

Fast Recovery Stud-Mounted Diodes Type DF251-200, DF251-200X

For use as high-power inverters,
fly-wheel diodes in DC choppers,
power supplies as high frequency rectifier

Maximum mean forward current	I_{FAV}	200 A
Maximum repetitive peak reverse voltage	U_{RRM}	600 ÷ 1400V
Reverse recovery time	trr	3,2; 4,0 μs
U_{RRM} , V	600	700
	800	900
	1000	1100
	1200	1300
	1400	
Voltage code	6	7
	8	9
	10	11
	12	13
	14	
T_{vj} , °C	- 60 ÷ 170	

MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	DF251-200 DF251-200X	Conditions
I_{FAV}	Mean forward current	A	200 295	$T_c=103^\circ\text{C}$, $T_c=55^\circ\text{C}$, 180° half-sine wave, 50 Hz
I_{FRMS}	RMS forward current	A	320	$T_c=103^\circ\text{C}$
I_{FSM}	Surge forward current	kA	4,3 4,7	$T_{vj}=170^\circ\text{C}$ $T_{vj}=25^\circ\text{C}$ tp=10 ms $U_R=0$
I^2t	Limiting load integral	kA ² s	92 110	$T_{vj}=170^\circ\text{C}$ $T_{vj}=25^\circ\text{C}$
U_{RRM}	Repetitive peak reverse voltage	V	600÷1400	$T_{j\ min} \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz
U_{RSM}	Non-repetitive peak reverse voltage	V	660÷1540	$T_{j\ min} \leq T_{vj} \leq T_{jM}$ 180° half-sine wave tp=10 ms, Single pulse
T_{stg}	Storage temperature	°C	-60÷80	
T_{vj}	Junction temperature	°C	-60÷170	

CHARACTERISTICS

U_{FM}	Peak forward voltage	V	1,8	$T_{vj}=25^\circ\text{C}$, $I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	Threshold voltage	V	1,05	$T_{vj}=170^\circ\text{C}$
R_T	Forward slope resistance	m Ω	1,1	1,57 $I_{FAV} < I_F < 4,71 I_{FAV}$
I_{RRM}	Repetitive peak reverse current	mA	20	$T_{vj}=170^\circ\text{C}$, $U_R = U_{RRM}$

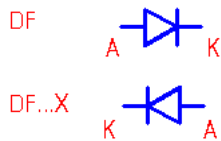
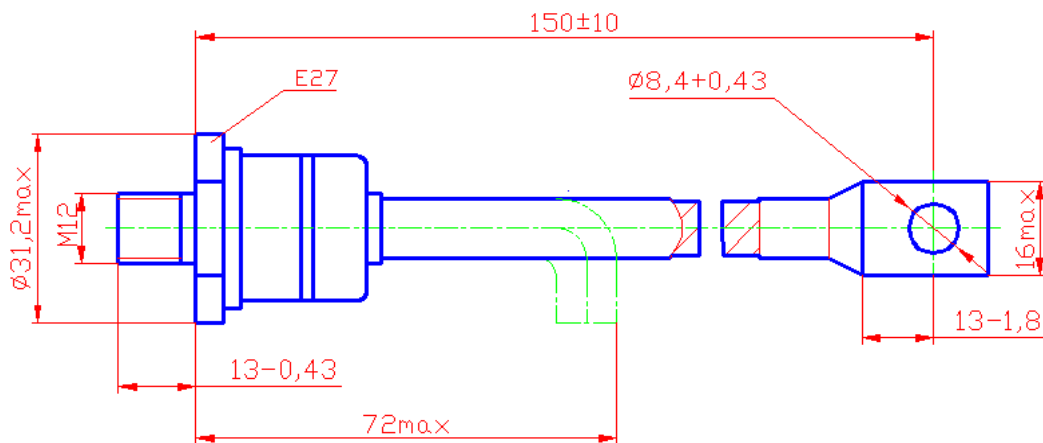
CHARACTERISTICS

Symbols and parameters		Units	DF251-200 DF251-200X	Conditions
------------------------	--	-------	-------------------------	------------

trr	Reverse recovery time	μs	3,2 ÷ 4,0 2,5 ÷ 3,2	$T_{vj}=170^{\circ}\text{C}$, $I_F=200\text{A}$, $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$
Qrr	Recovered charge	μC	200 ÷ 250 280 ÷ 350	$T_{vj}=170^{\circ}\text{C}$, $I_F=200\text{A}$, $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$
Rthjc	Thermal resistance junction to case	$^{\circ}\text{C}/\text{W}$	0,21	Direct current

ORDERING						
	DF	251	200	X	14	3
	1	2	3	4	5	6

1. Fast recoveri diode.
2. Design version.
3. Mean forward current, A.
4. Reverse polarity (cathode stud mounted), without X-normal polarity.
5. Voltage code (14 = 1400V).
6. Group of reverse recovery time ($2 \leq 4,0 \mu\text{s}$; $3 \leq 3,2 \mu\text{s}$).



Tightening torque: 12 ÷ 18 Nm
Weight : 150 grams