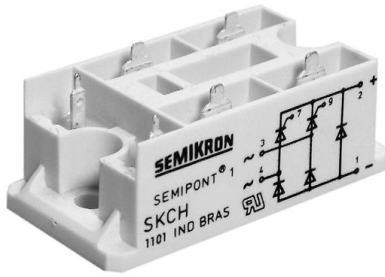


# SKCH 43



SEMIPONT<sup>®</sup> 1

## Controllable Bridge Rectifier

SKCH 43

### Preliminary data

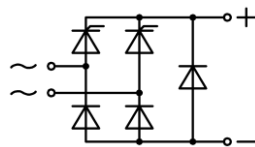
### Features

- Sturdy isolated metal baseplate
- Fast-on terminals with solder tips
- Suitable for wave soldering
- High surge current rating
- Blocking voltage of 1600 V
- UL recognized plastic material

### Typical Applications\*

- Controllable single phase rectifier
- DC power supplies
- DC motor controllers
- DC motor field controllers

- 1) Painted metal sheet of minimum. 250 x 250 x 1 mm:  $R_{th(c-a)} = 1,85 \text{ K/W}$
- 2) Freely suspended or mounted on insulator



SKCH

$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_D = 45 \text{ A}$ (Inductive Load) ( $T_c = 85 \text{ °C}$ )
800	800	SKCH 43/08
1200	1200	SKCH 43/12
1400	1400	SKCH 43/14
1600	1600	SKCH 43/16

### Absolute maximum ratings

Symbol	Conditions	Values	Units
$I_D$	$T_c = 85 \text{ °C}$ (full conduction) $T_a = 45 \text{ °C}$ , chassis <sup>1)</sup>	43 15	A A
$I_{DCL}$	$T_a = 45 \text{ °C}$ , P1/120	32	A
$I_{DD}, I_{RD}$	$T_{vj} = 130 \text{ °C}$ ; $V_{DD} = V_{RRM}$ ; $V_{RD} = V_{RRM}$	max. 8	mA
$T_{vj}$		-40...+130	°C
$T_{stg}$		-55...+125	°C

### Characteristics

Symbol	Conditions	Values	Units
<b>Diode</b>			
$I_{FSM}$	$T_{vj} = 25 \text{ °C}$ , 10 ms	370	A
	$T_{vj} = 130 \text{ °C}$ , 10 ms	320	A
$i^2t$	$T_{vj} = 25 \text{ °C}$ , 8,3 ... 10 ms	680	A <sup>2</sup> s
	$T_{vj} = 130 \text{ °C}$ , 8,3 ... 10 ms	500	A <sup>2</sup> s
$V_F$	$T_{vj} = 25 \text{ °C}$ , $I_T = 75 \text{ A}$	max. 1,4	V
$V_{(TO)}$	$T_{vj} = 130 \text{ °C}$	max. 0,85	V
$r_T$	$T_{vj} = 130 \text{ °C}$	max. 7	mΩ
$R_{th(i-c)}$	sin.180, per diode	1,7	K/W
$T_{vj}$		-40...+130	°C
$T_{stg}$		-55...+125	°C
<b>Thyristor</b>			
$I_{TSM}$	$T_{vj} = 25 \text{ °C}$ , 10 ms	450	A
	$T_{vj} = 130 \text{ °C}$ , 10 ms	380	A
$i^2t$	$T_{vj} = 25 \text{ °C}$ , 8,3 ... 10 ms	1000	A <sup>2</sup> s
	$T_{vj} = 130 \text{ °C}$ , 8,3 ... 10 ms	720	A <sup>2</sup> s
$V_T$	$T_{vj} = 25 \text{ °C}$ , $I_T = 75 \text{ A}$	max. 1,9	V
$V_{(TO)}$	$T_{vj} = 130 \text{ °C}$	max. 1	V
$r_T$	$T_{vj} = 130 \text{ °C}$	max. 10	mΩ
$t_{gd}$	$T_{vj} = 25 \text{ °C}$ ; $I_G = 1 \text{ A}$ ; $di_G/dt = 1 \text{ A}/\mu\text{s}$	1	μs
$t_{gr}$	$V_D = 0,67 \cdot V_{DRM}$	1	μs
$(dv/dt)_{cr}$	$T_{vj} = 130 \text{ °C}$	max. 1000	V/μs
$(di/dt)_{cr}$	$T_{vj} = 130 \text{ °C}$ ; $f = 50 \text{ Hz}$	max. 50	A/μs
$t_q$	$T_{vj} = 130 \text{ °C}$ ; typ.	80	μs
$I_H$	$T_{vj} = 25 \text{ °C}$ ; typ. / max.	80 / 150	mA
$I_L$	$T_{vj} = 25 \text{ °C}$ ; $R_G = 33 \text{ Ω}$	150 / 300	mA
$V_{GT}$	$T_{vj} = 25 \text{ °C}$ ; d.c.	min. 3	V
$I_{GT}$	$T_{vj} = 25 \text{ °C}$ ; d.c.	min. 100	mA
$V_{GD}$	$T_{vj} = 130 \text{ °C}$ ; d.c.	max. 0,25	V
$I_{GD}$	$T_{vj} = 130 \text{ °C}$ ; d.c.	max. 3	mA
$R_{th(i-c)}$	sin.180, per thyristor	1,3	K/W
$T_{vj}$		-40...+130	°C
$T_{stg}$		-55...+125	°C

