

# DATASHEET

**SEMIKRON**

SKB33/12

**OTHER SYMBOLS:**

SKB3312, SKB33 12, SKB33/12

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## Controllable Bridge Rectifiers

### SKB 33

### Features

- Half controlled, single phase rectifier with freewheeling diode
- Isolated metal case with screw terminals
- Blocking voltage up to 1200 V
- High surge currents
- Easy chassis mounting

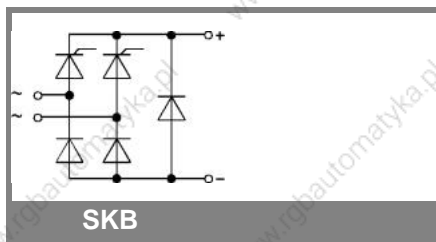
### Typical Applications

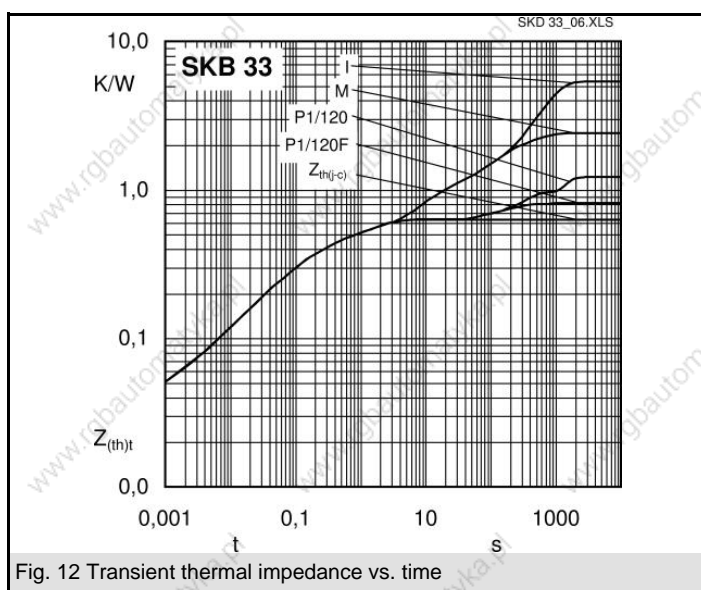
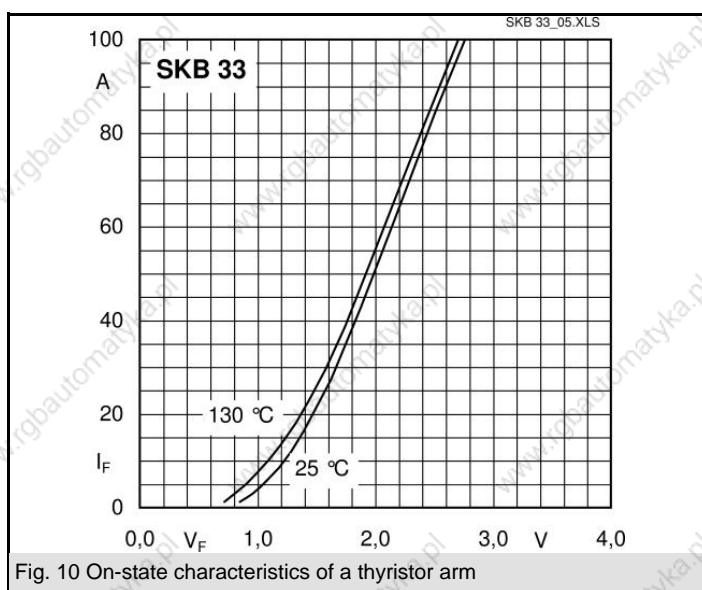
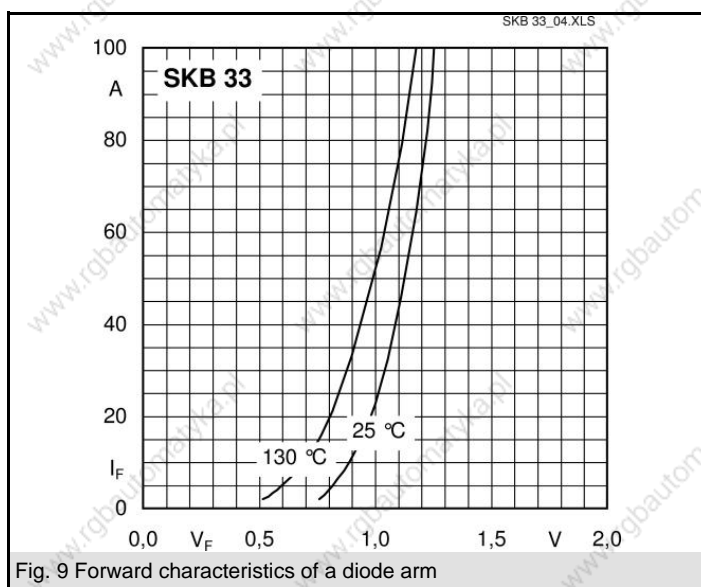
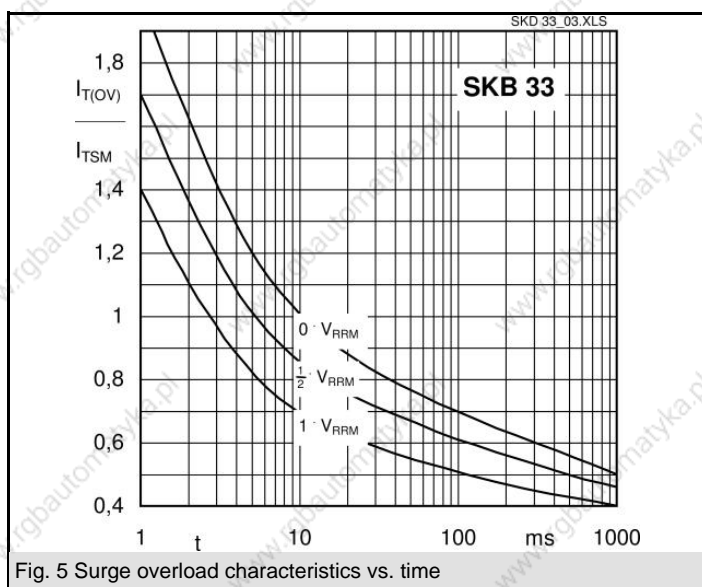
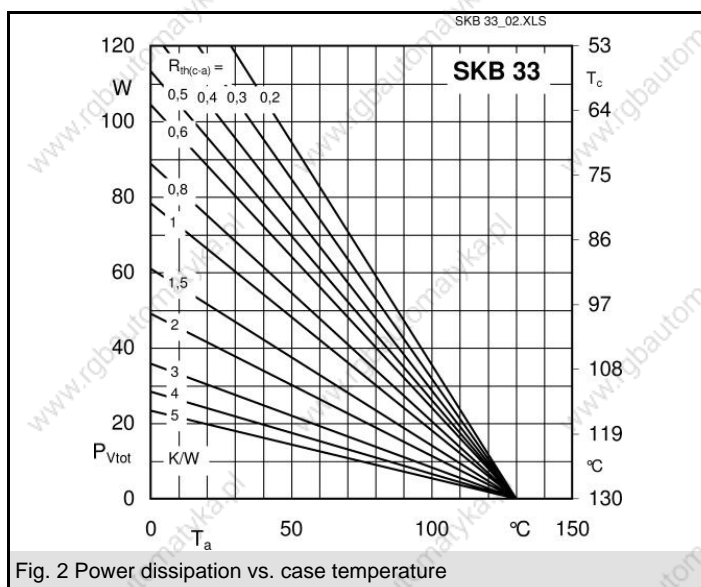
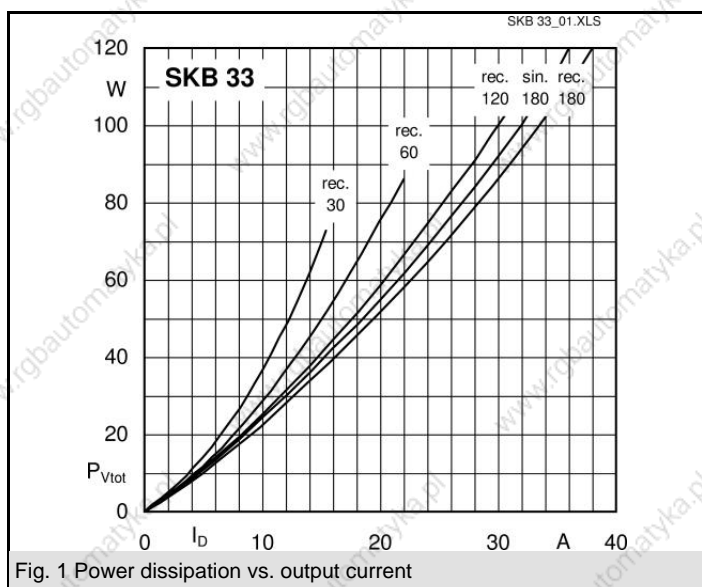
- Power supplies for electronic equipment
- DC motors
- Field rectifiers for DC motors
- Battery charger rectifiers

