



TET ESTEL AS
ESTONIA

May
2015

Series
DF271-320
DF271-320X

Fast Recovery Stud-Mounted
Diodes
Type DF271-320,
DF271-320X

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

Maximum mean forward current					I_{FAV}	320 A	
Maximum repetitive peak reverse voltage					U_{RRM}	1400 ÷ 2400 V	
Reverse recovery time					trr	2,5; 3,2; 4,0 µs	
U_{RRM}, V	1400	1500	1600	1800	2000	2200	2400
Voltage code	14	15	16	18	20	22	24
$T_{vj}, °C$	- 60 ÷ 125						

MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	DF271-320 DF271-320X	Conditions
I_{FAV}	Mean forward current	A	320 485	$T_c=83°C,$ $T_c=55°C,$ 180° half-sine wave, 50 Hz
I_{FRMS}	RMS forward current	A	502	$T_c=83°C$
I_{FSM}	Surge forward current	kA	7,0 7,7	$T_{vj}=125°C$ $T_{vj}= 25°C$ tp=10 ms
I^2t	Limiting load integral	kA^2s	245 296	$T_{vj}=125°C$ $T_{vj}= 25°C$ $U_R=0$
U_{RRM}	Repetitive peak reverse voltage	V	1400÷2400	$T_j \min \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz
U_{RSM}	Non-repetitive peak reverse voltage	V	1500÷2500	$T_j \min \leq T_{vj} \leq T_{jM}$ 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	1,9	$T_{vj}=25°C, I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	Threshold voltage	V	1,2	$T_{vj}=125°C$ $1,57 I_{FAV} < I_F < 4,71 I_{FAV}$
R_T	Forward slope resistance	mΩ	0,7	
I_{RRM}	Repetitive peak reverse current	mA	50	$T_{vj}=125°C,$ $U_R = U_{RRM}$

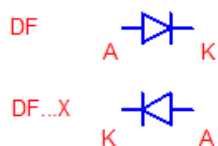
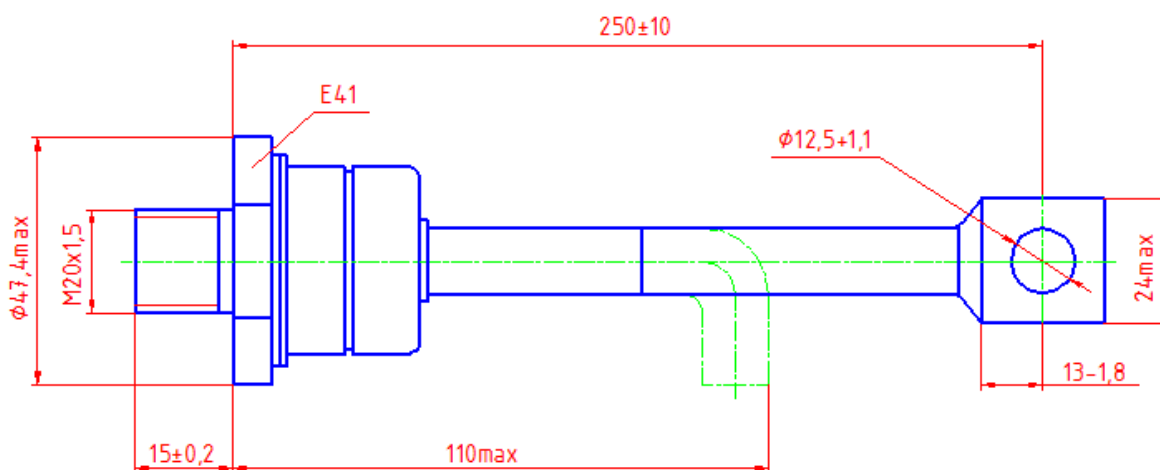
CHARACTERISTICS

Symbols and parameters		Units	DF271-320 DF271-320X	Conditions
trr	Reverse recovery time	μs	2,5 ÷ 4,0 2,0 ÷ 3,2 1,6 ÷ 2,5	T _{vj} =125°C, I _F =320A, U _R =100V di _R / dt = 50A/μs di _R / dt = 100A/μs di _R / dt = 200A/μs
Q _{rr}	Recovered charge	μC	110 ÷ 180 150 ÷ 240 190 ÷ 310	T _{vj} =125°C, I _F =320A, 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	271	320	X	22	3
	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 (22 = 2200 V).
6. Group of reverse recovery time (2 ≤ 4,0 μs; 3 ≤ 3,2 μs; 4 ≤ 2,5 μs).



Tightening torque: 40 ÷ 60 Nm
Weight : 480 grams