# SKCH 43



SEMIPONT® 1

## Controllable Bridge Rectifier

SKCH 43

### Preliminary data

### Features

- Sturdy isolated metal baseplate
- Fast-on terminals with solder tips
- Suitable for wave soldering
- High surge current rating
- Blocking voltage of 1600 V
- UL recognized plastic material

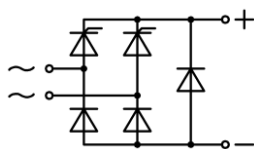
### Typical Applications\*

- Controllable single phase rectifier
- DC power supplies
- DC motor controllers
- DC motor field controllers

3) Painted metal sheet of minimum. 250 x 250 x 1 mm:  $R_{th(c-a)} = 1,85 \text{ K/W}$

4) Freely suspended or mounted on insulator

Characteristics			
Symbol	Conditions	Values	Units
$R_{th(j-c)}$	total (sin.180, full conduction)	0,37	K/W
$R_{th(c-s)}$	total	0,1	K/W
$R_{th(i-a)}$	total <sup>2)</sup>	15	K/W
$T_{vj}$		-40...+130	°C
$T_{stg}$		-55...+125	°C
$V_{isol}$	a.c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 / (3000)	V
$M_s$	to heatsink M4	2	Nm
$M_t$	to terminal M5	3	Nm
m		66	g
Case	SKCH	G 25	



