

# Diode D453-630-100



Average forward current	$I_{F(AV)}$	630 A		
Repetitive peak reverse voltage	$U_{RRM}$	9000 - 10000 V		
$U_{RRM}, V$		9000	10000	
Voltage code		90	100	
$T_j, ^\circ C$		- 60 ÷ 140		

## MAXIMUM RATED VALUES

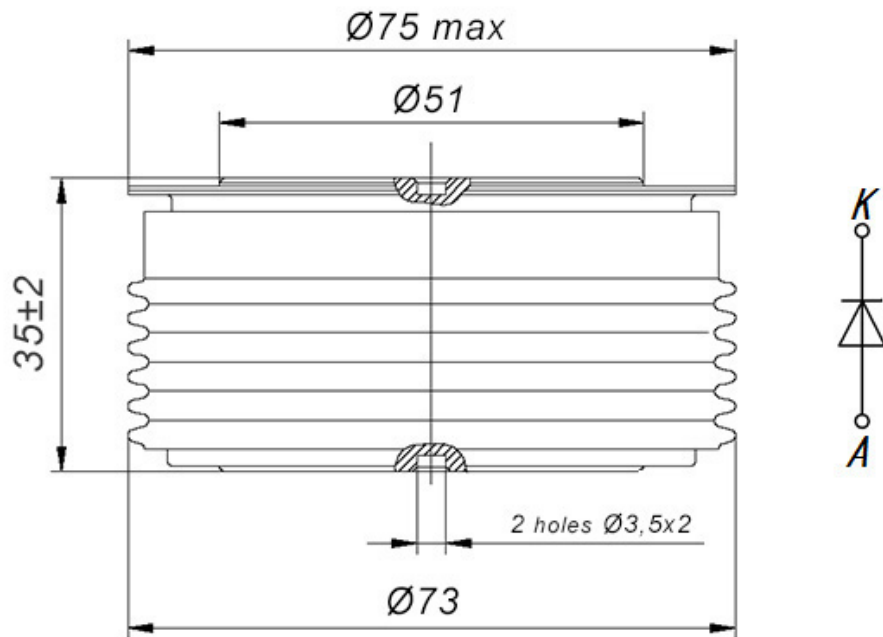
Parameter and conditions	Symbol	Values	Units
Repetitive peak reverse voltage, $T_j = -60 \dots +140 \text{ } ^\circ C$	$V_{RRM}$	9000-10000	V
Non- repetitive peak reverse voltage, $T_j = -60 \dots +140 \text{ } ^\circ C$	$V_{RSM}$	9100-10100	
Repetitive peak reverse current, $T_j = 140 \text{ } ^\circ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

## ELECTRICAL CHARACTERISTICS

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>

# OVERALL DIMENSIONS

Package type: **PD54**



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