

SKT 553 SG



Capsule Thyristor

V_{RSM} V	V_{RRM}, V_{DRM} V	$I_{T_{RMS}} = 1200$ A (maximum value for continuous operation) $I_{T_{AV}} = 554$ A (sin. 180 DSC; $T_c = 85$ °C)
500	400	SKT 553/04D SG
900	800	SKT 553/08E SG
1300	1200	SKT 553/12E SG
1500	1400	SKT 553/14E SG
1700	1600	SKT 553/16E SG
1900	1800	SKT 553/18E SG

Thyristors

SKT 553 SG

Features

- Hermetic metal case with epoxy insulator
- Capsule package for double sided cooling
- Off-state and reverse voltages up to 1800 V
- Amplifying gate

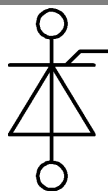
Typical Applications *

- DC motor control
- Controlled and half-controlled rectifiers
- AC controllers
- Recommended snubber network

e.g. for $V_{rms} \leq 400$ V:

$RC = 33 \Omega / 32$ W, $C = 1 \mu F$

Symbol	Condition	Values	Units
$I_{T_{AV}}$	sin. 180 ; $T_c = 100$ (85) °C	392 (554)	A
I_D	2 x P8/180; $T_a = 45$ °C; B2/B6	390 / 560	A
	2 x P8/180F; $T_a = 35$ °C; B2/B6	980 / 1340	A
I_{RMS}	2 x P8/180; $T_a = 45$ °C; W1C	435	A
I_{TSM}	$T_{vj} = 25^\circ$ C ; 10 ms	9000	A
	$T_{vj} = 125^\circ$ C ; 10 ms	8000	A
i^2t	$T_{vj} = 25^\circ$ C ; 8,3...10 ms	405000	A ² s
	$T_{vj} = 125^\circ$ C ; 8,3...10 ms	320000	A ² s
V_T	$T_{vj} = 25^\circ$ C, $I_T = 1500$ A	max. 1,65	V
$V_{T(TO)}$	$T_{vj} = 125^\circ$ C	max. 0,92	V
r_T	$T_{vj} = 125^\circ$ C	max. 0,45	m Ω
$I_{DD}; I_{RD}$	$T_{vj} = 125^\circ$ C; $V_{RD} = V_{RRM}$; $V_{RD} = V_{RRM}$	max. 60	mA
t_{gd}	$T_{vj} = 25^\circ$ C; $i_G = 1$ A; $di_G/dt = 1$ A/ μ s	1	μ s
t_{gr}	$V_D = 0,67 * V_{DRM}$	1	μ s
$(di/dt)_{cr}$	$T_{vj} = 125^\circ$ C	max. 125	A/ μ s
$(dv/dt)_{cr}$	$T_{vj} = 125^\circ$ C; D (E)	500 (1000)	V/ μ s
t_q	$T_{vj} = 125^\circ$ C	50 ... 250	μ s
I_H	$T_{vj} = 25^\circ$ C; typ. / max	150 / 500	mA
I_L	$T_{vj} = 25^\circ$ C; $R_G = 33 \Omega$; typ. / max	500 / 2000	mA
V_{GT}	$T_{vj} = 25^\circ$ C; d.c.	min. 3	V
I_{GT}	$T_{vj} = 25^\circ$ C; d.c.	min. 250	mA
V_{GD}	$T_{vj} = 125^\circ$ C; d.c.	max. 0,25	V
I_{GD}	$T_{vj} = 125^\circ$ C; d.c.	max. 10	mA
$R_{th(j-c)}$	cont.; DSC	0,045	K/W
$R_{th(j-c)}$	sin. 180; DSC / SSC	0,047 / 0,10	K/W
$R_{th(j-c)}$	rec. 120; DSC / SSC	0,052 / 0,11	K/W
$R_{th(c-s)}$	DSC / SSC	0,011 / 0,022	K/W
T_{vj}		-40...+125	°C
T_{stg}		-40...+125	°C
F	Mounting force (SI units)	5,2 ... 8	kN
m	approx.	85	g
Case		B11b	



