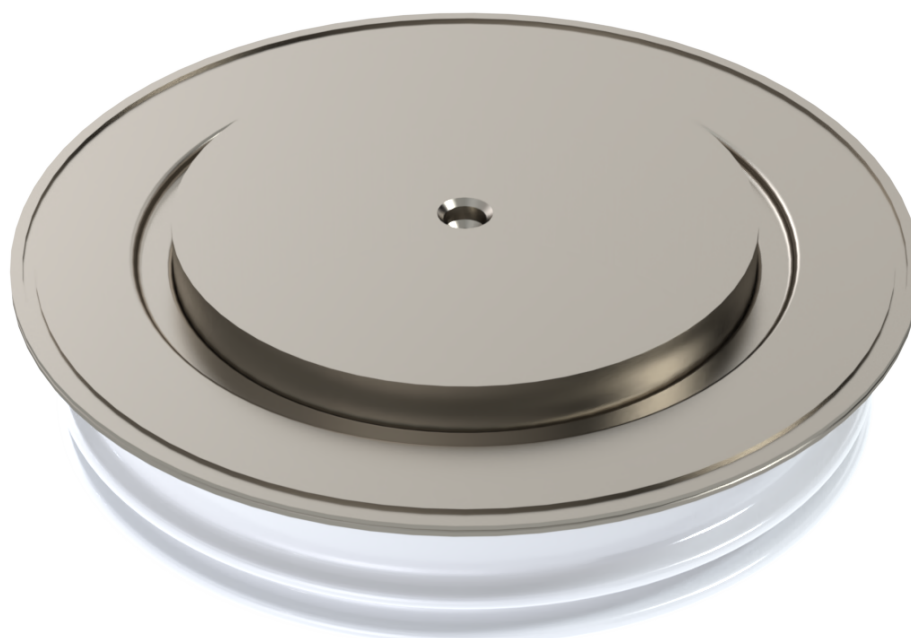


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Diode  
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SA	18	AQ	1400	S	0	
-	Voltage Code	Outline Code	Current code	Type code	Special code	Optional code

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**Absolute Maximum Ratings**

VOLTAGE RATINGS		MAXIMUM LIMITS	UNITS
$V_{RRM}$	Repetitive peak reverse voltage, (note 1)	1800	V
$V_{RSM}$	Non-repetitive peak reverse voltage, (note 1)	1900	V
$V_{RDC}$	Maximum reverse D.C. Voltage, (note 1)	900	V
note 1)	De-Rating factor of 0.13% per °C is applicable for $T_j$ below 25°C		

OTHER RATINGS		MAXIMUM LIMITS	UNITS
$I_{F(AV)M}$	Maximum average forward current, $T_{sink} = 55^\circ\text{C}$ , (note 1)	1093	A
$I_{F(AV)M}$	Maximum average forward current, $T_{sink} = 100^\circ\text{C}$ , (note 1)	497	A
$I_{F(AV)M}$	Maximum average forward current, $T_{sink} = 100^\circ\text{C}$ , (note 2)	246	A
$I_{F(RMS)}$	Nominal RMS forward current, $T_{sink} = 25^\circ\text{C}$ (note 1)	2206	A
$I_{f(d.c.)}$	D.C. forward current, $T_{sink} = 25^\circ\text{C}$ (note 3)	1359	A
$I_{FSM}$	Peak non-repetitive surge current $t_p = 10\text{ms}$ , $V_{RM} = 60\%V_{RRM}$ , (note 4)	19	kA
$I_{FSM2}$	Peak non-repetitive surge current $t_p = 10\text{ms}$ , $V_{RM} \leq 10\text{V}$ , (note 4)	17.25	kA
$I^2t$	$I^2t$ capacity for fusing $t_p = 10\text{ms}$ , $V_{RM} = 60\%V_{RRM}$ , (note 4)	$1.49 \cdot 10^6$	$\text{A}^2\text{s}$
$I^2t$	$I^2t$ capacity for fusing $t_p = 10\text{ms}$ , $V_{RM} \leq 10\text{V}$ , (note 4)	$1.81 \cdot 10^6$	$\text{A}^2\text{s}$
$T_{jop}$	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)	Current ( $I_F$ ) ratings have been calculated using $V_{T0}$ and $r_T$ (see page 3)		

