



**THE DATASHEET OF
DF171-400-16_D47MM**





TET ESTEL AS
ESTONIA

September
2015

Series
DF171-400
DF171-400X

Fast Recovery Stud-Mounted
Diodes
Type DF171-400,
DF171-400X

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

Maximum mean forward current						I_{FAV}	400 A			
Maximum repetitive peak reverse voltage						U_{RRM}	800 ÷ 1600 V			
Reverse recovery time						trr	2,0; 2,5; 3,2 μs			
U_{RRM}, V	800	900	1000	1100	1200	1300	1400	1500	1600	
Voltage code	8	9	10	11	12	13	14	15	16	
$T_{vj}, °C$	- 60 ÷ 125									

MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	DF171-400 DF171-400X	Conditions
I_{FAV}	Mean forward current	A	400 620	$T_c=85 °C,$ $T_c=55 °C,$ 180° half-sine wave, 50 Hz
I_{FRMS}	RMS forward current	A	628	$T_c=85 °C$
I_{FSM}	Surge forward current	kA	9,0 10,0	$T_{vj}=125 °C$ $T_{vj}= 25 °C$ tp=10 ms
I^2t	Limiting load integral	kA^2s	405 500	$T_{vj}=125 °C$ $T_{vj}= 25 °C$ UR=0
U_{RRM}	Repetitive peak reverse voltage	V	800÷1600	$T_j \min \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz
U_{RSM}	Non-repetitive peak reverse voltage	V	900÷1700	$T_j \min \leq T_{vj} \leq T_{jM}$ 180° half-sine wave tp=10 ms, Single pulse
T_{stg}	Storage temperature	°C	-60÷80	
T_{vj}	Junction temperature	°C	-60÷125	

CHARACTERISTICS

U_{FM}	Peak forward voltage	V	1,8	$T_{vj}=25 °C, I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	Threshold voltage	V	1,0	$T_{vj}=125 °C$ $1,57 I_{FAV} < I_F < 4,71 I_{FAV}$
R_T	Forward slope resistance	mΩ	0,4	
I_{RRM}	Repetitive peak reverse current	mA	40	$T_{vj}=125 °C,$ $U_R = U_{RRM}$

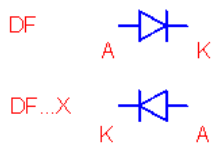
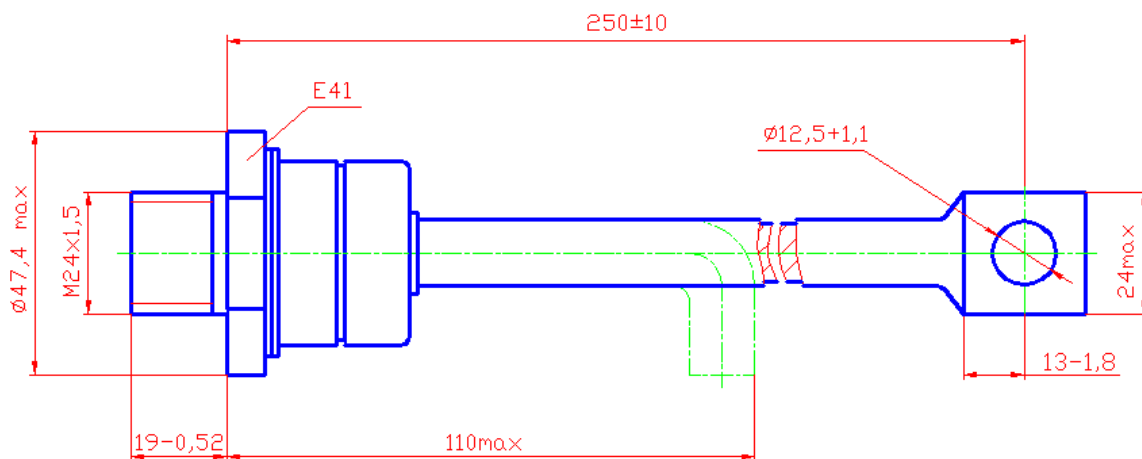
CHARACTERISTICS

Symbols and parameters		Units	DF171-400 DF171-400X	Conditions
trr	Reverse recovery time	μs	2,0 ÷ 3,2 2,0 ÷ 2,5 1,6 ÷ 2,0	T _{vj} =125°C, I _F =400A, U _R =100V di _R / dt = 50A/μs di _R / dt = 100A/μs di _R / dt = 200A/μs
Q _{rr}	Recovered charge	μC	70 ÷ 100 100 ÷ 130 130 ÷ 190	T _{vj} =125°C, I _F =400A, U _R =100V di _R / dt = 50A/μs di _R / dt = 100A/μs di _R / dt = 200A/μs
R _{thjc}	Thermal resistance junction to case	°C/W	0,07	Direct current

ORDERING

	DF	171	400	X	14	4
	1	2	3	4	5	6

1. Fast recovery diode
2. Design version
3. Mean forward current, A
4. Reverse polarity (cathode stud mounted), without X-normal polarity
5. Voltage code (14 = 1400 V)
6. Group of reverse recovery time (3 ≤ 3,2 μs; 4 ≤ 2,5 μs; 5 ≤ 2,0 μs)



Tightening torque: 40 ÷ 60 Nm
Weight : 480 grams

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