SKT

SKT 553 SG

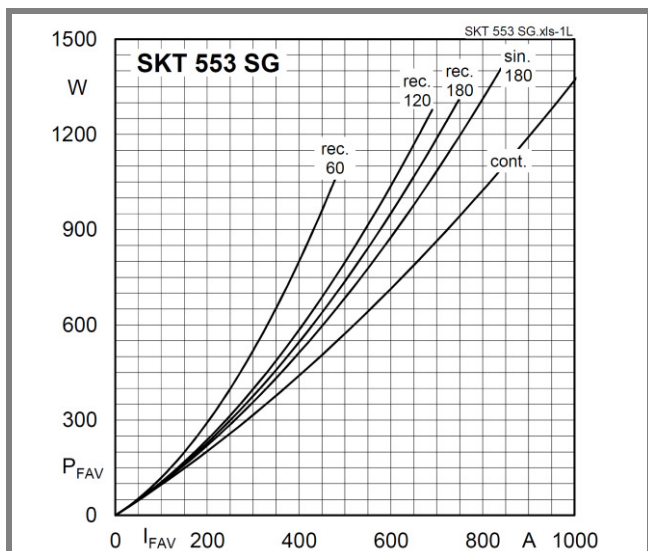


Fig. 1L Power dissipation vs. forward current

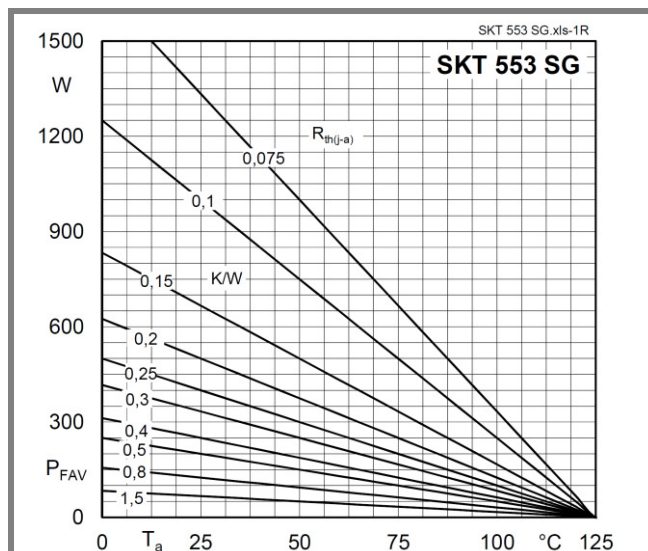


Fig. 1R Power dissipation vs. ambient temperature