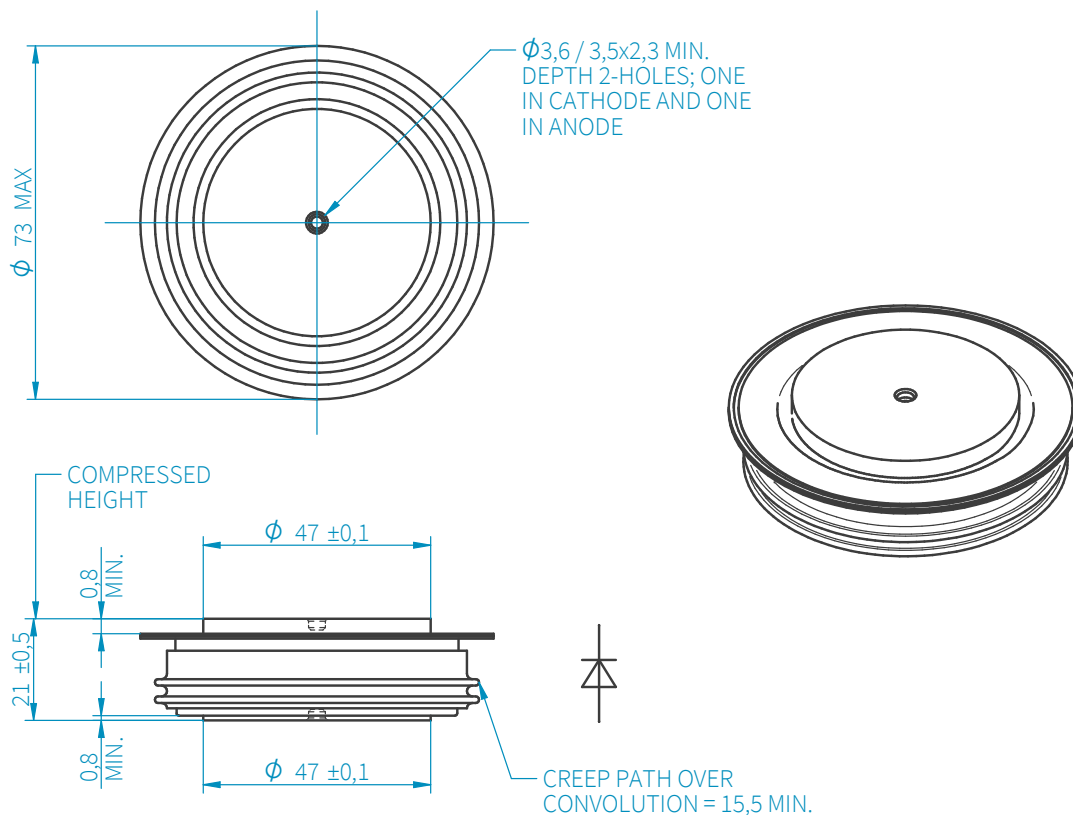
## Characteristics

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS	
V <sub>FM</sub>	Maximum peak forward voltage	I <sub>FM</sub> =1400A	-	-	2.2	V
		I <sub>FM</sub> =2000A	-	-	2.46	V
V <sub>0</sub>	Threshold Voltage	Current range 1093-3279A	-	-	1,618	V
r <sub>s</sub>	Slope resistance		-	-	0.388	mΩ
V <sub>01</sub>	Threshold Voltage	Current range 1400-4200A	-	-	1.730	V
r <sub>s1</sub>	Slope resistance		-	-	0.335	mΩ
V <sub>FRM</sub>	Maximum forward recovery voltage	di/dt = 1000A/μs	-	-	19	V
		di/dt = 1000A/μs, T <sub>j</sub> = 25°C	-	-	15	V
I <sub>RRM</sub>	Peak reverse current	Rated V <sub>RRM</sub>	-	-	275	mA
		Rated V <sub>RRM</sub> , T <sub>j</sub> = 25°C	-	-	50	mA
Q <sub>ra</sub>	Recovered charge, 50% Chord	I <sub>FM</sub> = 1000A, t <sub>p</sub> = 1000μs, di/dt = 60A/μs, V <sub>R</sub> = 50V, 50% Chord. (note 2)	-	40	70	μC
t <sub>rr</sub>	Reverse recovery time		-	1.5	2.4	μs
Q <sub>ra</sub>	Recovered charge, 50% Chord	I <sub>FM</sub> = 1000A, t <sub>p</sub> = 100μs, di/dt = 1000A/μs, V <sub>R</sub> = 900V, 50% Chord.	-	600	-	μC
t <sub>rr</sub>	Reverse recovery time		-	1.5	-	μs
R <sub>th(j-hs)</sub>	Thermal resistance, junction to sink	Double side cooled	-	-	0.024	K/W
		Single side cooled	-	-	0.048	K/W
F	Mounting force	(note 3)	19	-	26	kN
W <sub>t</sub>	Weight		-	510	-	g
note 1)	Unless otherwise indicated T <sub>j</sub> = 125°C					
note 2)	Figures 4-7 were compiled using these conditions					
note 3)	For other clamp forces consult factory					

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## Outline Drawing



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