



**THE DATASHEET OF
DF133-500-16_14MM**





TET ESTEL AS
ESTONIA

September
2015

Series
DF133-500

Fast Recovery Press-Pack
Diode
Type DF133-500

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

Maximum mean forward current	I_{FAV}						500 A			
Maximum repetitive peak reverse voltage	U_{RRM}						800 ÷ 1600 V			
Reverse recovery time	t_{rr}						2,0; 2,5; 3,2 μs			
U_{RRM}, V	800	900	1000	1100	1200	1300	1400	1500	1600	
Voltage code	8	9	10	11	12	13	14	15	16	
$T_{vj}, °C$	- 60 ÷ 125									

MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	DF133-500	Conditions	
I_{FAV}	Mean forward current	A	500 750	$T_c=90°C$, $T_c=55°C$, 180° half-sine wave, 50 Hz	
I_{FRMS}	RMS forward current	A	785	$T_c=90°C$	
I_{FSM}	Surge forward current	kA	12,0 13,0	$T_{vj}=125°C$ $T_{vj}=25°C$	tp=10 ms $U_R=0$
I^2t	Limiting load integral	kA ² s	720 845	$T_{vj}=125°C$ $T_{vj}=25°C$	
U_{RRM}	Repetitive peak reverse voltage	V	800÷1600	$T_j \min \leq T_{vj} \leq T_{jM}$ 180° half-sine wave, 50 Hz	
U_{RSM}	Non-repetitive peak reverse voltage	V	900÷1700	$T_j \min \leq T_{vj} \leq T_{jM}$ 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	1,9	$T_{vj}=25°C$, $I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	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	0,4	
I_{RRM}	Repetitive peak reverse current	mA	40	$T_{vj}=125°C$, $U_R = U_{RRM}$

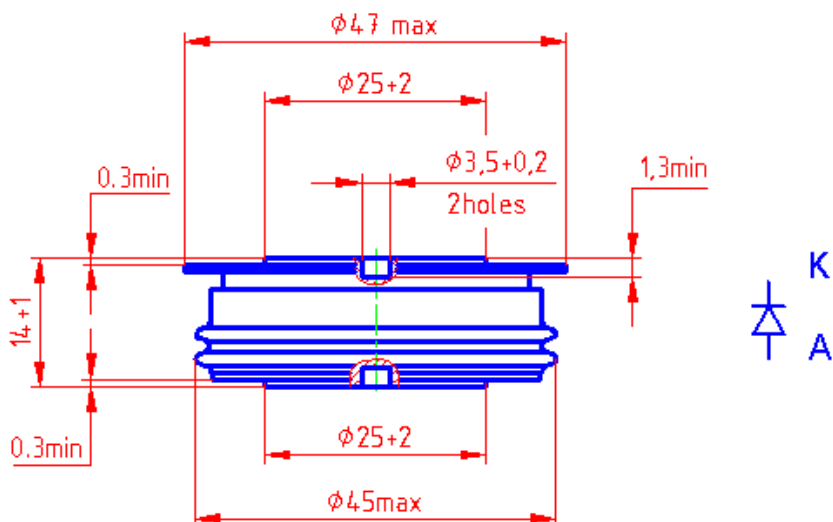
CHARACTERISTICS

Symbols and parameters		Units	DF133-500	Conditions
trr	Reverse recovery time	μs	2,0 ÷ 3,2 2,0 ÷ 2,5 1,6 ÷ 2,0	$T_{vj}=125^{\circ}\text{C}$, $I_F=500\text{A}$, $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$ $di_R / dt = 200\text{A}/\mu\text{s}$
Qrr	Recovered charge	μC	70 ÷ 100 100 ÷ 130 130 ÷ 190	$T_{vj}=125^{\circ}\text{C}$, $I_F=500\text{A}$, $U_R=100\text{V}$ $di_R / dt = 50\text{A}/\mu\text{s}$ $di_R / dt = 100\text{A}/\mu\text{s}$ $di_R / dt = 200\text{A}/\mu\text{s}$
Rthjc	Thermal resistance junction to case	$^{\circ}\text{C}/\text{W}$	0,04	Direct current, double side cooled

ORDERING

	DF	133	500	14	4	
	1	2	3	4	5	



1. Fast recovery diode
2. Design version
3. Mean forward current, A
4. Voltage code (14 = 1400 V)
5. Group of reverse recovery time (3 ≤ 3,2 μs ; 4 ≤ 2,5 μs ; 5 ≤ 2,0 μs)



Mounting force : 8 ÷ 12 kN
Weight : 120 grams

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