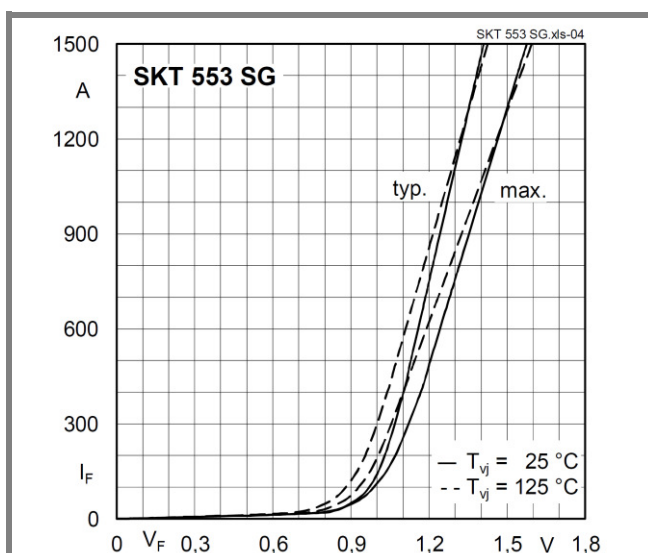


Fig. 4 Forward characteristics

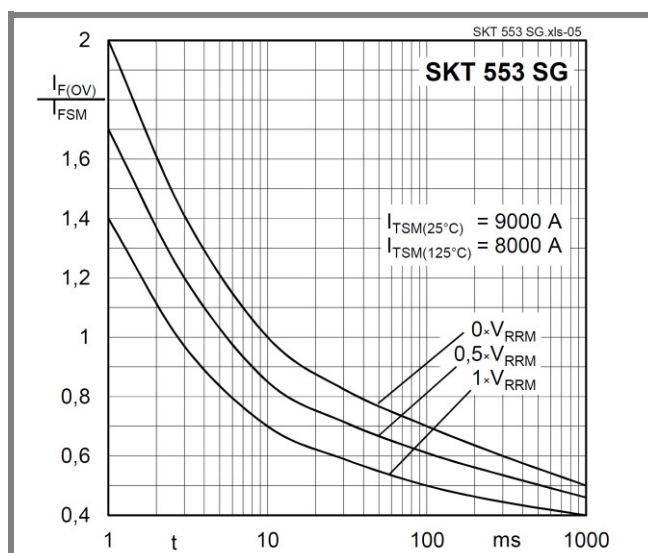


Fig. 5 Surge overload current vs. time

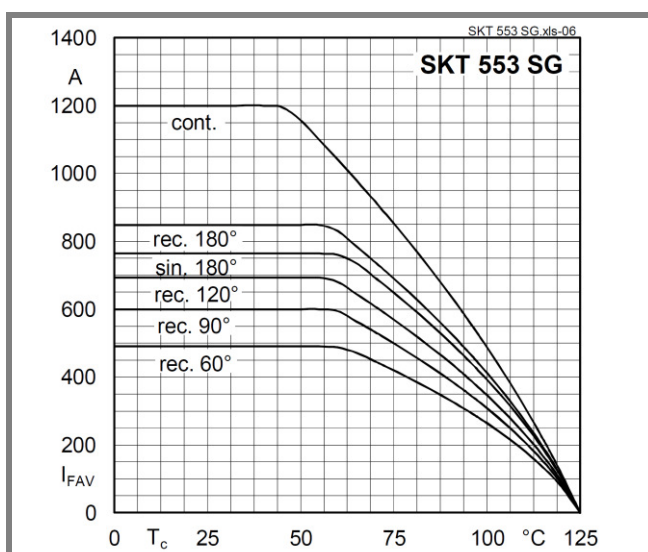


