

Rectifier Diode

D453-800-80



Average forward current	$I_{F(AV)}$	800 A	
Repetitive peak reverse voltage	V_{RRM}	7000 - 8000 V	
U_{RRM}, V		7000	8000
Voltage code		70	80
$T_j, ^\circ C$		- 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}	7000-8000	V
Non- repetitive peak reverse voltage, $T_j = -60 \dots +140 \text{ } ^\circ C$	V_{RSM}	7100-8100	
Repetitive peak reverse current, $T_j = 140 \text{ } ^\circ C, V_R = V_{RRM}$	I_{RRM}	100	mA
Maximum average forward current, $T_C = 85 \text{ } ^\circ C, f = 50 \text{ Hz}$	$I_{F(AV)}$	933	A
RMS forward current, $T_C = 85 \text{ } ^\circ C, f = 50 \text{ Hz}$	I_{FRMS}	1256	
Surge non-repetitive current, $T_j = 140 \text{ } ^\circ C, V_R = 0, t_p = 10 \text{ ms}$	I_{FSM}	23	kA
Safety factor	I^2t	$1365 \cdot 10^3$	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, $T_j = 25\text{ °C}$, $I_F = 2512\text{ A}$	V_{FM}	-	-	2,4	V
On-state threshold voltage, $T_j = 140\text{ °C}$, $I_F = 990 - 2960\text{ A}$	V_{TO}	-	-	1,20	
On-state slope resistance, $T_j = 140\text{ °C}$, $I_F = 990 - 2960\text{ A}$	r_T	-	-	0,90	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
THERMAL PARAMETERS					
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	
MECHANICAL PARAMETERS					
Weight	w	-	0,58	-	kg
Clamping force	F	24	-	28	kN
Maximum acceleration (at nominal mounting torque)	a	-	-	100	m/s ²

OVERALL DIMENSIONS

Package type: PD54

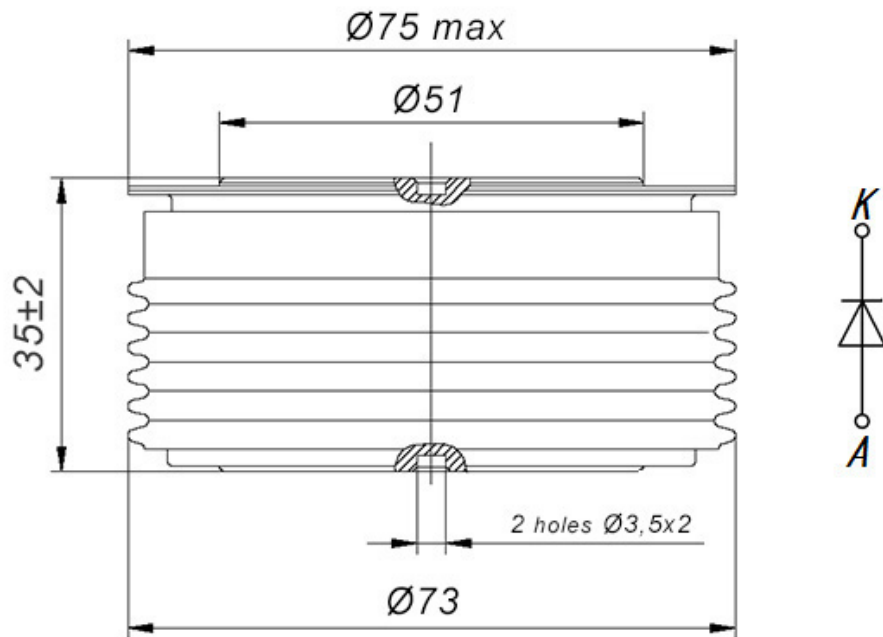


Fig. 1. Device Outline Drawing
(dimensions in mm)