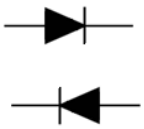
RECTIFIER DIODE

D161-250, D161-250X

- V_{RRM} = **300 - 1800 V**
- $I_{F(AV)}$ = **250 A** (T_C = 140 °C)
- I_{FSM} = **6,4 kA** (T_j = 190 °C)



- 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
- Direct and revers polarity
- Simple creation of rectifiers on heatsink

MAXIMUM RATED VALUES

Parameter and conditions	Symbol	Values	Units
Repetitive peak reverse voltage, T_j = -60 …+ 190 °C D161-250 D161-250X	V_{RRM}	 300-1800 300-1600	V
Non- repetitive peak reverse voltage, T_j = -60 …+ 190 °C D161-250 D161-250X	V_{RSM}	 400-1900 400-1700	
Repetitive peak reverse current, T_j = 190 °C, $V_R = V_{RRM}$	I_{RRM}	40	mA
Maximum average forward current, f = 50 Hz, double side cooling, T_C = 140 °C	$I_{F(AV)}$	250	A
RMS forward current, f = 50 Hz, T_C = 140 °C	I_{FRMS}	392	
Surge non-repetitive current, T_j = 190 °C, V_R = 0, t_p = 10 ms	I_{FSM}	6,4	kA
Safety factor	I^2t	200	kA^2s
Operation junction temperature range	T_j	-60…+ 190	°C
Storage temperature range	T_{stg}	-60…+ 50	°C

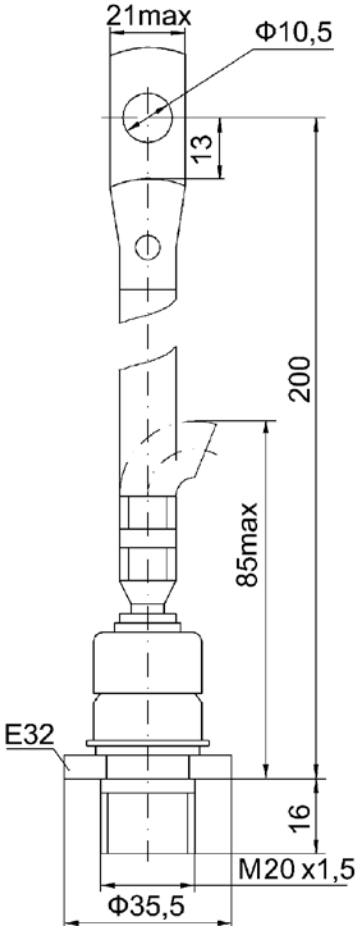
ELECTRICAL CHARACTERISTICS

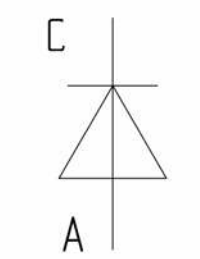
Parameter and conditions	Symbol	Values			Units
		min	typ.	max	
Maximum peak forward voltage, T_j = 25 °C, I_F = 785 A D161-250 D161-250X	V_{FM}	-	-	 1,35 1,45	V
On-state threshold voltage, T_j = 190 °C, I_F = 390 - 1180 A	V_{TO}	-	-	0,90	

D161-250, D161-250X

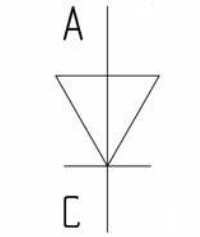
On-state slope resistance, T_j = 190 °C, I_F = 390 - 1180 A D161-250 D161-250X	r_T	-	-	 0,64 0,765	mΩ
Recovery charge, T_j = 190 °C, I_F = 250 A, di_F/dt = - 5 A/µs, V_R ≥ 100 V	Q_{RR}	-	-	900	µAs
Recovery current, T_j = 190 °C, I_F = 250 A, di_F/dt = - 5 A/µs, V_R ≥ 100 V	I_{RR}	-	-	82	A
THERMAL PARAMETERS					
Thermal resistance junction to case D161-250 D161-250X	$R_{th(j-c)}$	-	-	 0,15 0,14	°C/W
Thermal resistance case to heatsink	$R_{th(c-h)}$	-	-	0,10	
MECHANICAL PARAMETERS					
Weight	w	-	0,265	-	kg
Mounting torque	M_d	20	-	30	Nm
Maximum acceleration (at nominal mounting torque)	a	-	-	50	m/s^2
Cathode-anode distance on insulator surface	D_s	-	18,8	-	mm

D161-250, D161-250X





D161-250



D161-250X

C – Cathode, A – Anode

Fig. 1. Device Outline Drawing

(dimensions in mm)