

## Power Bridge Rectifiers

### SKD 53

#### 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

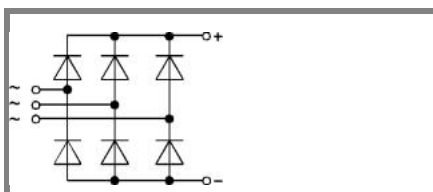
#### Typical Applications

- 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

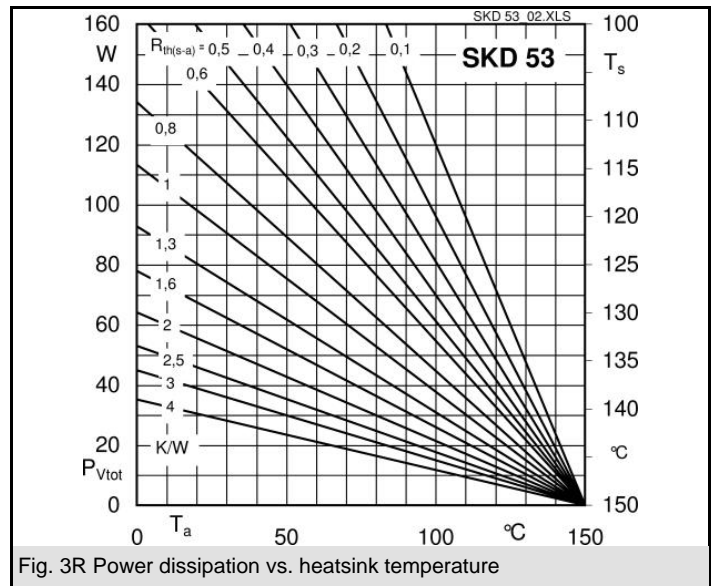
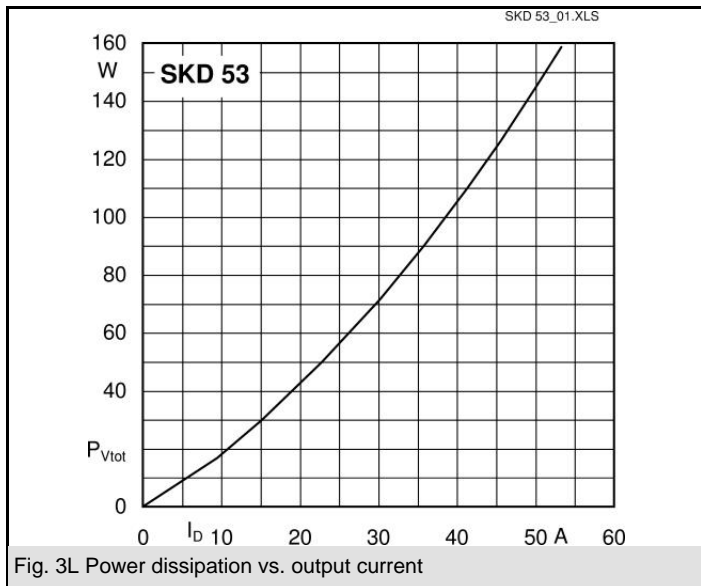
3)  $T_{\text{solder}} = 250 \pm 10 \text{ }^\circ\text{C}$  (10 s)

