

**Soft Recovery
Diode
Type SA32LU0310Z0**

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Date: July, 2020
Data Sheet Issue: 1



ORDERING INFORMATION

(Please quote 12 to 15 digit code as below)

SA	32	LU	0310	Z	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)	3200	V
V_{RSM}	Non-repetitive peak reverse voltage, (note 1)	3300	V
V_{RDC}	Maximum reverse D.C. Voltage, (note 1)	1800	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)	310	A
$I_{F(AV)M}$	Maximum average forward current, $T_{sink} = 100^\circ\text{C}$, (note 1)	199	A
$I_{F(AV)M}$	Maximum average forward current, $T_{sink} = 100^\circ\text{C}$, (note 2)	119	A
$I_{F(RMS)}$	Nominal RMS forward current, $T_{sink} = 25^\circ\text{C}$ (note 1)	582	A
$I_{f(d.c.)}$	D.C. forward current, $T_{sink} = 25^\circ\text{C}$ (note 3)	497	A
I_{FSM}	Peak non-repetitive surge current $t_p = 10\text{ms}$, $V_{RM} = 60\%V_{RRM}$, (note 4)	4.59	kA
I_{FSM2}	Peak non-repetitive surge current $t_p = 10\text{ms}$, $V_{RM} \leq 10\text{V}$, (note 4)	5.05	kA
I^2t	I^2t capacity for fusing $t_p = 10\text{ms}$, $V_{RM} = 60\%V_{RRM}$, (note 4)	$105 \cdot 10^3$	A^2s
I^2t	I^2t capacity for fusing $t_p = 10\text{ms}$, $V_{RM} \leq 10\text{V}$, (note 4)	$128 \cdot 10^3$	A^2s
T_{jop}	Operating temperature range	-40 to +150	°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.		

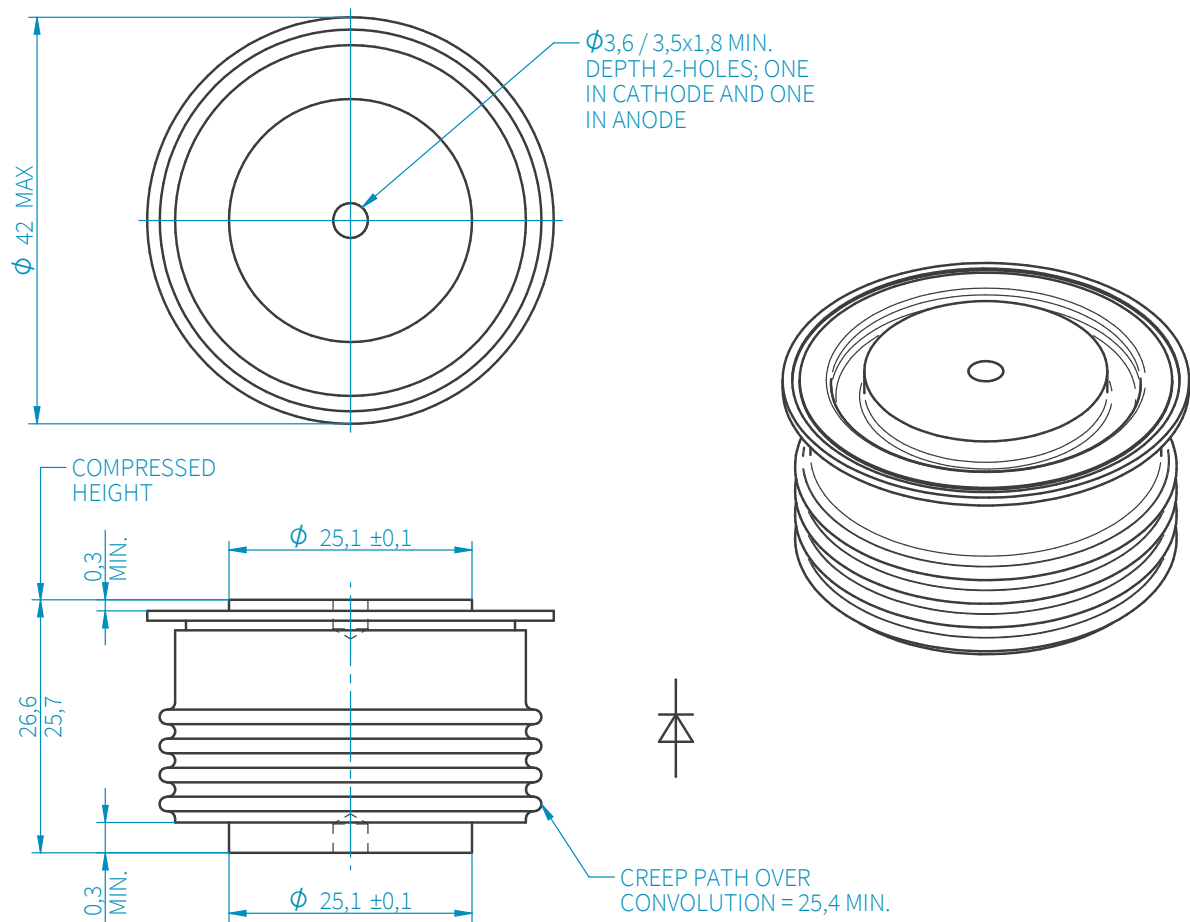
Characteristics

	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
V _{FM}	Maximum peak forward voltage	I _{FM} =635A	-	-	2.80	V
		I _{FM} =930A	-	-	3.29	V
V _{T0}	Threshold Voltage		-	-	1.49	V
r _T	Slope resistance		-	-	2.06	mΩ
V _{FRM}	Maximum forward recovery voltage	di/dt = 1000A/μs, T _j = 25 °C	-	-	105	V
		di/dt = 1000A/μs	-	-	225	V
I _{RRM}	Peak reverse current	Rated V _{RRM}	-	-	50	mA
Q _{rr}	Recovered charge		-	275	-	μC
Q _{ra}	Recovered charge, 50% Chord	I _{FM} = 1000A, t _p = 500μs, di/dt = 100A/μs, V _r = 50V, 50% Chord.	-	210	250	μC
I _{rm}	Reverse recovery current		-	155	-	A
t _{rr}	Reverse recovery time, 50% Chord		-	2.8	-	μs
R _{thJK}	Thermal resistance, junction to sink	Double side cooled	-	-	0.1	K/W
		Single side cooled	-	-	0.2	K/W
F	Mounting force	(note 2)	5.5	-	8.5	kN
W _t	Weight		-	140	-	g
note 1)	Unless otherwise indicated T _j = 125°C					
note 2)	For other clamping forces, consult factory.					

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