



## PRESS - PACK RECTIFIER DIODE

### D433-500

<ul style="list-style-type: none"> <li>◆ <math>V_{RRM} = \underline{5200-6000 V}</math></li> <li>◆ <math>I_{F(AV)} = \underline{580 A}</math> (<math>T_C = 85^\circ C</math>)</li> <li>◆ <math>I_{FSM} = \underline{5,0 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, $T_j = -60 \dots +150 \text{ }^\circ C$	$V_{RRM}$	5200-6000	V
Non- repetitive peak reverse voltage, $T_j = -60 \dots +150 \text{ }^\circ C$	$V_{RSM}$	5300-6100	
Repetitive peak reverse current, $T_j = 150 \text{ }^\circ C, V_R = V_{RRM}$	$I_{RRM}$	50	mA
Maximum average forward current, $T_C = 85 \text{ }^\circ C, f = 50 \text{ Hz}$	$I_{F(AV)}$	580	A
RMS forward current, $T_C = 85 \text{ }^\circ C, f = 50 \text{ Hz}$	$I_{FRMS}$	910	
Surge non-repetitive current, $T_j = 150 \text{ }^\circ C, V_R = 0, t_p = 10 \text{ ms}$	$I_{FSM}$	5,0	kA
Safety factor	$I^2t$	$125 \cdot 10^3$	$A^2s$
Operation junction temperature range	$T_j$	-60 ... +150	$^\circ C$
Storage temperature range	$T_{stg}$	-60 ... +50	

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<b>ELECTRICAL CHARACTERISTICS</b>					
Parameter and conditions	Symbol	Values			Units
		min	typ.	max	
Maximum peak forward voltage, $T_j = 25\text{ °C}$ , $I_F = 1570\text{ A}$	$V_{FM}$	-	-	2,90	V
On-state threshold voltage, $T_j = 150\text{ °C}$ , $I_F = 785 - 2355\text{ A}$	$V_{TO}$	-	-	1,00	
On-state slope resistance, $T_j = 150\text{ °C}$ , $I_F = 785 - 2355\text{ A}$	$r_T$	-	-	1,42	mΩ
Recovery charge, $T_j = 150\text{ °C}$ , $I_F = 500\text{ A}$ , $di_F/dt = -5\text{ A}/\mu\text{s}$ , $V_R \geq 100\text{ V}$	$Q_{RR}$	-	-		μAs
Recovery current, $T_j = 150\text{ °C}$ , $I_F = 500\text{ A}$ , $di_F/dt = -5\text{ A}/\mu\text{s}$ , $V_R \geq 100\text{ V}$	$I_{RR}$	-	-		A
<b>THERMAL PARAMETERS</b>					
Thermal resistance junction to case, DC per diode double side cooled anode side cooled cathode side cooled	$R_{th(j-c)}$	-	-	0,036 0,072 0,072	°C/W
Thermal resistance case to heatsink, double side cooled single side cooled	$R_{th(c-h)}$	-	-	0,015 0,030	
<b>MECHANICAL PARAMETERS</b>					
Weight	w	-	0,2	-	kg
Mounting force	F	9		10	kN
Maximum acceleration (at nominal mounting force)	a	-	-	100	m/s <sup>2</sup>



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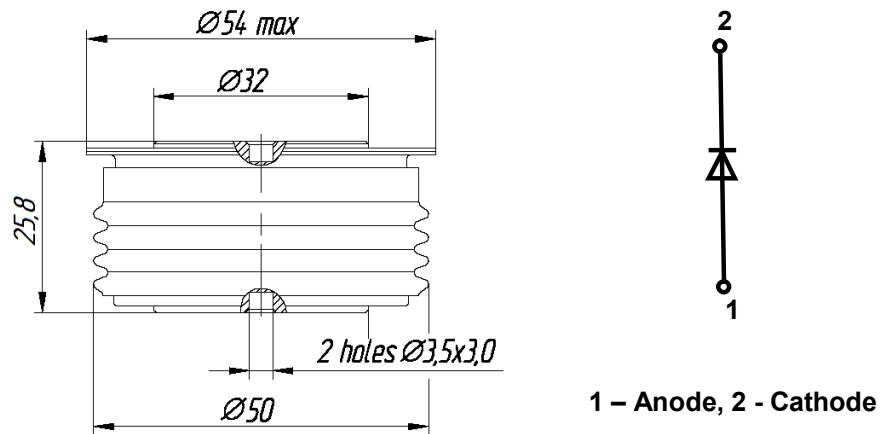


Fig. 1. Device Outline Drawing  
(dimensions in mm)



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