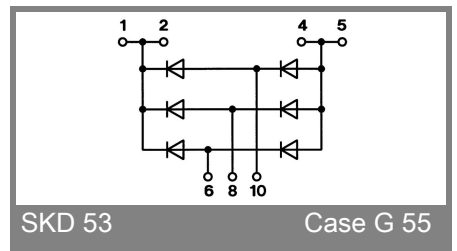
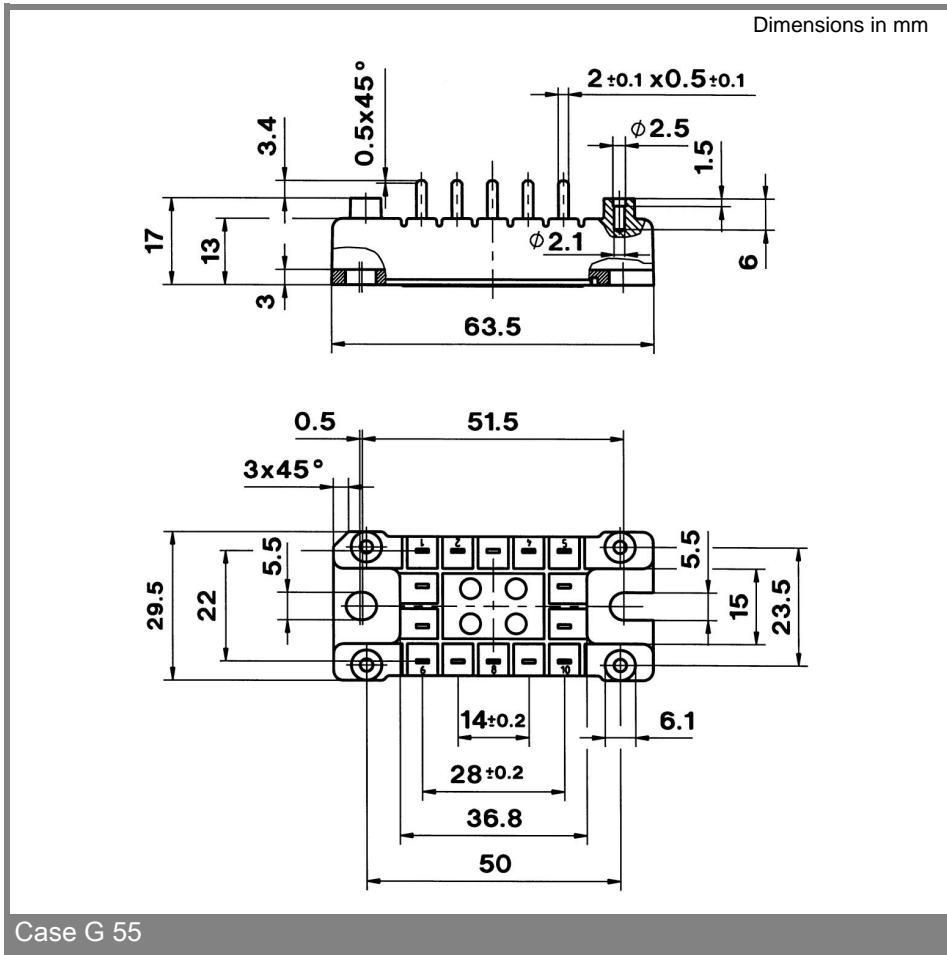


SKD

$V_{\text{RSM}}$ V	$V_{\text{RRM}}, V_{\text{DRM}}$ V	$I_{\text{D}} = 53 \text{ A}$ (full conduction) ( $T_{\text{s}} = 100 \text{ }^\circ\text{C}$ )
500	400	SKD 53/04
900	800	SKD 53/08
1300	1200	SKD 53/12
1600	1400	SKD 53/14
1700	1600	SKD 53/16
1900	1800	SKD 53/18

Symbol	Conditions	Values	Units
$I_{\text{D}}$	$T_{\text{s}} = 100 \text{ }^\circ\text{C}$	53	A
	$T_{\text{a}} = 45 \text{ }^\circ\text{C}$ ; isolated <sup>1)</sup>	4	A
	$T_{\text{a}} = 45 \text{ }^\circ\text{C}$ ; chassis <sup>2)</sup>	18	A
	$T_{\text{a}} = 45 \text{ }^\circ\text{C}$ ; P5A/100 (R4A/120)	27 (29)	A
	$T_{\text{a}} = 35 \text{ }^\circ\text{C}$ ; P1A/120F	63	A
$I_{\text{FSM}}$	$T_{\text{vj}} = 25 \text{ }^\circ\text{C}$ ; 10 ms	370	A
	$T_{\text{vj}} = 150 \text{ }^\circ\text{C}$ ; 10 ms	270	A
$i^2t$	$T_{\text{vj}} = 25 \text{ }^\circ\text{C}$ ; 8,3 ... 10 ms	685	A <sup>2</sup> s
	$T_{\text{vj}} = 150 \text{ }^\circ\text{C}$ ; 8,3 ... 10 ms	365	A <sup>2</sup> s
$V_{\text{F}}$	$T_{\text{vj}} = 25 \text{ }^\circ\text{C}$ ; $I_{\text{F}} = 50 \text{ A}$	max. 1,5	V
$V_{\text{(TO)}}$	$T_{\text{vj}} = 150 \text{ }^\circ\text{C}$	0,8	V
$r_{\text{T}}$	$T_{\text{vj}} = 150 \text{ }^\circ\text{C}$	13	m $\Omega$
$I_{\text{RD}}$	$T_{\text{vj}} = 25 \text{ }^\circ\text{C}$ ; $V_{\text{DD}} = V_{\text{DRM}}$ ; $V_{\text{RD}} = V_{\text{RRM}}$	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	1,9	K/W
	total	0,317	K/W
$R_{\text{th(j-a)}}$	isolated <sup>1)</sup>	14,92	K/W
	chassis <sup>2)</sup>	2,92	K/W
$T_{\text{vj}}$		- 40 ... + 150	$^\circ\text{C}$
$T_{\text{stg}}$		- 40 ... + 125 <sup>3)</sup>	$^\circ\text{C}$
$V_{\text{isol}}$	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 ( 3000 )	V
$M_{\text{s}}$	to heatsink; SI units	$2 \pm 15 \%$	Nm
$M_{\text{t}}$		$5 * 9,81$	m/s <sup>2</sup>
$m$		30	g
Case		G 55	





SKD 53

Case G 55

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