



## PRESS-PACK RECTIFIER DIODE D223-320

<ul style="list-style-type: none"><li>◆ <math>V_{RRM} = \underline{4400-5000 V}</math></li><li>◆ <math>I_{F(AV)} = \underline{364 A}</math> (<math>T_C = 85^\circ C</math>)</li><li>◆ <math>I_{FSM} = \underline{4,2 kA}</math> (<math>t_p = 10ms</math>)</li></ul>		
<ul style="list-style-type: none"><li>◆ Low forward losses</li><li>◆ Low dispersion <math>Q_{RR}</math> and <math>V_{FM}</math> for series and parallel connections</li><li>◆ Press-pack design</li></ul>		

### MAXIMUM RATED VALUES

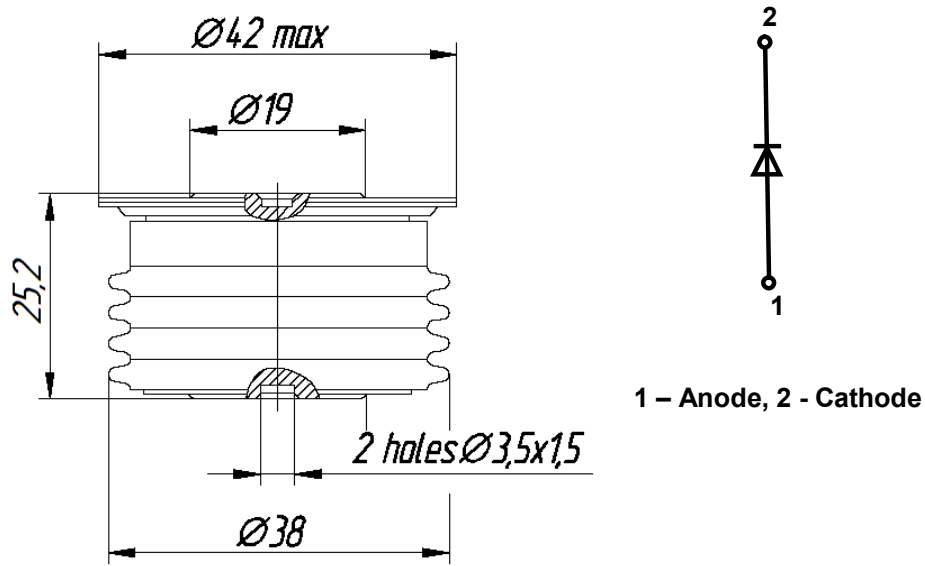
Parameter and conditions	Symbol	Values	Units
Repetitive peak reverse voltage, $T_j = -60 \dots +160^\circ C$	$V_{RRM}$	4400-5000	V
Non- repetitive peak reverse voltage, $T_j = -60 \dots +160^\circ C$	$V_{RSM}$	4500-5100	
Repetitive peak reverse current, $T_j = 160^\circ C, V_R = V_{RRM}$	$I_{RRM}$	35	mA
Maximum average forward current, $T_C = 85^\circ C, f = 50 Hz$	$I_{F(AV)}$	364	A
RMS forward current, $T_C = 85^\circ C, f = 50 Hz$	$I_{FRMS}$	570	
Surge non-repetitive current, $T_j = 160^\circ C, V_R = 0, t_p = 10 ms$	$I_{FSM}$	4,2	kA
Safety factor	$I^2t$	$88 \cdot 10^3$	$A^2s$
Operation junction temperature range	$T_j$	-60 ... +160	$^\circ C$
Storage temperature range	$T_{stg}$	-60 ... +50	

**D223-320**

<b>ELECTRICAL CHARACTERISTICS</b>					
Parameter and conditions	Symbol	Values			Units
		min	typ.	max	
Maximum peak forward voltage, $T_j = 25\text{ °C}$ , $I_F = 1000\text{ A}$	$V_{FM}$	-	-	2,05	V
On-state threshold voltage, $T_j = 160\text{ °C}$ , $I_F = 500 - 1500\text{ A}$	$V_{(TO)}$	-	-	0,87	
On-state slope resistance, $T_j = 160\text{ °C}$ , $I_F = 500 - 1500\text{ A}$	$r_T$	-	-	1,370	mΩ
Recovery charge, $T_j = 160\text{ °C}$ , $I_F = 320\text{ A}$ , $di_F/dt = -5\text{ A}/\mu\text{s}$ , $V_R \geq 100\text{ V}$	$Q_{RR}$	-	-		μAs
Recovery current, $T_j = 160\text{ °C}$ , $I_F = 320\text{ A}$ , $di_F/dt = -5\text{ A}/\mu\text{s}$ , $V_R \geq 100\text{ V}$	$I_{RR}$	-	-		A
<b>THERMAL PARAMETERS</b>					
Thermal resistance junction to case, DC per diode double side cooled anode side cooled cathode side cooled	$R_{th(j-c)}$	-	-	0,085 0,17 0,17	°C/W
Thermal resistance case to heatsink, double side cooled single side cooled	$R_{th(c-h)}$	-	-	0,02 0,04	
<b>MECHANICAL PARAMETERS</b>					
Weight	w	-	0,1	-	kg
Mounting force	F	5		7	kN
Maximum acceleration (at nominal mounting force)	a	-	-	100	m/s <sup>2</sup>



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**Fig. 1. Device Outline Drawing**  
(dimensions in mm)



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