



**TET ESTEL AS**  
ESTONIA

**September**  
**2015**

**Series**  
**DF253-1000**

**Fast Recovery Press-Pack**  
**Diode**  
**Type DF253-1000**

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>1000 A</b>	
Maximum repetitive peak reverse voltage					$U_{RRM}$	<b>1400 ÷ 2600 V</b>	
Reverse recovery time					<b>trr</b>	<b>4,0; 5,0; 3,2 μs</b>	
$U_{RRM}, V$	1400	1600	1800	2000	2200	2400	2600
Voltage code	14	16	18	20	22	24	26
$T_{vj}, °C$	- 60 ÷ 125						

**MAXIMUM ALLOWABLE RATINGS**

Symbols and parameters		Units	DF253-1000	Conditions	
$I_{FAV}$	Mean forward current	A	1000 1660	$T_c=85 °C$ , $T_c=55 °C$ , 180° half-sine wave, 50 Hz	
$I_{FRMS}$	RMS forward current	A	1570	$T_c=85 °C$	
$I_{FSM}$	Surge forward current	kA	21 23	$T_{vj}=125 °C$ $T_{vj}= 25 °C$	tp=10 ms $U_R=0$
$I^2t$	Limiting load integral	$kA^2s$	2205 2645	$T_{vj}=125 °C$ $T_{vj}= 25 °C$	
$U_{RRM}$	Repetitive peak reverse voltage	V	1400÷2600	$T_j \min \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz	
$U_{RSM}$	Non-repetitive peak reverse voltage	V	1500÷2700	$T_j \min \leq T_{vj} \leq T_{jM}$ 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	2,0	$T_{vj}=25 °C$ , $I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	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	0,22	
$I_{RRM}$	Repetitive peak reverse current	mA	75	$T_{vj}=125 °C$ , $U_R= U_{RRM}$

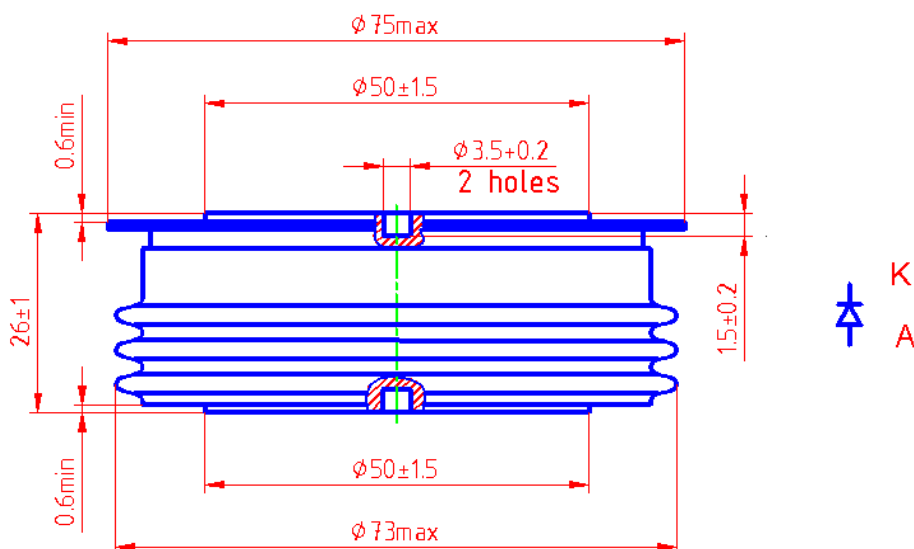
### CHARACTERISTICS

Symbols and parameters		Units	DF253-1000	Conditions
trr	Reverse recovery time	$\mu\text{s}$	4,0 $\div$ 6,3 3,2 $\div$ 5,0 2,5 $\div$ 4,0	$T_{vj}=125^{\circ}\text{C}$ , $I_F=1000\text{A}$ , $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$ $di_R / dt = 200\text{A}/\mu\text{s}$
Qrr	Recovered charge	$\mu\text{C}$	220 $\div$ 350 310 $\div$ 490 430 $\div$ 680	$T_{vj}=125^{\circ}\text{C}$ , $I_F=1000\text{A}$ , $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$ $di_R / dt = 200\text{A}/\mu\text{s}$
Rthjc	Thermal resistance junction to case	$^{\circ}\text{C}/\text{W}$	0,02	Direct current, double side cooled

### ORDERING

	DF	253	1000	22	2	
	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 ( $C4 \leq 6,3 \mu\text{s}$ ;  $1 \leq 5 \mu\text{s}$ ;  $2 \leq 4 \mu\text{s}$ ).



Mounting force : 19  $\div$  28 kN

Weight : 580 grams