



TET ESTEL AS
ESTONIA

September
2015

Series
DF353-1000

Fast Recovery Press-Pack
Diode
Type DF353-1000

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

Maximum mean forward current	I_{FAV}				1000 A	
Maximum repetitive peak reverse voltage	U_{RRM}				2400 ÷ 3200 V	
Reverse recovery time	trr				4,0; 5,0; 6,3 μs	
U_{RRM}, V	2400	2600	2800	3000	3200	
Voltage code	24	26	28	30	32	
$T_{vj}, °C$	- 60 ÷ 125					

MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	DF353-1000	Conditions	
I_{FAV}	Mean forward current	A	1000 1465	$T_c=80 °C,$ $T_c=55 °C,$ 180° half-sine wave, 50 Hz	
I_{FRMS}	RMS forward current	A	1570	$T_c=80 °C$	
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	2400÷3200	$T_j \min \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz	
U_{RSM}	Non-repetitive peak reverse voltage	V	2500÷3300	$T_j \min \leq T_{vj} \leq T_{jM}$ 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	1,3	$T_{vj}=125 °C$ $1,57 I_{FAV} < I_F < 4,71 I_{FAV}$
R_T	Forward slope resistance	$m\Omega$	0,3	
I_{RRM}	Repetitive peak reverse current	mA	75	$T_{vj}=125 °C,$ $U_R= U_{RRM}$

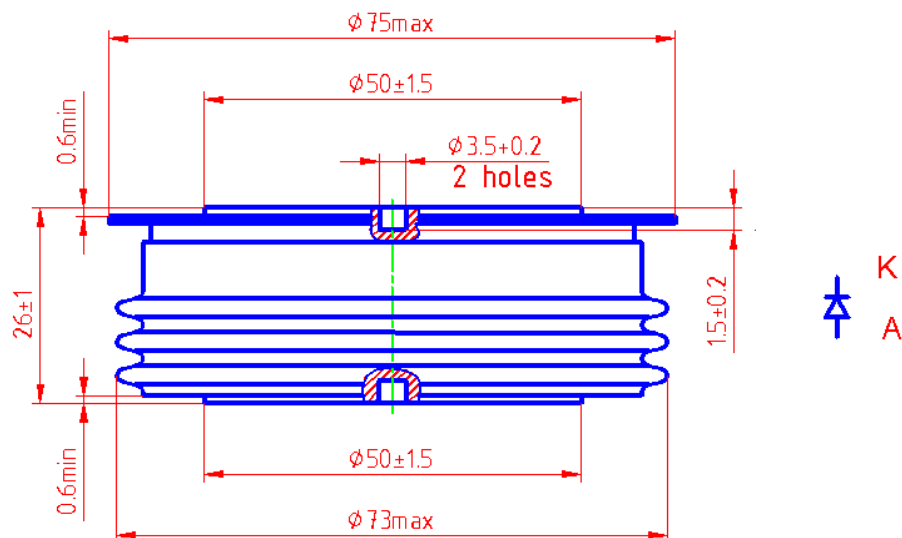
CHARACTERISTICS

Symbols and parameters		Units	DF353-1000	Conditions
trr	Reverse recovery time	μs	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	μC	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	353	1000	30	2	
	1	2	3	4	5	

1. Fast recovery diode.
2. Design version.
3. Mean forward current, A.
4. Voltage code (30 = 3000 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