



**TET ESTEL AS**  
ESTONIA

**July**  
**2013**

**Series**  
**DF453-800**

**Fast Recovery Press-Pack**  
**Diode**  
**Type DF453-800**

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>3200 ÷ 4400 V</b>	
Reverse recovery time					<b>trr</b>	<b>6,3; 8,0; 10 μs</b>	
$U_{RRM}, V$	3200	3400	3600	3800	4000	4200	4400
Voltage code	32	34	36	38	40	42	44
$T_{vj}, °C$	- 60 ÷ 125						

**MAXIMUM ALLOWABLE RATINGS**

Symbols and parameters		Units	DF453-800	Conditions
$I_{FAV}$	Mean forward current	A	800 1070	$T_c=80 °C,$ $T_c=55 °C,$ 180° half-sine wave, 50 Hz
$I_{FRMS}$	RMS forward current	A	1255	$T_c=80 °C$
$I_{FSM}$	Surge forward current	kA	16 18	$T_{vj}=125 °C$ $T_{vj}= 25 °C$ tp=10 ms
$I^2t$	Limiting load integral	$kA^2s$	1280 1620	$T_{vj}=125 °C$ $T_{vj}= 25 °C$ UR=0
$U_{RRM}$	Repetitive peak reverse voltage	V	3200÷4400	$T_j \min \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz
$U_{RSM}$	Non-repetitive peak reverse voltage	V	3300÷4500	$T_j \min \leq T_{vj} \leq T_{jM}$ 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	2,9	$T_{vj}=25 °C, I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	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	0,7	
$I_{RRM}$	Repetitive peak reverse current	mA	100	$T_{vj}=125 °C,$ $U_R = U_{RRM}$

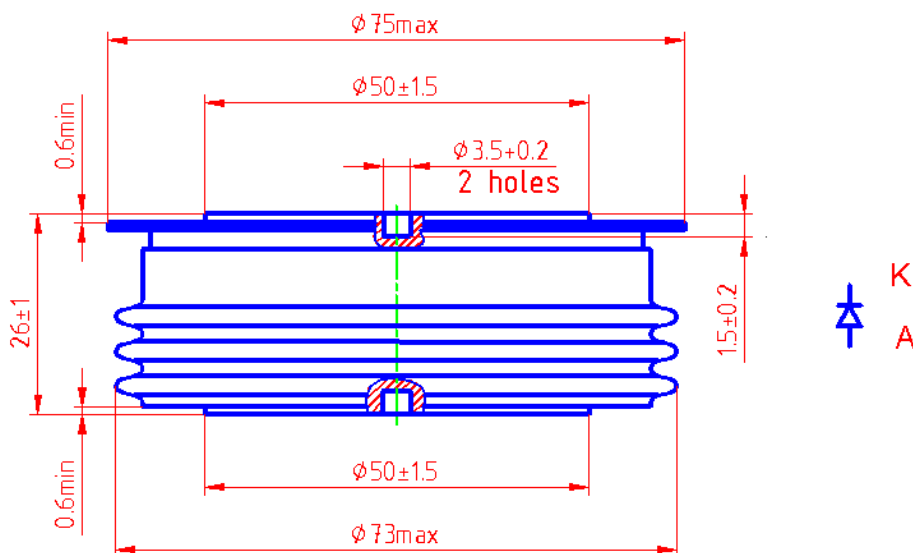
### CHARACTERISTICS

Symbols and parameters		Units	DF453-800	Conditions
trr	Reverse recovery time	μs	6,3 ÷ 10 5,0 ÷ 8,0 4,0 ÷ 6,3	Tvj=125°C, If=800A, Ur=100V diR / dt = 50A/μs diR / dt = 100A/μs diR / dt = 200A/μs
Qrr	Recovered charge	μC	600 ÷ 900 800 ÷ 1200 1000 ÷ 1600	Tvj=125°C, If=800A, Ur=100V diR / dt = 50A/μs diR / dt = 100A/μs diR / dt = 200A/μs
Rthjc	Thermal resistance junction to case	°C/W	0,02	Direct current, double side cooled

### ORDERING

	DF	453	800	40	C4	
	1	2	3	4	5	

1. Fast recovery diode
2. Design version
3. Mean forward current, A
4. Voltage code (40 = 4000 V)
5. Group of reverse recovery time ( A4 ≤ 10,0 μs; B4 ≤ 8,0 μs; C4 ≤ 6,3 μs)



Mounting force : 19 ÷ 28 kN  
Weight : 580 grams