



**THE DATASHEET OF  
D433-250-46\_26MM**





**TET ESTEL AS**  
ESTONIA

**August**  
**2014**

**Series**  
**DF433-250**

**Fast Recovery Press-Pack**  
**Diode**  
**Type DF433-250**

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>250 A</b>		
Maximum repetitive peak reverse voltage					$U_{RRM}$	<b>3200 ÷ 4600 V</b>		
Reverse recovery time					<b>trr</b>	<b>4,0; 5,0; 6,3 <math>\mu</math>s</b>		
$U_{RRM}$ , V	3200	3400	3600	3800	4000	4200	4400	4600
Voltage code	32	34	36	38	40	42	44	46
$T_{vj}$ , °C	- 60 ÷ 125							

**MAXIMUM ALLOWABLE RATINGS**

Symbols and parameters		Units	DF433-250	Conditions	
$I_{FAV}$	Mean forward current	A	250 520	$T_c=100^\circ\text{C}$ , $T_c=55^\circ\text{C}$ , 180° half-sine wave, 50 Hz	
$I_{FRMS}$	RMS forward current	A	392	$T_c=100^\circ\text{C}$	
$I_{FSM}$	Surge forward current	kA	6,0 7,0	$T_{vj}=125^\circ\text{C}$ $T_{vj}=25^\circ\text{C}$	tp=10 ms $U_R=0$
$I^2t$	Limiting load integral	$\text{kA}^2\text{s}$	180 245	$T_{vj}=125^\circ\text{C}$ $T_{vj}=25^\circ\text{C}$	
$U_{RRM}$	Repetitive peak reverse voltage	V	3200÷4600	$T_j \text{ min} \leq T_{vj} \leq T_{jm}$ 180° half-sine wave, 50 Hz	
$U_{RSM}$	Non-repetitive peak reverse voltage	V	3300÷4700	$T_j \text{ min} \leq T_{vj} \leq T_{jm}$ 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	2,5	$T_{vj}=25^\circ\text{C}$ , $I_{FM}=3,14 I_{FAV}$
$U_{F(TO)}$	Threshold voltage	V	1,45	$T_{vj}=125^\circ\text{C}$ $1,57 I_{FAV} < I_F < 4,71 I_{FAV}$
$R_T$	Forward slope resistance	m $\Omega$	1,51	
$I_{RRM}$	Repetitive peak reverse current	mA	50	$T_{vj}=125^\circ\text{C}$ , $U_R = U_{RRM}$

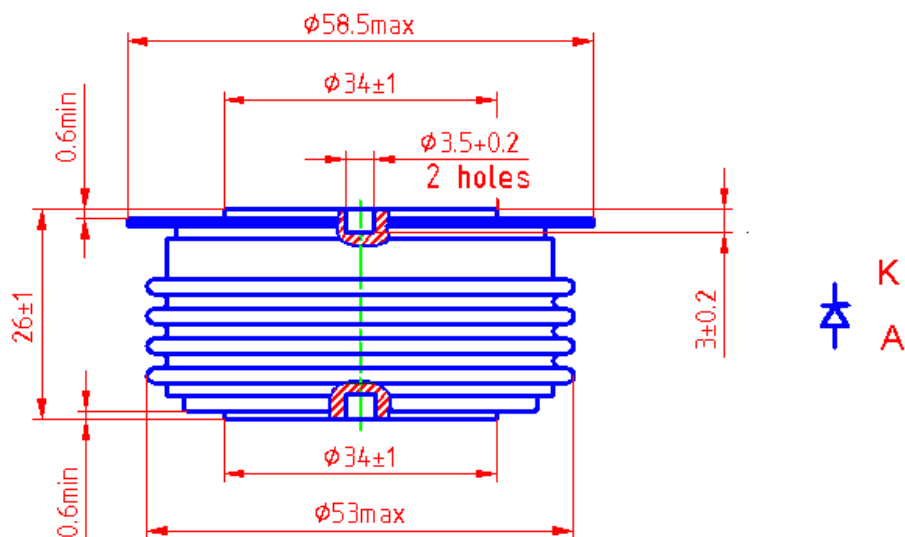
## CHARACTERISTICS

Symbols and parameters		Units	DF433-250	Conditions
trr	Reverse recovery time	μs	4,0 ÷ 6,3 3,2 ÷ 5,0 2,5 ÷ 4,0	Tvj=125°C, IF=250A, UR=100V diR / dt = 50A/μs diR / dt = 100A/μs diR / dt = 200A/μs
Qrr	Recovered charge	μC	230 ÷ 330 270 ÷ 430 300 ÷ 500	Tvj=125°C, IF=250A, UR=100V diR / dt = 50A/μs diR / dt = 100A/μs diR / dt = 200A/μs
Rthjc	Thermal resistance junction to case	°C/W	0,04	Direct current, double side cooled

## ORDERING

	DF	433	250	34	1	
	1	2	3	4	5	


1. Fast recovery diode
2. Design version
3. Mean forward current, A
4. Voltage code (34 = 3400 V)
5. Group of reverse recovery time ( $C4 \leq 6,3 \mu s$ ;  $1 \leq 5,0 \mu s$ ;  $2 \leq 4,0 \mu s$ )



Mounting force : 10 ÷ 15 kN  
Weight : 250 grams

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