SKCH

# SKCH 43

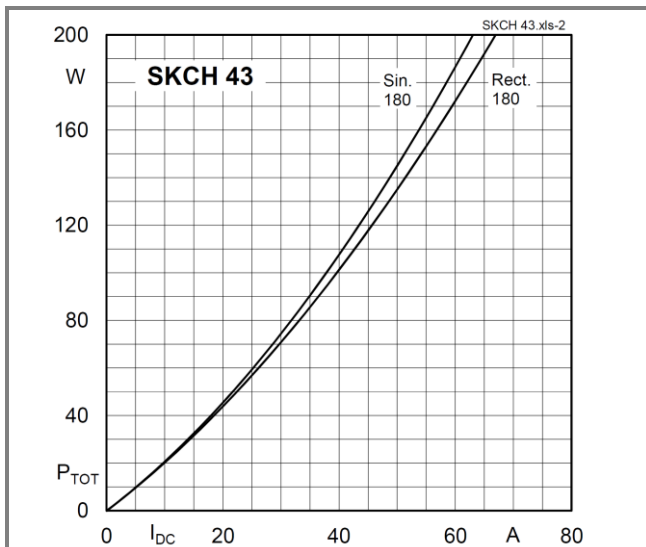


Fig. 1 Power dissipation vs. output current

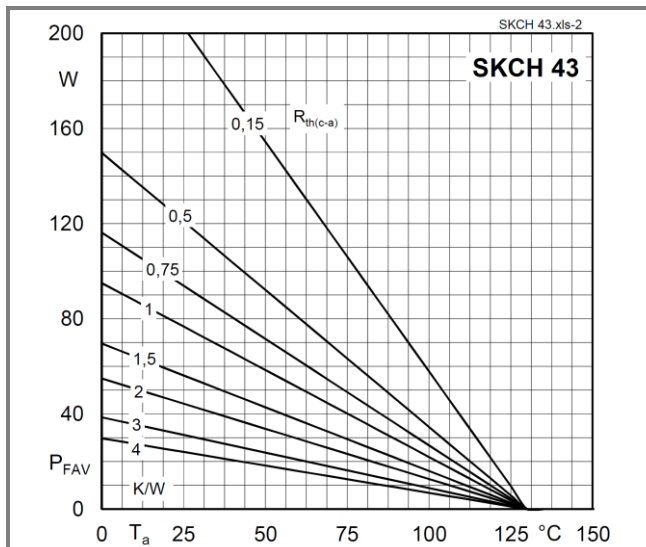


Fig. 2 Power dissipation vs. ambient temperature

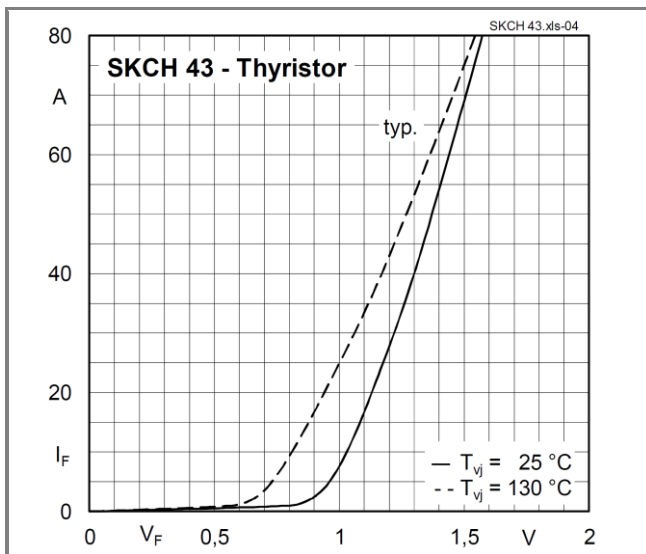


