Phase Control Thyristor
Type SA16AP1802A0

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Date: October, 2020
Data Sheet Issue: 1

ORDERING INFORMATION					(Please quote 12 to 15 digit code as below)	
SA	16	AP	1802	A	0	
-	Voltage Code	Outline Code	Current code	Type code	Special code	Optional code

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Absolute Maximum Ratings

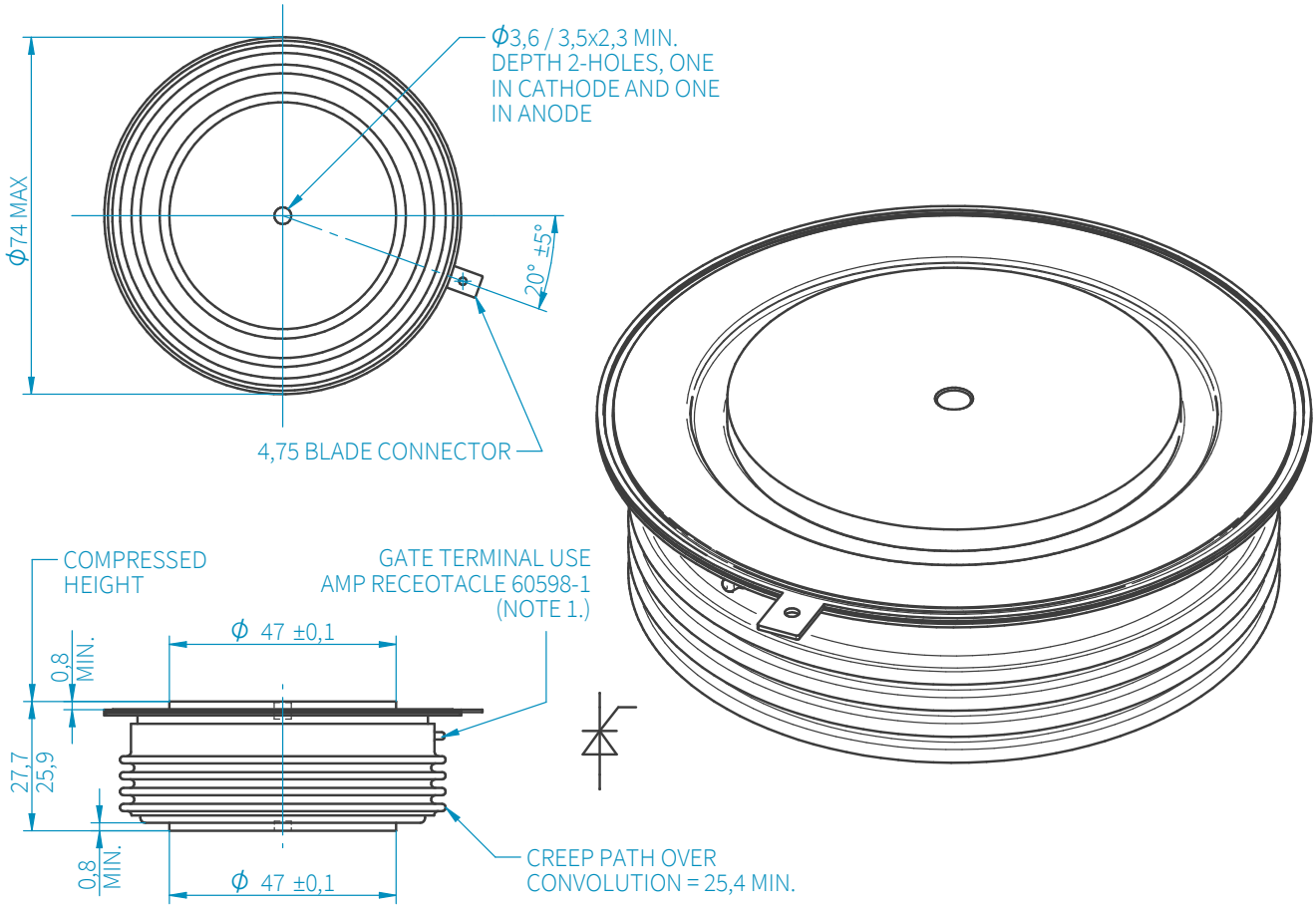
	VOLTAGE RATINGS	MAXIMUM LIMITS	UNITS
V_{DRM}	Repetitive peak off-state voltage, (note 1)	1600	V
V_{DSM}	Non-repetitive peak off-state voltage, (note 1)	1600	V
V_{DDC}	Maximum DC of-state voltage, (note 1)	1040	V
V_{RRM}	Repetitive peak reverse voltage, (note 1)	1600	V
V_{RSM}	Non-repetitive peak reverse voltage, (note 1)	1700	V
V_{RDC}	Maximum DC revrese voltage, (note 1)	1040	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°C, (note 1)	1802	A
$I_{T(AV)M}$	Maximum average on-state current, T_{sink} = 85°C, (note 1)	1216	A
$I_{T(AV)M}$	Maximum average on-state current, T_{sink} = 85°C, (note 2)	718	A
$I_{T(RMS)M}$	Nominal RMS on-state current, T_{sink} = 25°C (note 1)	3592	A
$I_{T(d.c.)}$	D.C. on-state current, T_{sink} = 25°C, (note 3)	3033	A
I_{TSM}	Peak non-repetitive surge current t_p = 10ms, V_{RM} = 60%V_{RRM}, (note 4)	29.6	kA
I_{TSM2}	Peak non-repetitive surge current t_p = 10ms, $V_{RM} \leq$ 10V, (note 4)	32.5	kA
I^2t	I^2t capacity for fusing t_p = 10ms, V_{RM} = 60%V_{RRM}, (note 4)	$4.38 \cdot 10^6$	A^2s
I^2t	I^2t capacity for fusing t_p = 10ms, $V_{RM} \leq$ 10V, (note 4)	$5.28 \cdot 10^6$	A^2s
$(di/dt)_{cr}$	Critical rate of rise of on-state current (repetitive, 60s), (note 5)	500	A/µs
	Critical rate of rise of on-state current (non repetitive), (note 5)	1000	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_{FG} = 2A, $t_R \leq$ 0.5µs, T_{case} = 125°C		

Characteristics

	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V_{TM}	Maximum peak on-state voltage	I_{TM} = 2550A	-	-	1.29	V
V_{T0}	Threshold voltage		-	-	0.855	V
r_T	Slope resistance		-	-	0.171	mΩ
$(dv/dt)_{CR}$	Critical rate of rise of off-state voltage	V_D = 80%V_{DRM}	1000	-	-	V/µs
I_{DRM}	Peak off-state current	Rated V_{DRM}	-	-	100	mA
I_{RRM}	Peak reverse current	Rated V_{RRM}	-	-	100	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, V_D = 10V, I_T = 3A	-	-	1000	mA
R_{thJK}	Thermal resistance, junction to sink	Double-side cooled	-	-	0.024	K/W
		Single-side cooled	-	-	0.048	K/W
F	Mounting force	(note 2)	19	-	26	kN
W_t	Weight		-	510	-	g
note 1)	Unless otherwise indicated T_j = 125°C					
note 2)	For other clamp forces, please consult factory					

Outline Drawing



SANCONA®
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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