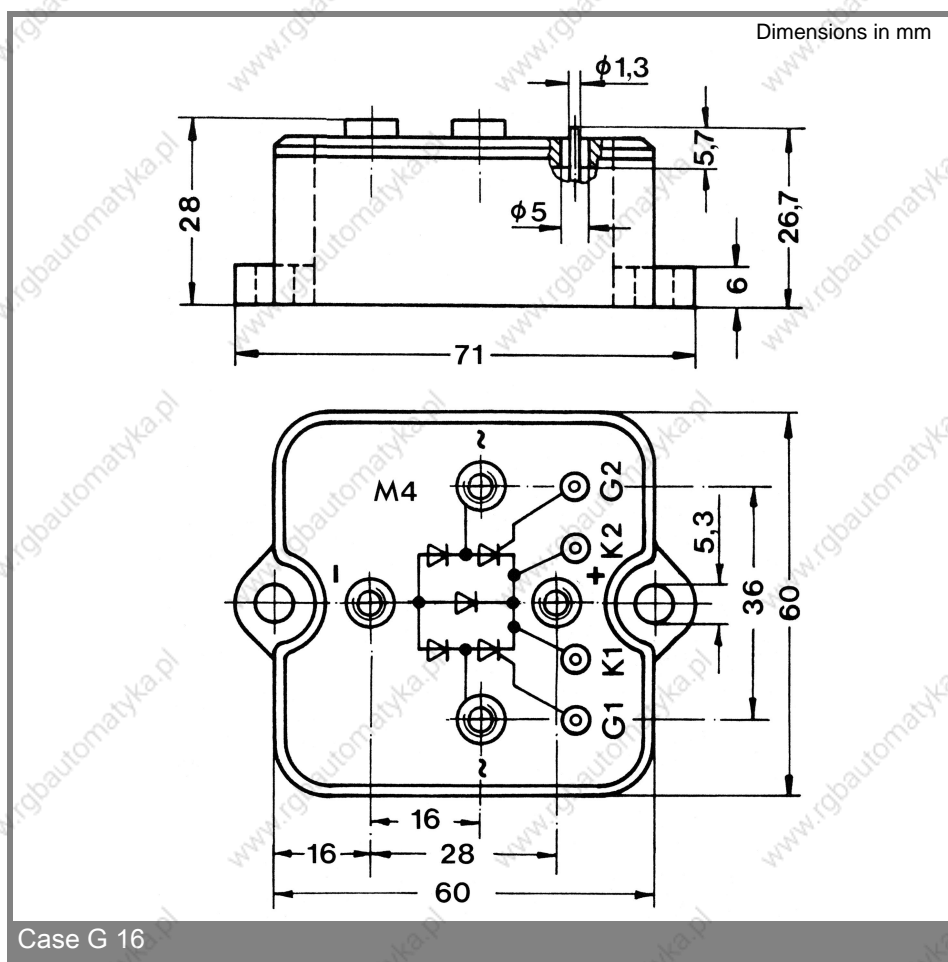
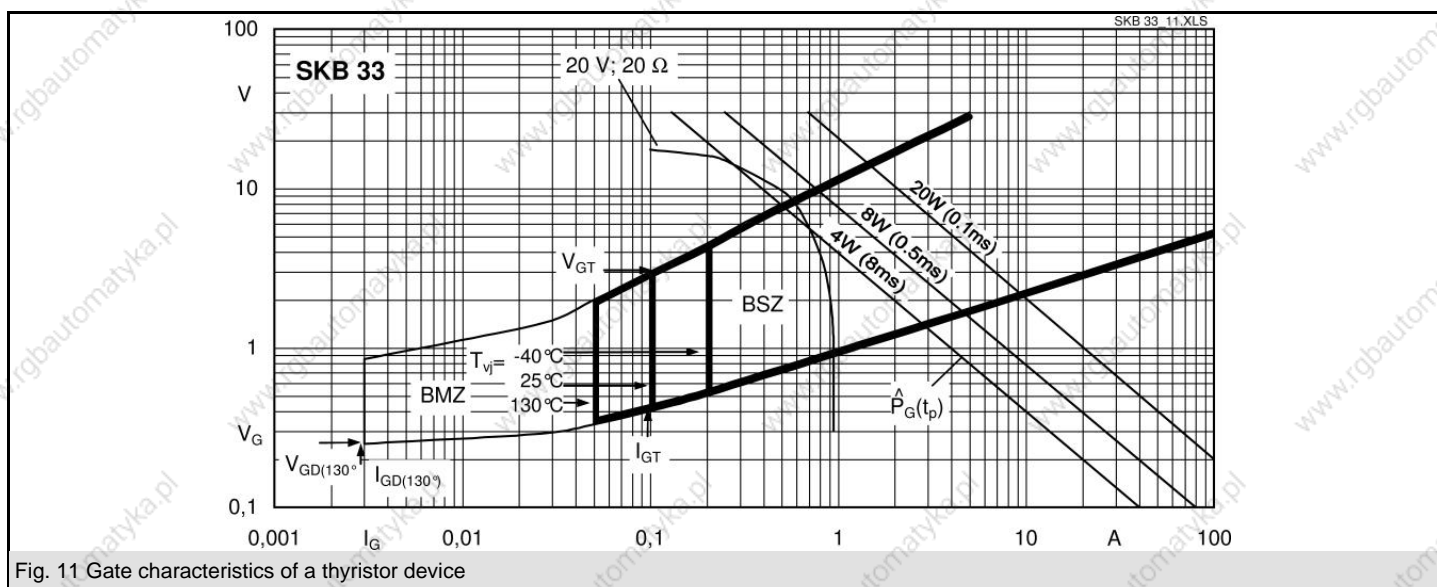
- 1) Freely suspended or mounted on an insulator
- 2) Mounted on a painted metal sheet of min. 250 x 250 x 1 mm

