

Phase Control Thyristor Type SA32ZP1725A0

SANCONA®
technical solutions

Contact us!

Date: October, 2020
Data Sheet Issue: 1



ORDERING INFORMATION

(Please quote 12 to 15 digit code as below)

SA	32	ZP	1725	A	0	
-	Voltage Code	Outline Code	Current code	Type code	Special code	Optional code

Find more!

Explore the full range of our semiconductor portfolio online

Absolute Maximum Ratings

VOLTAGE RATINGS		MAXIMUM LIMITS	UNITS
V_{DRM}	Repetitive peak off-state voltage, (note 1)	3200	V
V_{DSM}	Non-repetitive peak off-state voltage, (note 1)	3200	V
V_{DDC}	Maximum DC of-state voltage, (note 1)	1900	V
V_{RRM}	Repetitive peak reverse voltage, (note 1)	3200	V
V_{RSM}	Non-repetitive peak reverse voltage, (note 1)	3300	V
V_{RDC}	Maximum DC revrese voltage, (note 1)	1900	V
note 1)	De-rating factor of 0.13%/°C is applicable for T_j below 25°C		

OTHER RATINGS		MAXIMUM LIMITS	UNITS
$I_{T(AV)M}$	Maximum average on-state current, $T_{sink} = 55^{\circ}C$, (note 1)	1725	A
$I_{T(AV)M}$	Maximum average on-state current, $T_{sink} = 85^{\circ}C$, (note 1)	1210	A
$I_{T(AV)M}$	Maximum average on-state current, $T_{sink} = 85^{\circ}C$, (note 2)	755	A
$I_{T(RMS)M}$	Nominal RMS on-state current, $T_{sink} = 25^{\circ}C$ (note 1)	3360	A
$I_{T(d.c.)}$	D.C. on-state current, $T_{sink} = 25^{\circ}C$, (note 3)	3010	A
I_{TSM}	Peak non-repetitive surge current $t_p = 10ms$, $V_{RM} = 60\%V_{RRM}$, (note 4)	20	kA
I_{TSM2}	Peak non-repetitive surge current $t_p = 10ms$, $V_{RM} \leq 10V$, (note 4)	22	kA
I^2t	I^2t capacity for fusing $t_p = 10ms$, $V_{RM} = 60\%V_{RRM}$, (note 4)	$2.00 \cdot 10^6$	A ² s
I^2t	I^2t capacity for fusing $t_p = 10ms$, $V_{RM} \leq 10V$, (note 4)	$2.45 \cdot 10^6$	A ² s
$(di/dt)_{cr}$	Critical rate of rise of on-state current (continuous, 50Hz), (note 5)	75	A/μs
	Critical rate of rise of on-state current (repetitive, 50Hz, 60s), (note 5)	150	A/μs
	Critical rate of rise of on-state current (non repetitive), (note 5)	300	A/μs
V_{RGM}	Peak reverse gate voltage	5	V
$P_{G(AV)}$	Mean forward gate power	4	W
P_{GM}	Peak forward gate power	30	W
T_{jop}	Operating temperature range	-40 to +125	°C
T_{stg}	Storage temperature range	-40 to +150	°C
note 1)	Double-side cooled, single phase, 50Hz, 180° half-sinewave.		
note 2)	Single-side cooled, single phase, 50Hz, 180° half-sinewave.		
note 3)	Double-side cooled		
note 4)	Half-sinewave, 125°C T_j initial		
note 5)	$V_D = 67\%V_{DRM}$, $I_{TM} = 1000A$, $I_{FG} = 2A$, $t_R \leq 0.5\mu s$, $T_{case} = 125^{\circ}C$		

