



## PRESS-PACK RECTIFIER DIODE D453-630

<ul style="list-style-type: none"><li>◆ <math>V_{RRM} = \underline{9000-10000\text{ V}}</math></li><li>◆ <math>I_{F(AV)} = \underline{794\text{ A}}</math> (<math>T_C = 85^\circ\text{C}</math>)</li><li>◆ <math>I_{FSM} = \underline{22\text{ kA}}</math> (<math>t_p=10\text{ms}</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

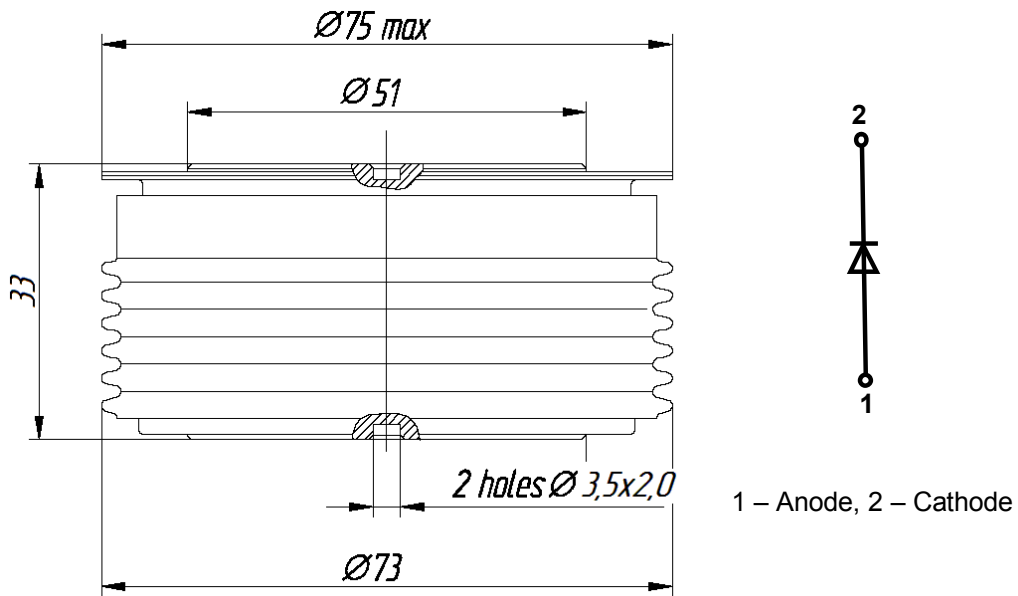
Parameter and conditions	Symbol	Values	Units
Repetitive peak reverse voltage, $T_j = -60 \dots +140\text{ }^\circ\text{C}$	$V_{RRM}$	9000-10000	V
Non- repetitive peak reverse voltage, $T_j = -60 \dots +140\text{ }^\circ\text{C}$	$V_{RSM}$	9100-10100	
Repetitive peak reverse current, $T_j = 140\text{ }^\circ\text{C}$ , $V_R = V_{RRM}$	$I_{RRM}$	100	mA
Maximum average forward current, $T_C = 85\text{ }^\circ\text{C}$ , $f = 50\text{ Hz}$	$I_{F(AV)}$	794	A
RMS forward current, $T_C = 85\text{ }^\circ\text{C}$ , $f = 50\text{ Hz}$	$I_{FRMS}$	1247	
Surge non-repetitive current, $T_j = 140\text{ }^\circ\text{C}$ , $V_R = 0$ , $t_p = 10\text{ ms}$	$I_{FSM}$	22	kA
Safety factor	$I^2t$	$2420 \cdot 10^3$	$\text{A}^2\text{s}$
Operation junction temperature range	$T_j$	$-60 \dots +140$	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	$-60 \dots +50$	

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<b>ELECTRICAL CHARACTERISTICS</b>					
Parameter and conditions	Symbol	Values			Units
		min	typ.	max	
Maximum peak forward voltage, $T_j = 25\text{ °C}$ , $I_F = 1978\text{ A}$	$V_{FM}$	-	-	2,6	V
On-state threshold voltage, $T_j = 140\text{ °C}$ , $I_F = 990 - 2960\text{ A}$	$V_{TO}$	-	-	1,50	
On-state slope resistance, $T_j = 140\text{ °C}$ , $I_F = 990 - 2960\text{ A}$	$r_T$	-	-	1,20	mΩ
Recovery charge, $T_j = 140\text{ °C}$ , $I_F = 630\text{ A}$ , $di_F/dt = -5\text{ A}/\mu\text{s}$ , $V_R \geq 100\text{ V}$	$Q_{RR}$	-	-		μAs
Recovery current, $T_j = 140\text{ °C}$ , $I_F = 800\text{ A}$ , $di_F/dt = -5\text{ A}/\mu\text{s}$ , $V_R \geq 100\text{ V}$	$I_{RR}$				A
<b>THERMAL PARAMETERS</b>					
Thermal resistance junction to case, DC per diode double side cooled anode side cooled cathode side cooled	$R_{th(j-c)}$	-	-	0,018 0,036 0,036	°C/W
Thermal resistance case to heatsink, double side cooled single side cooled	$R_{th(c-h)}$	-	-	0,005 0,010	
<b>MECHANICAL PARAMETERS</b>					
Weight	w	-	0,58	-	kg
Clamping force	F	24	-	28	kN
Maximum acceleration (at nominal mounting torque)	a	-	-	100	m/s <sup>2</sup>



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



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