Fig. 6 Forward current vs. case temperature

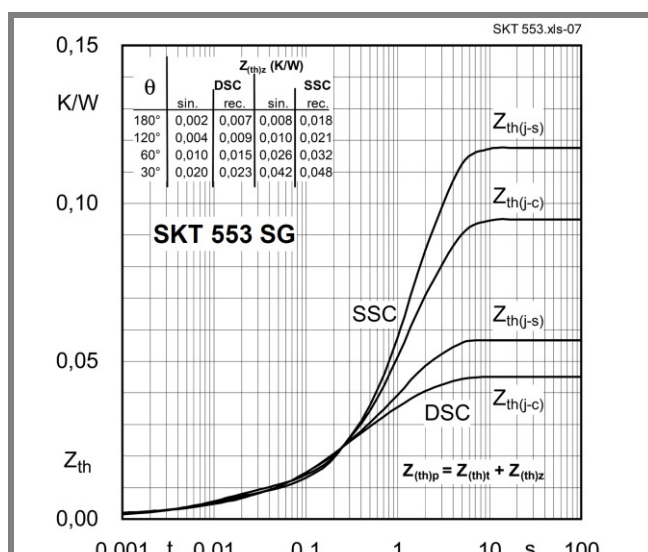


Fig. 7 Transient thermal impedance vs. time

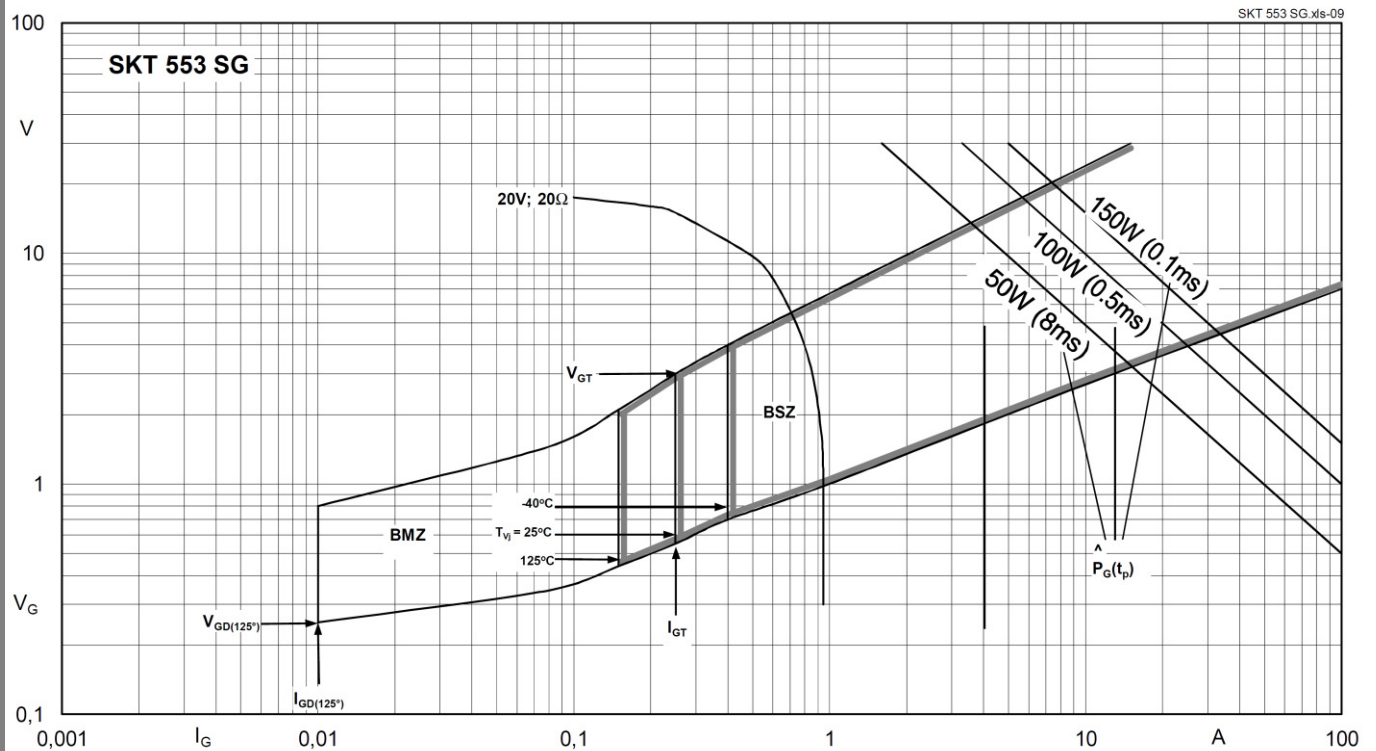
