



**TET ESTEL AS**  
ESTONIA

**May**  
**2015**

**Series**  
**DF272-400**  
**DF272-400X**

**Fast Recovery Stud-Mounted**  
**Diodes**  
**Type DF272-400,**  
**DF272-400X**

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

Maximum mean forward current	$I_{FAV}$					<b>400 A</b>	
Maximum repetitive peak reverse voltage	$U_{RRM}$					<b>1400 ÷ 2200 V</b>	
Reverse recovery time	<b>trr</b>					<b>3,2; 4,0; 5,0 μs</b>	
$U_{RRM}, V$	1400	1500	1600	1800	2000	2200	
Voltage code	14	15	16	18	20	22	
$T_{vj}, °C$	- 60 ÷ 125						

**MAXIMUM ALLOWABLE RATINGS**

Symbols and parameters		Units	DF272-400 DF272-400X	Conditions
$I_{FAV}$	Mean forward current	A	400 324	$T_c=80 °C,$ $T_c=92 °C,$ 180° half-sine wave, 50 Hz
$I_{FRMS}$	RMS forward current	A	628	$T_c=80 °C$
$I_{FSM}$	Surge forward current	kA	8,0 8,8	$T_{vj}=125 °C$ $T_{vj}= 25 °C$ tp=10 ms
$I^2t$	Limiting load integral	$kA^2s$	320 387	$T_{vj}=125 °C$ $T_{vj}= 25 °C$ UR=0
$U_{RRM}$	Repetitive peak reverse voltage	V	1400÷2200	$T_j \min \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz
$U_{RSM}$	Non-repetitive peak reverse voltage	V	1500÷2300	$T_j \min \leq T_{vj} \leq T_{jM}$ 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	1,85	$T_{vj}=25 °C, I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	Threshold voltage	V	1,05	$T_{vj}=125 °C$ 1,57 $I_{FAV} < I_F < 4,71 I_{FAV}$
$R_T$	Forward slope resistance	mΩ	0,5	
$I_{RRM}$	Repetitive peak reverse current	mA	50	$T_{vj}=125 °C,$ $U_R = U_{RRM}$

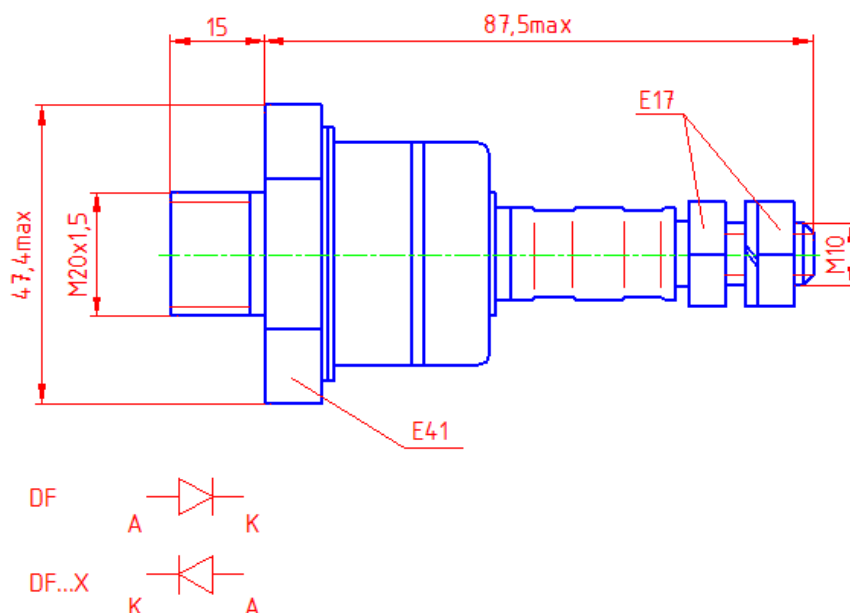
## CHARACTERISTICS

Symbols and parameters		Units	DF272-400 DF272-400X	Conditions
trr	Reverse recovery time	μs	3,2 ÷ 5,0 2,5 ÷ 4,0 2,0 ÷ 3,2	T <sub>vj</sub> =125°C, I <sub>F</sub> =400A, U <sub>R</sub> =100V di <sub>R</sub> / dt = 50A/μs di <sub>R</sub> / dt = 100A/μs di <sub>R</sub> / dt = 200A/μs
Q <sub>rr</sub>	Recovered charge	μC	140 ÷ 230 190 ÷ 300 250 ÷ 380	T <sub>vj</sub> =125°C, I <sub>F</sub> =400A, U <sub>R</sub> =100V di <sub>R</sub> / dt = 50A/μs di <sub>R</sub> / dt = 100A/μs di <sub>R</sub> / dt = 200A/μs
R <sub>thjc</sub>	Thermal resistance junction to case	°C/W	0,07	Direct current

## ORDERING

	DF	272	400	X	18	2
	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 (18 = 1800 V).
6. Group of reverse recovery time (1 ≤ 5,0μs; 2 ≤ 4,0 μs; 3 ≤ 3,2 μs).



Mounting of diodes with a rigid cathode gate should be carried through a flexible conductor.

Tightening torque: 32 ÷ 48 Nm (thread M20x1,5)

Tightening torque: 8 ÷ 12 Nm (thread M10)

Weight : 370 grams