



## FAST RECTIFIER DIODE

### DF333-400

<ul style="list-style-type: none"> <li>◆ <math>V_{RRM} = \underline{1600-2400\text{ V}}</math></li> <li>◆ <math>I_{F(AV)} = \underline{630\text{ A}}</math> (<math>T_C = 85^\circ\text{C}</math>)</li> <li>◆ <math>I_{FSM} = \underline{6,5\text{ kA}}</math> (<math>t_p = 10\text{ms}</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> </ul>		

#### MAXIMUM RATED VALUES

Parameter and conditions	Symbol	Values	Units
Repetitive peak reverse voltage, $T_j = -60 \dots +150\text{ }^\circ\text{C}$	$V_{RRM}$	1600-2400	V
Non- repetitive peak reverse voltage, $T_j = -60 \dots +150\text{ }^\circ\text{C}$	$V_{RSM}$	1700-2500	
Repetitive peak reverse current, $T_j = 150\text{ }^\circ\text{C}$ , $V_R = V_{RRM}$	$I_{RRM}$	50	mA
Maximum average forward current, $T_C = 85\text{ }^\circ\text{C}$ , $f = 50\text{ Hz}$	$I_{F(AV)}$	630	A
RMS forward current, $T_C = 85\text{ }^\circ\text{C}$ , $f = 50\text{ Hz}$	$I_{FRMS}$	989	
Surge non-repetitive current, $T_j = 150\text{ }^\circ\text{C}$ , $V_R = 0$ , $t_p = 10\text{ ms}$	$I_{FSM}$	6,5	kA
Safety factor	$I^2t$	$211 \cdot 10^3$	$\text{A}^2\text{s}$
Operation junction temperature range	$T_j$	-60 ... +150	$^\circ\text{C}$
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, $T_j = 25\text{ °C}$ , $I_F = 1256\text{ A}$	$V_{FM}$	-	-	2,3	V
On-state threshold voltage, $T_j = 150\text{ °C}$ , $I_F = 628 - 1880\text{ A}$	$V_{TO}$	-	-	1,2	
On-state slope resistance, $T_j = 150\text{ °C}$ , $I_F = 628 - 1880\text{ A}$	$r_T$	-	-	0,88	mΩ
Reverse recovery time $T_j = 150\text{ °C}$ , $I_F = 400\text{ A}$ , $di_F/dt = -100\text{ A}/\mu\text{s}$ , $V_R \geq 100\text{ V}$	$t_{rr}$	-	-	4,0	μs
<b>THERMAL PARAMETERS</b>					
Thermal resistance junction to case, DC per diode double side cooled anode side cooled cathode side cooled	$R_{th(j-c)}$	-	-	0,04 0,08 0,08	°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	-	0,18	-	kg
Mounting force	F	9		11	kN m/s <sup>2</sup>
Maximum acceleration (at nominal mounting force)	a	-	-	100	



DF333-400

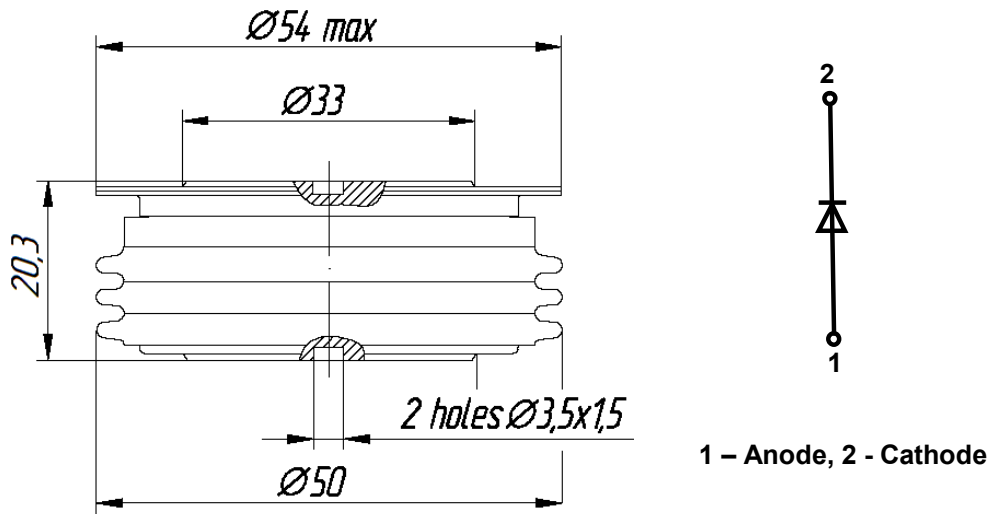


Fig. 1. Device Outline Drawing  
(dimensions in mm)



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