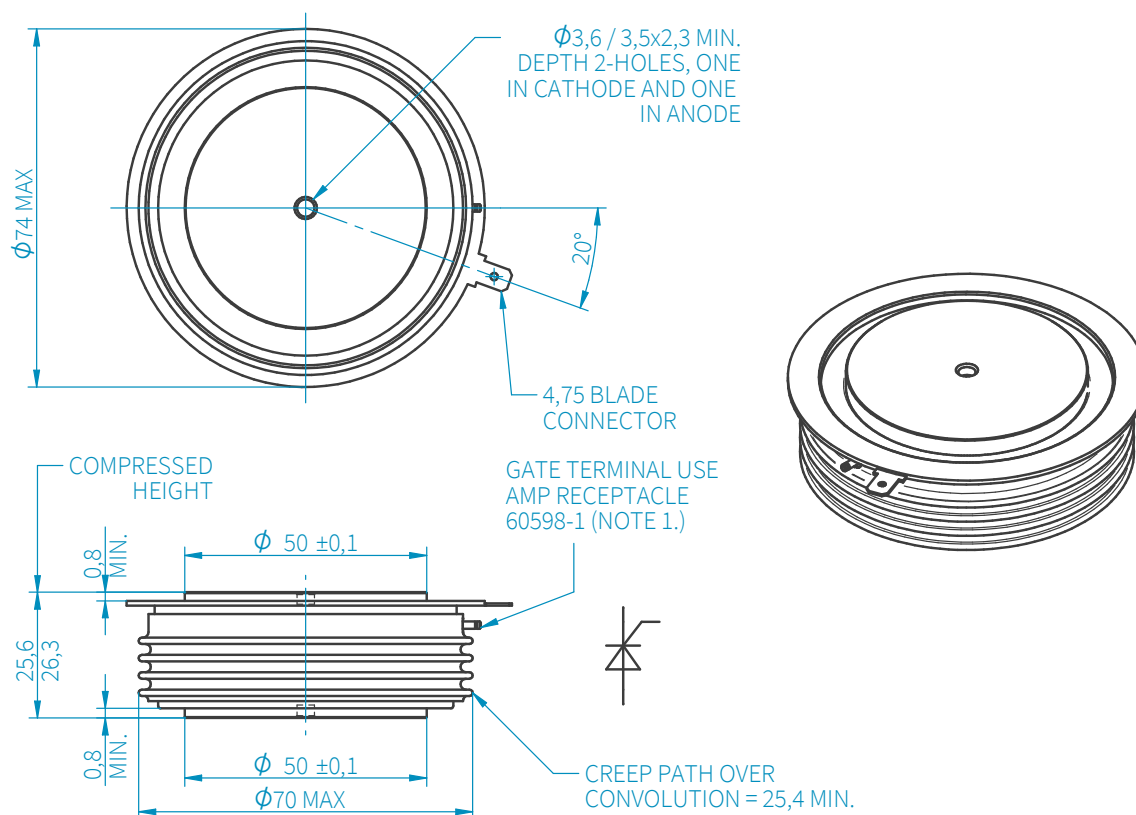
Characteristics

	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V _{TM}	Maximum peak on-state voltage	I _{TM} = 2000A	-	-	1.80	V
		I _{TM} = 5000A	-	-	3.00	V
V _{T0}	Threshold voltage		-	-	1.022	V
r _T	Slope resistance		-	-	0.396	mΩ
(dv/dt) _{CR}	Critical rate of rise of off-state voltage	V _D = 80%V _{DRM} , Linear ramp, gate o/c	1000	-	-	V/μs
I _{DRM}	Peak off-state current	Rated V _{DRM}	-	-	150	mA
I _{RRM}	Peak reverse current	Rated V _{RRM}	-	-	150	mA
V _{GT}	Gate trigger voltage	T _j = 25°C, V _D = 10V, I _T = 3A	-	-	3.0	V
I _{GT}	Gate trigger current		-	-	300	mA
V _{GD}	Gate non-trigger voltage	Rated V _{DRM}	-	-	0.25	V
I _H	Holding current	T _j = 25°C	-	-	1000	mA
t _{GD}	Gate controlled turn-on delay time	V _D = 67%V _{DRM} , I _{TM} = 2000A, di/dt = 10A/μs,	-	0.5	1.0	μs
t _{GT}	Turn-on time	I _{FG} = 2A, t _r = 0.5μs, T _j = 25°C	-	1.1	2.0	μs
Q _{RR}	Recovered charge		-	5900	6500	μC
Q _{RA}	Recovered charge, 50% Chord	I _{TM} = 1000A, t _p = 1000μs, di/dt = 10A/μs, V _R = 50V	-	2900	-	μC
I _{RR}	Reverse recovery current		-	156	-	A
t _{RR}	Reverse recovery time, 50% Chord		-	37	-	μs
t _{GQ}	Turn-off time	I _{TM} = 1000A, t _p = 1000μs, di/dt = 10A/μs, V _R = 50V, V _{DR} = 67%V _{DRM} , dV _{DR} /dt = 20V/μs	-	375	-	μs
		I _{TM} = 1000A, t _p = 1000μs, di/dt = 10A/μs, V _R = 50V, V _{DR} = 67%V _{DRM} , dV _{DR} /dt = 200V/μs	-	500	-	μs
R _{thJK}	Thermal resistance, junction to sink	Double-side cooled	-	-	15	K/kW
		Single-side cooled	-	-	30	K/kW
F	Mounting force	(note 2)	24	-	32	kN
W _t	Weight		-	540	-	g
note 1)	Unless otherwise indicated T _j = 125°C					
note 2)	For other clamp forces, please consult factory					

Request full technical data sheet via e-mail, free of charge:

Order Now!

Outline Drawing



SANCONA®

technical solutions

SANCONA GmbH

An der Hebemärchte 26
D-04316 Leipzig

// ☎ +49 341 652355-0
// 📠 +49 341 652355-99
// ✉ info@sancona.com
// 🌐 www.sancona.com

// Registry Court: Leipzig HRB 32946
VAT Reg No.: DE308741810
Tax number: 232/118/085686

The information contained herein is confidential and is protected by Copyright. The information may not be used or disclosed except with written permission of and in the manner permitted by the proprietors SANCONA GmbH. In the interest of product improvement, SANCONA reserves the right to change specifications at any time without prior notice. Devices with a suffix code (2-letter, 3-letter or letter/digit/letter combination) added to their generic code are not necessarily subject to the conditions and limits contained in this report.