



**TET ESTEL AS**  
ESTONIA

**July**  
**2013**

**Series**  
**DF143-800**

**Fast Recovery Press-Pack**  
**Diode**  
**Type DF143-800**

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>800 A</b>				
Maximum repetitive peak reverse voltage	$U_{RRM}$						<b>800 ÷ 1800 V</b>				
Reverse recovery time	<b>trr</b>						<b>2,5; 3,2; 4,0 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	DF143-800	Conditions
$I_{FAV}$	Mean forward current	A	800 1100	$T_c=80^\circ\text{C}$ , $T_c=55^\circ\text{C}$ , 180° half-sine wave, 50 Hz
$I_{FRMS}$	RMS forward current	A	1255	$T_c=80^\circ\text{C}$
$I_{FSM}$	Surge forward current	kA	14 15,5	$T_{vj}=125^\circ\text{C}$ $T_{vj}=25^\circ\text{C}$ tp=10 ms
$I^2t$	Limiting load integral	$\text{kA}^2\text{s}$	980 1201	$T_{vj}=125^\circ\text{C}$ $T_{vj}=25^\circ\text{C}$ $U_R=0$
$U_{RRM}$	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	2,3	$T_{vj}=25^\circ\text{C}$ , $I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	Threshold voltage	V	1,2	$T_{vj}=125^\circ\text{C}$ $1,57 I_{FAV} < I_F < 4,71 I_{FAV}$
$R_T$	Forward slope resistance	$\text{m}\Omega$	0,34	
$I_{RRM}$	Repetitive peak reverse current	mA	50	$T_{vj}=125^\circ\text{C}$ , $U_R = U_{RRM}$

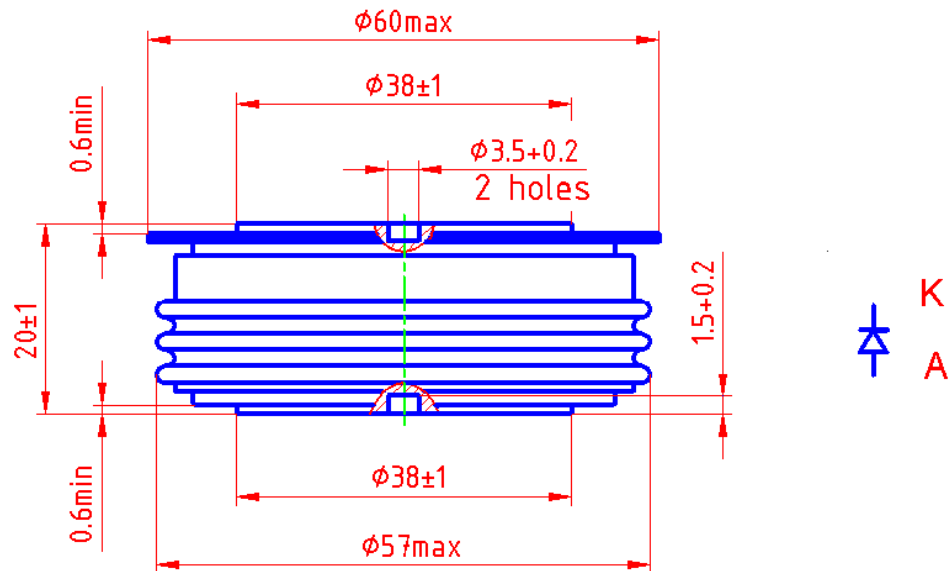
## CHARACTERISTICS

Symbols and parameters		Units	DF143-800	Conditions
trr	Reverse recovery time	$\mu\text{s}$	2,5 ÷ 4,0 2,0 ÷ 3,2 1,6 ÷ 2,5	$T_{vj}=125^{\circ}\text{C}$ , $I_F=800\text{A}$ , $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$ $di_R / dt = 200\text{A}/\mu\text{s}$
Qrr	Recovered charge	$\mu\text{C}$	110 ÷ 190 170 ÷ 270 250 ÷ 400	$T_{vj}=125^{\circ}\text{C}$ , $I_F=800\text{A}$ , $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$ $di_R / dt = 200\text{A}/\mu\text{s}$
Rthjc	Thermal resistance junction to case	$^{\circ}\text{C}/\text{W}$	0,03	Direct current, double side cooled

## ORDERING

	DF	143	800	16	3	
	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 ( 2 ≤ 4,0  $\mu\text{s}$ ; 3 ≤ 3,2  $\mu\text{s}$ ; 4 ≤ 2,5  $\mu\text{s}$ )



Mounting force : 13 ÷ 19 kN  
Weight : 260 grams