



TET ESTEL AS
ESTONIA

July
2015

Series
DF233-400

Fast Recovery Press-Pack
Diode
Type DF233-400

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}	1400 ÷ 2400 V			
Reverse recovery time			trr	3,2; 4,0; 5,0 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	DF233-400	Conditions	
I_{FAV}	Mean forward current	A	400 720	$T_c=90^\circ\text{C}$, $T_c=55^\circ\text{C}$, 180° half-sine wave, 50 Hz	
I_{FRMS}	RMS forward current	A	628	$T_c=90^\circ\text{C}$	
I_{FSM}	Surge forward current	kA	8,3 9,0	$T_{vj}=125^\circ\text{C}$ $T_{vj}=25^\circ\text{C}$	tp=10 ms $U_R=0$
I^2t	Limiting load integral	kA^2s	344 405	$T_{vj}=125^\circ\text{C}$ $T_{vj}=25^\circ\text{C}$	
U_{RRM}	Repetitive peak reverse voltage	V	1400÷2400	$T_j \text{ min} \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz	
U_{RSM}	Non-repetitive peak reverse voltage	V	1500÷2500	$T_j \text{ min} \leq T_{vj} \leq T_{jM}$ 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	2,0	$T_{vj}=25^\circ\text{C}$, $I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	Threshold voltage	V	1,1	$T_{vj}=125^\circ\text{C}$ $1,57 I_{FAV} < I_F < 4,71 I_{FAV}$
R_T	Forward slope resistance	$\text{m}\Omega$	0,74	
I_{RRM}	Repetitive peak reverse current	mA	50	$T_{vj}=125^\circ\text{C}$, $U_R = U_{RRM}$

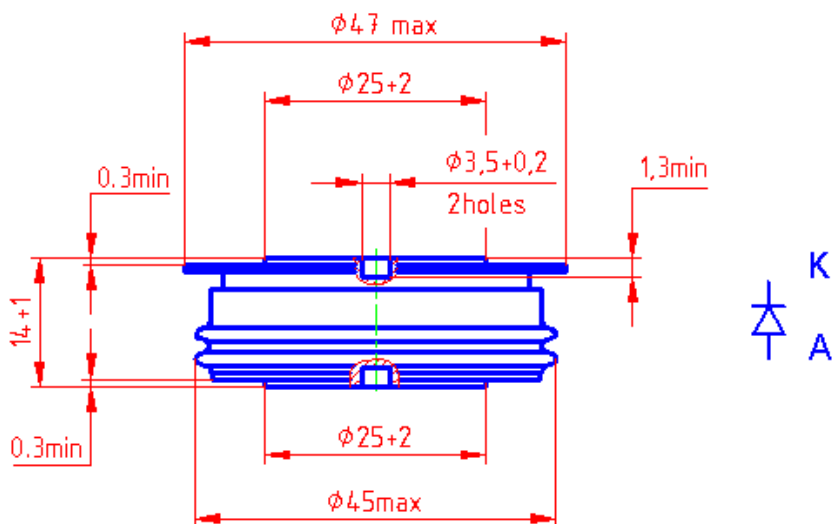
CHARACTERISTICS

Symbols and parameters		Units	DF233-400	Conditions
trr	Reverse recovery time	μs	3,2 ÷ 5,0 2,5 ÷ 4,0 2,0 ÷ 3,2	$T_{vj}=125^{\circ}\text{C}$, $I_F=400\text{A}$, $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$ $di_R / dt = 200\text{A}/\mu\text{s}$
Qrr	Recovered charge	μC	140 ÷ 230 190 ÷ 300 250 ÷ 380	$T_{vj}=125^{\circ}\text{C}$, $I_F=400\text{A}$, $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$ $di_R / dt = 200\text{A}/\mu\text{s}$
Rthjc	Thermal resistance junction to case	$^{\circ}\text{C}/\text{W}$	0,04	Direct current, double side cooled

ORDERING

	DF	233	400	22	3	
	1	2	3	4	5	

1. Fast recovery diode
2. Design version
3. Mean forward current, A
4. Voltage code (22 = 2200 V)
5. Group of reverse recovery time ($1 \leq 5,0 \mu\text{s}$; $2 \leq 4,0 \mu\text{s}$; $3 \leq 3,2 \mu\text{s}$)



Mounting force : 8 ÷ 12 kN
Weight : 120 grams