



RECTIFIER DIODE D171-400

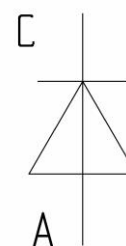
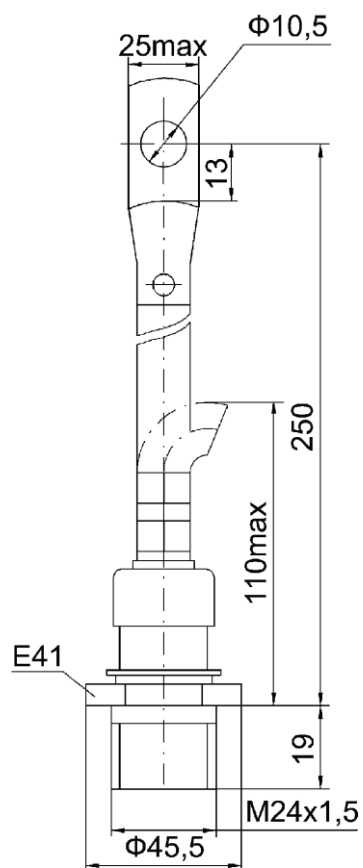
<ul style="list-style-type: none"> ◆ $V_{RRM} = \mathbf{300 - 1800\ V}$ ◆ $I_{F(AV)} = \mathbf{400\ A}$ ($T_C = 145\ ^\circ\text{C}$) ◆ $I_{FSM} = \mathbf{14\ kA}$ ($T_j = 190\ ^\circ\text{C}$) 			
<ul style="list-style-type: none"> ◆ Hermetic metal cases with ceramic insulators ◆ Pressure contact design ◆ Threaded studs of ISO ◆ Low dispersion Q_{rr} and V_{FM} for series and parallel connections 			
MAXIMUM RATED VALUES			
Parameter and conditions	Symbol	Values	Units
Repetitive peak reverse voltage, $T_j = -60 \dots + 190\ ^\circ\text{C}$	V_{RRM}	300-1800	V
Non-repetitive peak reverse voltage, $T_j = -60 \dots + 190\ ^\circ\text{C}$	V_{RSM}	400-1900	
Repetitive peak reverse current, $T_j = 190\ ^\circ\text{C}$, $V_R = V_{RRM}$	I_{RRM}	50	mA
Maximum average forward current, $f = 50\ \text{Hz}$, double side cooling, $T_C = 145\ ^\circ\text{C}$	$I_{F(AV)}$	400	A
RMS forward current, $f = 50\ \text{Hz}$, $T_C = 145\ ^\circ\text{C}$	I_{FRMS}	628	
Surge non-repetitive current, $T_j = 190\ ^\circ\text{C}$, $V_R = 0$, $t_p = 10\ \text{ms}$	I_{FSM}	14	kA
Safety factor	I^2t	$0,98 \cdot 10^6$	A^2s
Operation junction temperature range	T_j	-60...+ 190	$^\circ\text{C}$
Storage temperature range	T_{stg}	-60...+ 50	$^\circ\text{C}$

**D171-400**

ELECTRICAL CHARACTERISTICS					
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}	-	-	1,45	V
On-state threshold voltage, $T_j = 190\text{ °C}, I_F = 600 - 1900\text{ A}$	$V_{F(TO)}$	-	-	0,90	
On-state slope resistance, $T_j = 190\text{ °C}, I_F = 600 - 1900\text{ A}$	r_T	-	-	0,56	mΩ
Recovery charge, $T_j = 190\text{ °C}, I_F = 400\text{ A}, di_F/dt = -5\text{ A}/\mu\text{s}, V_R \geq 100\text{ V}$	Q_{rr}	-	-	1000	μAs
Recovery current, $T_j = 190\text{ °C}, I_F = 400\text{ A}, di_F/dt = -5\text{ A}/\mu\text{s}, V_R \geq 100\text{ V}$	I_{rr}	-	-	80	A
THERMAL PARAMETERS					
Thermal resistance junction to case	$R_{th(j-c)}$	-	-	0,085	°C/W
Thermal resistance case to heatsink	$R_{th(c-h)}$	-	-	0,03	
MECHANICAL PARAMETERS					
Weight	w	-	0,465	-	kg
Mounting torque	M_d	25	-	35	Nm
Maximum acceleration (at nominal mounting torque)	a	-	-	50	m/s ²
Cathode-anode distance on insulator surface	D_s	-	19	-	mm



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C – Cathode, A – Anode

Device Outline Drawing

(dimensions in mm)



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