$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_D = 33$ A (full conduction) ( $T_c = 62^\circ\text{C}$ )
300	200	SKB 33/02
500	400	SKB 33/04
700	600	SKB 33/06
900	800	SKB 33/08
1100	1000	SKB 33/10
1300	1200	SKB 33/12

Symbol	Conditions	Values	Units
$I_D$	$T_a = 45^\circ\text{C}$ isolated <sup>1)</sup> $T_a = 45^\circ\text{C}$ ; chassis <sup>2)</sup> $T_a = 45^\circ\text{C}$ ; P1A/120 $T_a = 35^\circ\text{C}$ ; P1A/120 F	6,5 14 24 32	A A A A
$I_{TSM}, I_{FSM}$	$T_{vj} = 25^\circ\text{C}$ ; 10 ms $T_{vj} = 130^\circ\text{C}$ ; 10 ms	370 340	A A
$i^2t$	$T_{vj} = 25^\circ\text{C}$ ; 8,3 ... 10 ms $T_{vj} = 130^\circ\text{C}$ ; 8,3 ... 10 ms	680 580	A <sup>2</sup> s A <sup>2</sup> s
$V_T$ $V_{T(TO)}$ $r_T$	$T_{vj} = 25^\circ\text{C}$ ; $I_T = 75$ A $T_{vj} = 130^\circ\text{C}$ ; $T_{vj} = 130^\circ\text{C}$	max. 2,4 max. 1 max. 15	V V mΩ
$I_{DD}, I_{RD}$	$T_{vj} = 130^\circ\text{C}$ ; $V_{DD} = V_{DRM}$ ; $V_{RD} = V_{RRM}$	max. 10	mA
$t_{gd}$ $t_{gr}$	$T_{vj} = 25^\circ\text{C}$ ; $I_G = 1$ A; $di_G/dt = 1$ A/μs $V_D = 0,67 \cdot V_{DRM}$	1 1	μs μs
$(dv/dt)_{cr}$ $(di/dt)_{cr}$	$T_{vj} = 130^\circ\text{C}$ $T_{vj} = 130^\circ\text{C}$ ; $f = 50$ Hz	max. 200 max. 50	V/μs A/μs
$t_q$ $I_H$ $I_L$	$T_{vj} = 130^\circ\text{C}$ ; typ. $T_{vj} = 25^\circ\text{C}$ ; typ. / max. $T_{vj} = 25^\circ\text{C}$ ; $R_G = 33 \Omega$ ; typ. / max.	80 20 / 200 80 / 400	μs mA mA
$V_{GT}$ $I_{GT}$ $V_{GD}$ $I_{GD}$	$T_{vj} = 25^\circ\text{C}$ ; d.c. $T_{vj} = 25^\circ\text{C}$ ; d.c. $T_{vj} = 130^\circ\text{C}$ ; d.c. $T_{vj} = 130^\circ\text{C}$ ; d.c.	min. 3 min. 100 max. 0,25 max. 3	V mA V mA
$R_{th(j-c)}$ $R_{th(c-s)}$	per thyristor / diode total total	2,6 0,65 0,06	K/W K/W K/W
$T_{vj}$ $T_{stg}$		- 40 ... + 130 - 55 ... + 150	°C °C
$V_{isol}$ $M_s$ $M_t$ $m$	a. c. 50 Hz; r.m.s.; 1 s / 1 min. to heatsink to terminals	3000 ( 2500 ) $5 \pm 15 \%$ $3 \pm 15 \%$ 250	V Nm Nm g
Case		G 16	







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