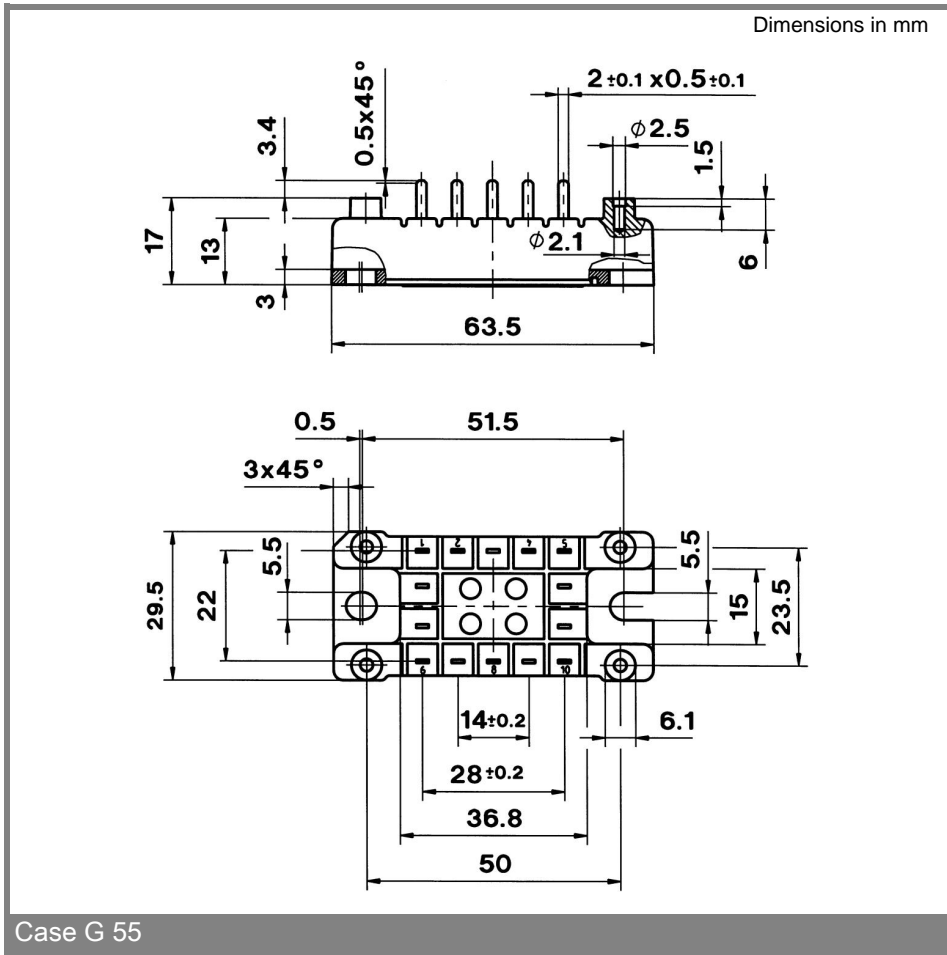


SKD

V_{RSM} V	$V_{\text{RRM}}, V_{\text{DRM}}$ V	$I_{\text{D}} = 83 \text{ A}$ (full conduction) ($T_{\text{s}} = 95 \text{ }^\circ\text{C}$)
500	400	SKD 83/04
900	800	SKD 83/08
1300	1200	SKD 83/12
1600	1400	SKD 83/14
1700	1600	SKD 83/16
1900	1800	SKD 83/18

Symbol	Conditions	Values	Units
I_{D}	$T_{\text{s}} = 95 \text{ }^\circ\text{C}$	83	A
	$T_{\text{a}} = 45 \text{ }^\circ\text{C}$; isolated ¹⁾	4	A
	$T_{\text{a}} = 45 \text{ }^\circ\text{C}$; chassis ²⁾	20	A
	$T_{\text{a}} = 45 \text{ }^\circ\text{C}$; P5A/100 (R4A/120)	32 (34)	A
	$T_{\text{a}} = 35 \text{ }^\circ\text{C}$; P1A/120F	83	A
I_{FSM}	$T_{\text{vj}} = 25 \text{ }^\circ\text{C}$; 10 ms	700	A
	$T_{\text{vj}} = 150 \text{ }^\circ\text{C}$; 10 ms	560	A
i^2t	$T_{\text{vj}} = 25 \text{ }^\circ\text{C}$; 8,3 ... 10 ms	2450	A ² s
	$T_{\text{vj}} = 150 \text{ }^\circ\text{C}$; 8,3 ... 10 ms	1570	A ² s
V_{F}	$T_{\text{vj}} = 25 \text{ }^\circ\text{C}$; $I_{\text{F}} = 80 \text{ A}$	max. 1,45	V
$V_{\text{(TO)}}$	$T_{\text{vj}} = 150 \text{ }^\circ\text{C}$	0,8	V
r_{T}	$T_{\text{vj}} = 150 \text{ }^\circ\text{C}$	7,5	m Ω
I_{RD}	$T_{\text{vj}} = 25 \text{ }^\circ\text{C}$; $V_{\text{DD}} = V_{\text{DRM}}$; $V_{\text{RD}} = V_{\text{RRM}}$	max. 0,2	mA
	$T_{\text{vj}} = 150 \text{ }^\circ\text{C}$; $V_{\text{RD}} = V_{\text{RRM}}$	4	mA
$R_{\text{th(j-s)}}$	per diode	1,4	K/W
	total	0,233	K/W
	isolated ¹⁾	14,83	K/W
$R_{\text{th(j-a)}}$	chassis ²⁾	2,83	K/W
T_{vj}		- 40 ... + 150	$^\circ\text{C}$
T_{stg}		- 40 ... + 125 ³⁾	$^\circ\text{C}$
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 (3000)	V
M_{s}	to heatsink; SI units	$2 \pm 15 \%$	Nm
M_{t}			
a		$5 * 9,81$	m/s ²
m		30	g
Case		G 55	





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