Fig. 4.a Forward characteristics of the thyristor chip

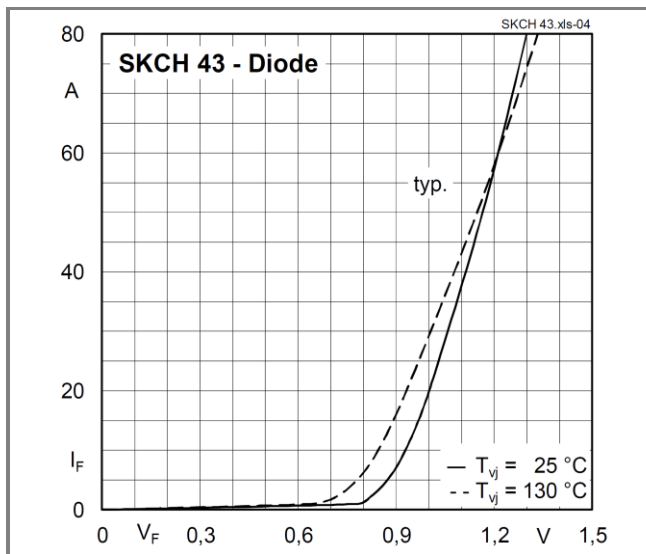


Fig. 4.b Forward characteristics of the diode chip

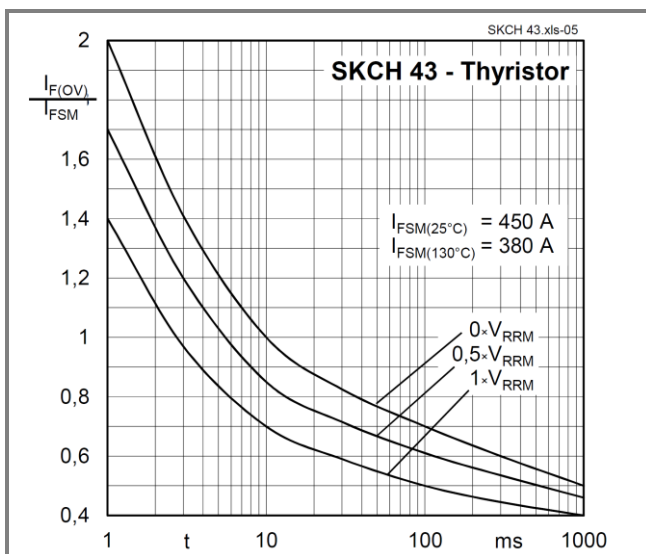


