



TET ESTEL AS
ESTONIA

July
2015

Series
DF233-320

Fast Recovery Press-Pack
Diode
Type DF233-320

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 ÷ 2200 V	
Reverse recovery time	trr					2,0; 2,5; 3,2 μs	
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	DF233-320	Conditions	
I_{FAV}	Mean forward current	A	320 625	$T_c=95°C$, $T_c=55°C$, 180° half-sine wave, 50 Hz	
I_{FRMS}	RMS forward current	A	502	$T_c=95°C$	
I_{FSM}	Surge forward current	kA	8,0 8,8	$T_{vj}=125°C$ $T_{vj}=25°C$	tp=10 ms $U_R=0$
I^2t	Limiting load integral	kA^2s	344 405	$T_{vj}=125°C$ $T_{vj}=25°C$	
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	2,5	$T_{vj}=25°C$, $I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	Threshold voltage	V	1,4	$T_{vj}=125°C$ $1,57 I_{FAV} < I_F < 4,71 I_{FAV}$
R_T	Forward slope resistance	mΩ	0,9	
I_{RRM}	Repetitive peak reverse current	mA	50	$T_{vj}=125°C$, $U_R = U_{RRM}$

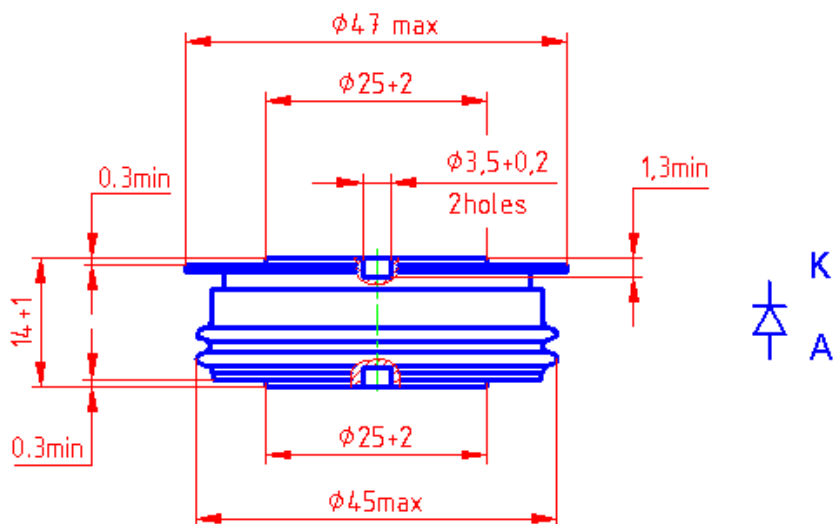
CHARACTERISTICS

Symbols and parameters		Units	DF233-320	Conditions
trr	Reverse recovery time	μs	2,0 ÷ 3,2 1,6 ÷ 2,5	$T_{vj}=125^{\circ}\text{C}$, $I_F=320\text{A}$, $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$
Qrr	Recovered charge	μC	80 ÷ 140 120 ÷ 190	$T_{vj}=125^{\circ}\text{C}$, $I_F=320\text{A}$, $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$
Rthjc	Thermal resistance junction to case	$^{\circ}\text{C}/\text{W}$	0,04	Direct current, double side cooled

ORDERING

	DF	233	320	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 ($3 \leq 3,2 \mu\text{s}$; $4 \leq 2,5 \mu\text{s}$; $5 \leq 2,0 \mu\text{s}$)



Mounting force : 8 ÷ 12 kN
Weight : 120 grams