



**TET ESTEL AS**  
ESTONIA

**July**  
**2013**

**Series**  
**DF143-1000**

**Fast Recovery Press-Pack**  
**Diode**  
**Type DF143-1000**

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>800 ÷ 1800 V</b>			
Reverse recovery time	<b>trr</b>						<b>3,2; 4,0; 5,0 μs</b>			
$U_{RRM}, V$	800	900	1000	1100	1200	1300	1400	1500	1600	1800
Voltage code	8	9	10	11	12	13	14	15	16	18
$T_{vj}, °C$	- 60 ÷ 125									

**MAXIMUM ALLOWABLE RATINGS**

Symbols and parameters		Units	DF143-1000	Conditions	
$I_{FAV}$	Mean forward current	A	1000 1320	$T_c=77°C,$ $T_c=55°C,$ 180° half-sine wave, 50 Hz	
$I_{FRMS}$	RMS forward current	A	1570	$T_c=77°C$	
$I_{FSM}$	Surge forward current	kA	15 16,5	$T_{vj}=125°C$ $T_{vj}=25°C$	tp=10 ms $U_R=0$
$I^2t$	Limiting load integral	kA <sup>2</sup> s	1125 1361	$T_{vj}=125°C$ $T_{vj}=25°C$	
$U_{RRM}$	Repetitive peak reverse voltage	V	800÷1800	$T_j \min \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz	
$U_{RSM}$	Non-repetitive peak reverse voltage	V	900÷1900	$T_j \min \leq T_{vj} \leq T_{jM}$ 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	2,2	$T_{vj}=25°C, I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	Threshold voltage	V	1,15	$T_{vj}=125°C$ $1,57 I_{FAV} < I_F < 4,71 I_{FAV}$
$R_T$	Forward slope resistance	mΩ	0,25	
$I_{RRM}$	Repetitive peak reverse current	mA	50	$T_{vj}=125°C,$ $U_R = U_{RRM}$

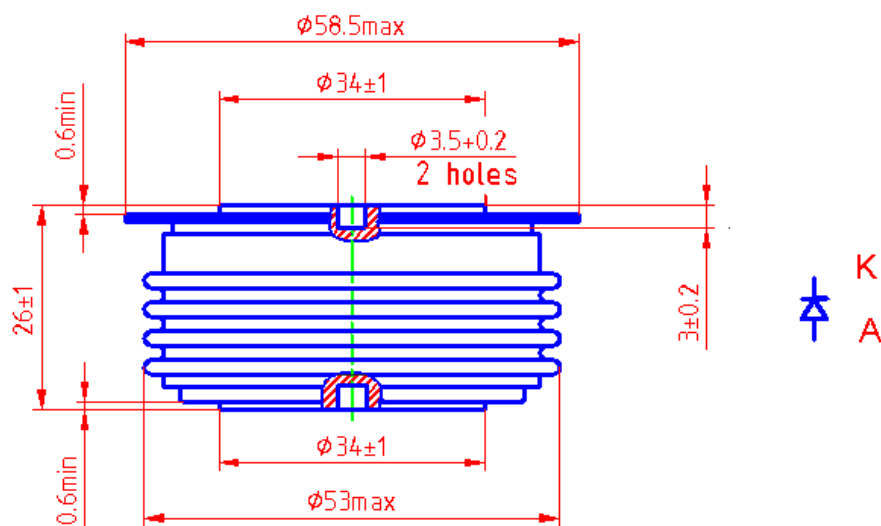
## CHARACTERISTICS

Symbols and parameters		Units	DF143-1000	Conditions
trr	Reverse recovery time	$\mu\text{s}$	3,2 ÷ 5,0 2,5 ÷ 4,0 2,0 ÷ 3,2	$T_{vj}=125^{\circ}\text{C}$ , $I_F=1000\text{A}$ , $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$ $di_R / dt = 200\text{A}/\mu\text{s}$
Qrr	Recovered charge	$\mu\text{C}$	150 ÷ 230 210 ÷ 340 310 ÷ 490	$T_{vj}=125^{\circ}\text{C}$ , $I_F=1000\text{A}$ , $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$ $di_R / dt = 200\text{A}/\mu\text{s}$
Rthjc	Thermal resistance junction to case	$^{\circ}\text{C}/\text{W}$	0,027	Direct current, double side cooled

## ORDERING

	DF	143	1000	16	2	
	1	2	3	4	5	

1. Fast recovery diode
2. Design version
3. Mean forward current, A
4. Voltage code (16 = 1600 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 : 13 ÷ 19 kN  
Weight : 320 grams