Fig. 5.a Surge overload characteristics vs. time - Thyristor

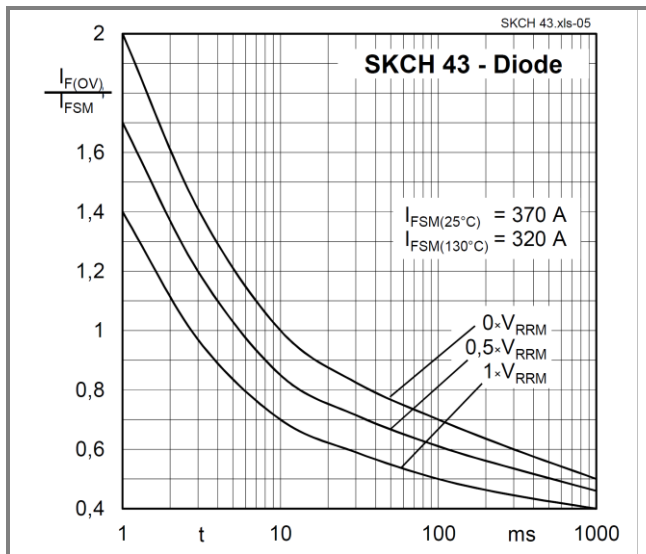


Fig. 5.b Surge overload characteristics vs. time - Diode

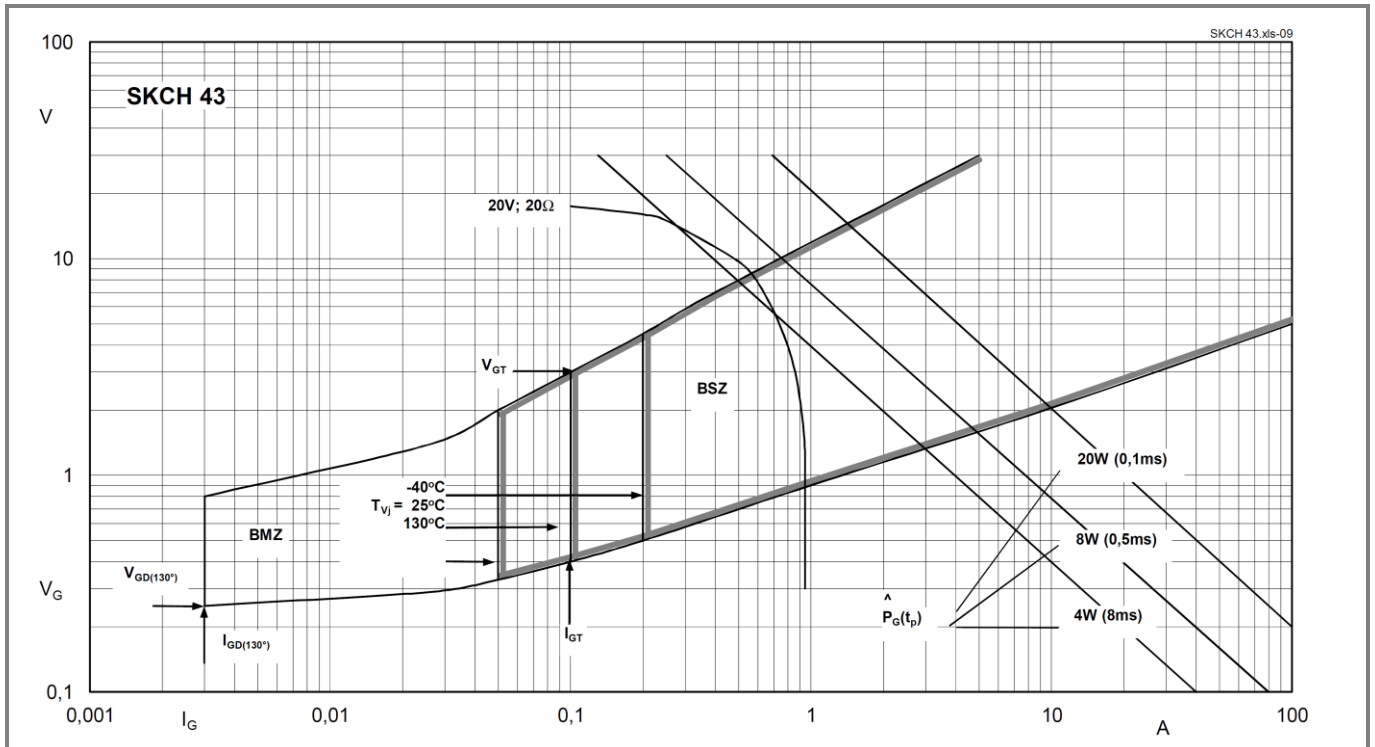
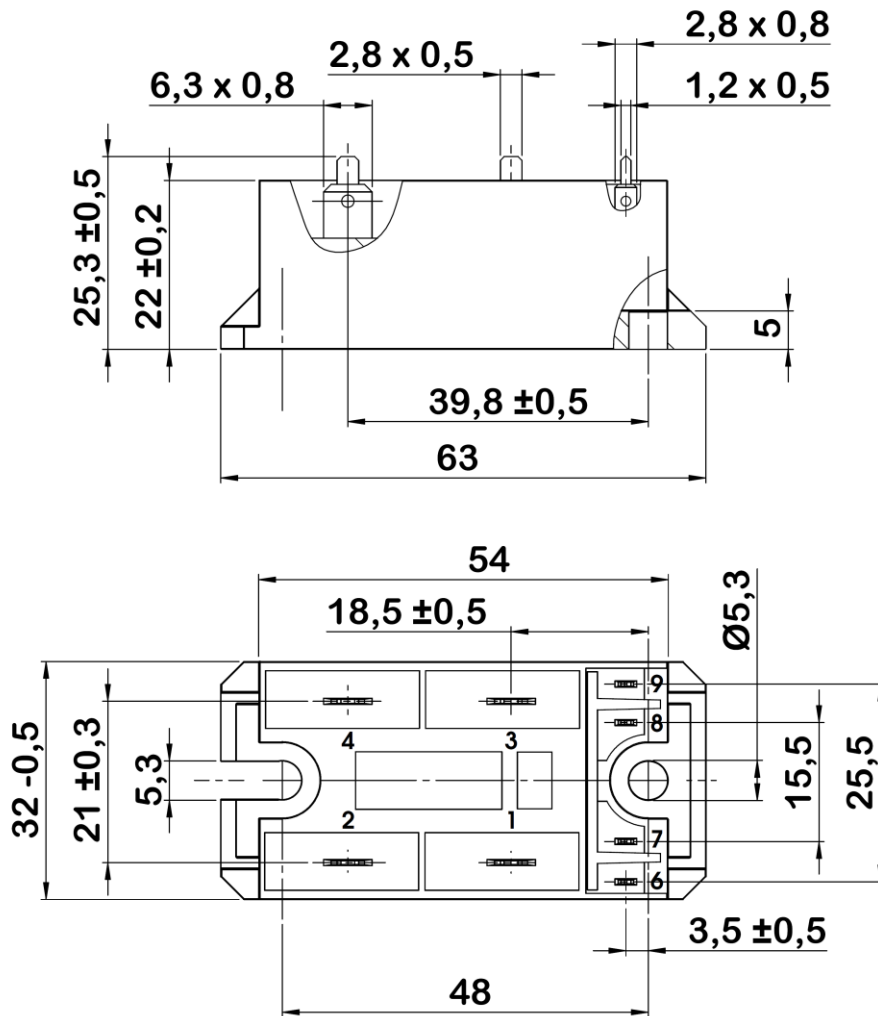


