



**TET ESTEL AS**  
ESTONIA

**October**  
**2014**

**Series**  
**DF443-400**

**Fast Recovery Press-Pack**  
**Diode**  
**Type DF443-400**

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

Maximum mean forward current						$I_{FAV}$	<b>400 A</b>
Maximum repetitive peak reverse voltage						$U_{RRM}$	<b>3200 ÷ 4400 V</b>
Reverse recovery time						<b>trr</b>	<b>5,0; 6,3 μs</b>
$U_{RRM}, V$	3200	3400	3600	3800	4000	4200	4400
Voltage code	32	34	36	38	40	42	44
$T_{vj}, ^\circ C$	- 60 ÷ 125						

**MAXIMUM ALLOWABLE RATINGS**

Symbols and parameters		Units	DF443-400	Conditions
$I_{FAV}$	Mean forward current	A	400 665	$T_c=90^\circ C$ , $T_c=55^\circ C$ , 180° half-sine wave, 50 Hz
$I_{FRMS}$	RMS forward current	A	628	$T_c=90^\circ C$
$I_{FSM}$	Surge forward current	kA	7,0 8,0	$T_{vj}=125^\circ C$ $T_{vj}=25^\circ C$ tp=10 ms $U_R=0$
$I^2t$	Limiting load integral	$kA^2s$	245 320	$T_{vj}=125^\circ C$ $T_{vj}=25^\circ C$
$U_{RRM}$	Repetitive peak reverse voltage	V	3200÷4400	$T_{j\ min} \leq T_{vj} \leq T_{j\ M}$ 180° half-sine wave, 50 Hz
$U_{RSM}$	Non-repetitive peak reverse voltage	V	3300÷4500	$T_{j\ min} \leq T_{vj} \leq T_{j\ M}$ 180° half-sine wave tp=10 ms, Single pulse
$T_{stg}$	Storage temperature	$^\circ C$	-60÷80	
$T_{vj}$	Junction temperature	$^\circ C$	-60÷125	

**CHARACTERISTICS**

$U_{FM}$	Peak forward voltage	V	2,6	$T_{vj}=25^\circ C$ , $I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	Threshold voltage	V	1,35	$T_{vj}=125^\circ C$ $1,57 I_{FAV} < I_F < 4,71 I_{FAV}$
$R_T$	Forward slope resistance	$m\Omega$	1,3	
$I_{RRM}$	Repetitive peak reverse current	mA	50	$T_{vj}=125^\circ C$ , $U_R = U_{RRM}$

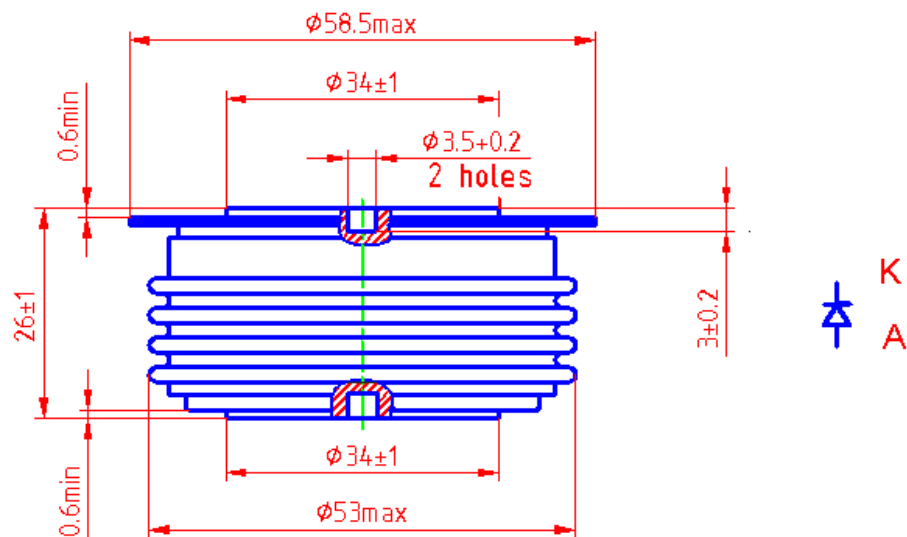
## CHARACTERISTICS

Symbols and parameters		Units	DF443-400	Conditions
trr	Reverse recovery time	$\mu\text{s}$	5,0 ÷ 6,3 4,0 ÷ 5,0	$T_{vj}=125^{\circ}\text{C}$ , $I_F=400\text{A}$ , $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$
Qrr	Recovered charge	$\mu\text{C}$	330 ÷ 400 400 ÷ 500	$T_{vj}=125^{\circ}\text{C}$ , $I_F=400\text{A}$ , $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$
Rthjc	Thermal resistance junction to case	$^{\circ}\text{C}/\text{W}$	0,03	Direct current, double side cooled

## ORDERING

	DF	443	400	42	1	
	1	2	3	4	5	

1. Fast recovery diode
2. Design version
3. Mean forward current, A
4. Voltage code (42 = 4200 V)
5. Group of reverse recovery time ( $C4 \leq 6,3 \mu\text{s}$ ;  $1 \leq 5,0 \mu\text{s}$ )



Mounting force : 13 ÷ 19 kN  
Weight : 320 grams