





## FAST RECTIFIER DIODE DF443-500

<ul style="list-style-type: none"><li>◆ <math>V_{RRM} = \underline{1600-2600 V}</math></li><li>◆ <math>I_{F(AV)} = \underline{900 A}</math> (<math>T_C = 85^\circ C</math>)</li><li>◆ <math>I_{FSM} = \underline{12 kA}</math> (<math>t_p = 10ms</math>)</li></ul>			
<ul style="list-style-type: none"><li>◆ Small recovered time and charge</li><li>◆ Acceptable for series and parallel connections (low dispersion <math>Q_{rr}</math>, <math>V_{FM}</math>, <math>I_{RRM}</math>)</li><li>◆ Press-pack design</li></ul>			
<b>MAXIMUM RATED VALUES</b>			
Parameter and conditions	Symbol	Values	Units
Repetitive peak reverse voltage, $T_j = -60 \dots +150^\circ C$	$V_{RRM}$	1600-2600	V
Non-repetitive peak reverse voltage, $T_j = -60 \dots +150^\circ C$	$V_{RSM}$	1700-2700	
Repetitive peak reverse current, $T_j = 150^\circ C$ , $V_R = V_{RRM}$	$I_{RRM}$	60	mA
Maximum average forward current, $T_C = 85^\circ C$ , $f = 50 Hz$	$I_{F(AV)}$	900	A
RMS forward current, $T_C = 85^\circ C$ , $f = 50 Hz$	$I_{FRMS}$	1413	
Surge non-repetitive current, $T_j = 150^\circ C$ , $V_R = 0$ , $t_p = 10 ms$	$I_{FSM}$	12	kA
Safety factor	$I^2t$	$720 \cdot 10^3$	$A^2s$
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, $T_j = 25\text{ °C}$ , $I_F = 1570\text{ A}$	$V_{FM}$	-	-	2,0	V
On-state threshold voltage, $T_j = 150\text{ °C}$ , $I_F = 780 - 2300\text{ A}$	$V_{TO}$	-	-	0,95	
On-state slope resistance, $T_j = 150\text{ °C}$ , $I_F = 780 - 2300\text{ A}$	$r_T$	-	-	0,50	mΩ
Reverse recovery time $T_j = 150\text{ °C}$ , $I_F = 500\text{ A}$ , $di_F/dt = -100\text{ A}/\mu\text{s}$ , $V_R \geq 100\text{ V}$	$t_{rr}$	-	-	6,3	μs
<b>THERMAL PARAMETERS</b>					
Thermal resistance junction to case, DC per diode double side cooled anode side cooled cathode side cooled	$R_{th(j-c)}$	-	-	0,035 0,070 0,070	°C/W
Thermal resistance case to heatsink, double side cooled single side cooled	$R_{th(c-h)}$	-	-	0,010 0,020	
<b>MECHANICAL PARAMETERS</b>					
Weight	w	-	0,24	-	kg
Mounting force	F	13,5		16,5	kN m/s <sup>2</sup>
Maximum acceleration (at nominal mounting force)	a	-	-	100	



## DF443-500

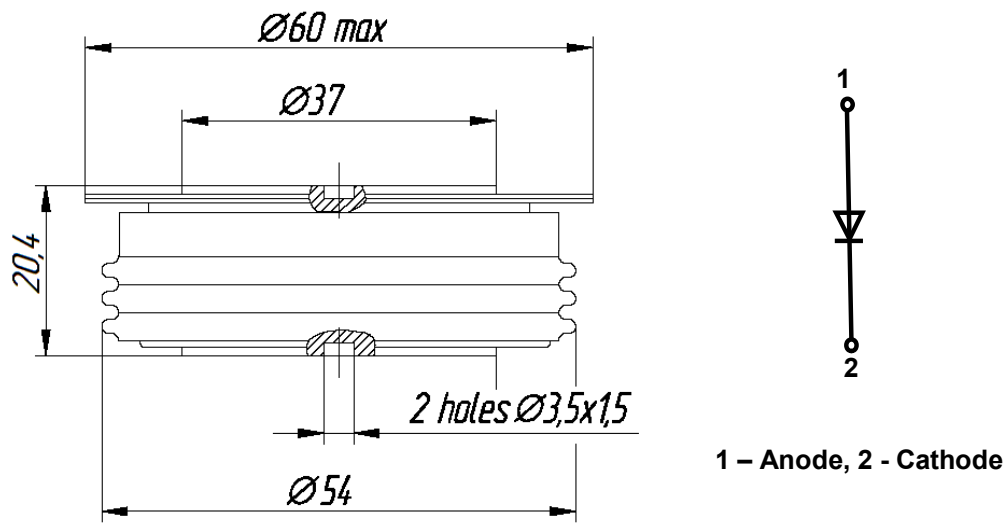


Fig. 1. Device Outline Drawing  
(dimensions in mm)



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