Fig. 11 Gate characteristics of a thyristor device

Dimensions in millimeters



Case G 25

### \*IMPORTANT INFORMATION AND WARNINGS

The specifications of SEMIKRON products may not be considered as guarantee or assurance of product characteristics ("Beschaffenheitsgarantie"). The specifications of SEMIKRON products describe only the usual characteristics of products to be expected in typical applications, which may still vary depending on the specific application. Therefore, products must be tested for the respective application in advance. Application adjustments may be necessary. The user of SEMIKRON products is responsible for the safety of their applications embedding SEMIKRON products and must take adequate safety measures to prevent the applications from causing a physical injury, fire or other problem if any of SEMIKRON products become faulty. The user is responsible to make sure that the application design is compliant with all applicable laws, regulations, norms and standards. Except as otherwise explicitly approved by SEMIKRON in a written document signed by authorized representatives of SEMIKRON, SEMIKRON products may not be used in any applications where a failure of the product or any consequences of the use thereof can reasonably be expected to result in personal injury. No representation or warranty is given and no liability is assumed with respect to the accuracy, completeness and/or use of any information herein, including without limitation, warranties of non-infringement of intellectual property rights of any third party. SEMIKRON does not assume any liability arising out of the applications or use of any product; neither does it convey any license under its patent rights, copyrights, trade secrets or other intellectual property rights, nor the rights of others. SEMIKRON makes no representation or warranty of non-infringement or alleged noninfringement of intellectual property rights of any third party which may arise from applications. Due to technical requirements our products may contain dangerous substances. For information on the types in question please contact the nearest SEMIKRON sales office. This document supersedes and replaces all information previously supplied and may be superseded by updates. SEMIKRON reserves the right to make changes.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Bridge Rectifiers](#) category:*

*Click to view products by [Semikron](#) manufacturer:*

Other Similar products are found below :

[MB2510](#) [MB252](#) [MB356G](#) [MB358G](#) [GBJ1504-BP](#) [GBU15J-BP](#) [GBU15K-BP](#) [GBU4A-BP](#) [GBU4D-BP](#) [GBU6B-E3/45](#) [GSIB680-E3/45](#)  
[DB101-BP](#) [DF01](#) [DF10SA-E345](#) [BU1508-E3/45](#) [KBPC50-10S](#) [RS405GL-BP](#) [G5SBA60-E3/51](#) [GBJ1502-BP](#) [GBU10J-BP](#) [GBU4J-BP](#)  
[GBU6M](#) [GBU8D-BP](#) [GBU8J-BP](#) [GSIB1520-E3/45](#) [2KBB10](#) [36MB140A](#) [TB102M](#) [MB1510](#) [MB258](#) [MB6M-G](#) [MB86](#) [TL401G](#)  
[MDA920A2](#) [TU602](#) [TU810](#) [BR1005-BP](#) [BR101-BP](#) [BR84DTP204](#) [BU2008-E3/51](#) [36MB100A](#) [36MT160](#) [KBPC25-02](#) [VS-2KBB60](#)  
[DBB08G-TM-E](#) [DBD250G](#) [DBF20G](#) [DF06SA-E345](#) [DF1510S](#) [VS-40MT160PAPBF](#)