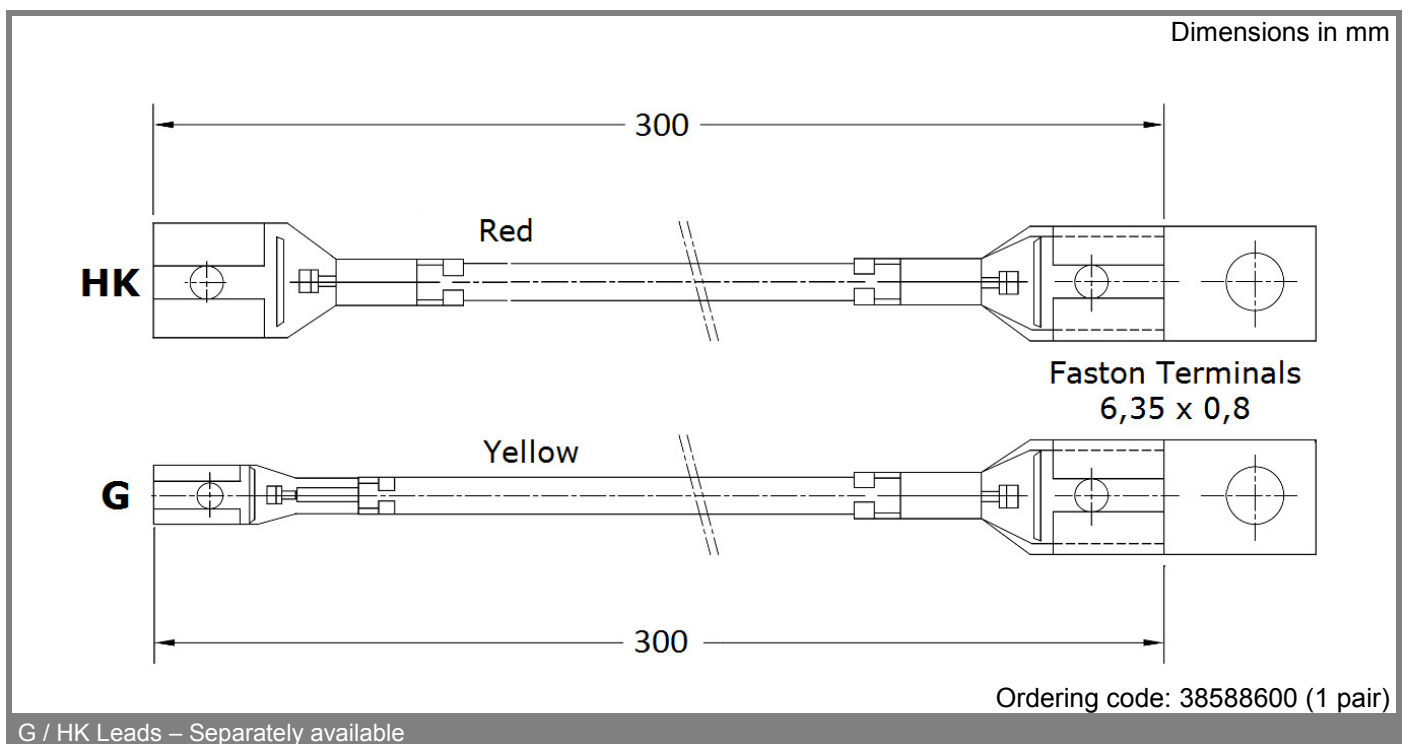
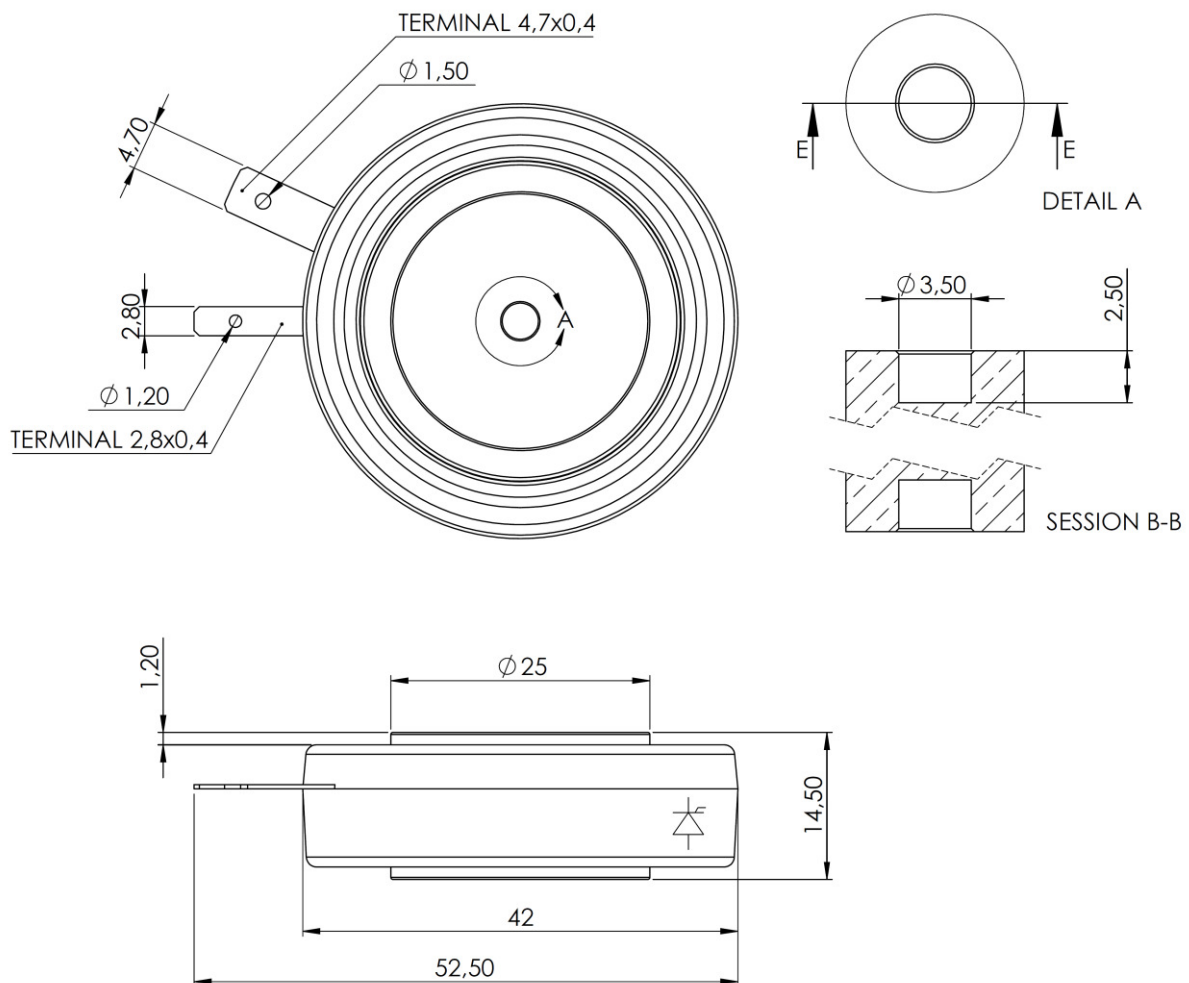


Fig. 9 Gate trigger characteristics



Dimensions in mm



Case B11b

*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.