



**TET ESTEL AS**  
ESTONIA

**October**  
**2015**

**Series**  
**D453-1000**

**Rectifier Press-Pack**  
**Diode**  
**Type D453-1000**

Designed for rectifiers and industrial applications

Maximum mean forward current	$I_{FAV}$					<b>1000 A</b>
Maximum repetitive peak reverse voltage	$U_{RRM}$					<b>3400 ÷ 4400 V</b>
Reverse recovery time	$t_{rr}$ (typ)					<b>50 <math>\mu</math>s</b>
$U_{RRM}$ , V	3400	3600	3800	4000	4200	4400
Voltage code	34	36	38	40	42	44
$T_{vj}$ , °C	- 60 ÷ 150					

**MAXIMUM ALLOWABLE RATINGS**

Symbols and parameters		Units	D453-1000	Conditions
$I_{FAV}$	Mean forward current	A	1000 2100	$T_c=115\text{ }^\circ\text{C}$ , $T_c=55\text{ }^\circ\text{C}$ , 180° half-sine wave, 50 Hz
$I_{FRMS}$	RMS forward current	A	1570	$T_c=115\text{ }^\circ\text{C}$
$I_{FSM}$	Surge forward current	kA	20 21	$T_{vj}=150\text{ }^\circ\text{C}$ $T_{vj}=25\text{ }^\circ\text{C}$ tp=10 ms
$I^2t$	Limiting load integral	$\text{kA}^2\text{s}$	2000 2205	$T_{vj}=150\text{ }^\circ\text{C}$ $T_{vj}=25\text{ }^\circ\text{C}$ $U_R=0$
$U_{RRM}$	Repetitive peak reverse voltage	V	3400÷4400	$T_{j\text{ min}} \leq T_{vj} \leq T_{j\text{ M}}$ 180° half-sine wave, 50 Hz
$U_{RSM}$	Non-repetitive peak reverse voltage	V	3500÷4500	$T_{j\text{ min}} \leq T_{vj} \leq T_{j\text{ M}}$ 180° half-sine wave tp=10 ms, Single pulse
$T_{stg}$	Storage temperature	°C	-60÷80	
$T_{vj}$	Junction temperature	°C	-60÷150	

**CHARACTERISTICS**

$U_{FM}$	Peak forward voltage	V	1,9	$T_{vj}=25\text{ }^\circ\text{C}$ , $I_{TM}=3,14 I_{TAV}$
$U_{F(TO)}$	Threshold voltage	V	0,95	$T_{vj}=150\text{ }^\circ\text{C}$ $1,57 I_{TAV} < I_T < 4,71 I_{TAV}$
$R_T$	Forward slope resistance	$\text{m}\Omega$	0,25	
$I_{RRM}$	Repetitive peak reverse current	mA	50	$T_{vj}=150\text{ }^\circ\text{C}$ , $U_R = U_{RRM}$

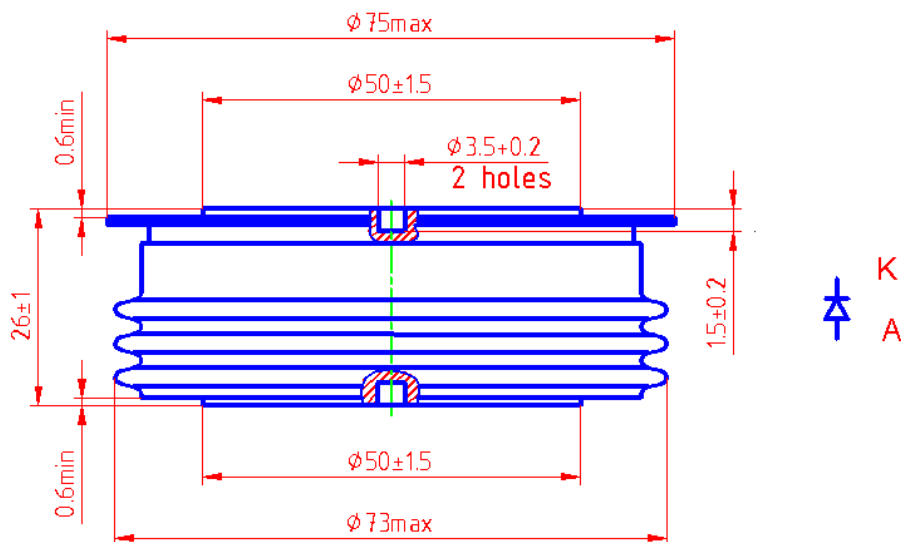
### CHARACTERISTICS

Symbols and parameters		Units	D453-1000	Conditions
Q <sub>rr</sub>	Recovered charge (typ)	μC	4500	T <sub>vj</sub> =150°C I <sub>F</sub> =1000 A di <sub>R</sub> /dt =10 A/μs U <sub>R</sub> =100V
t <sub>rr</sub>	Reverse recovery time (typ)	μs	50	
I <sub>rrm</sub>	Peak reverse recovery current (typ)	A	180	
R <sub>thjc</sub>	Thermal resistance junction to case	°C/W	0,02	Direct current, double side cooled

### ORDERING

	D	453	1000	40	
	1	2	3	4	

1. Diode
2. Design version
3. Mean forward current, A
4. Voltage code (40=4000 V)



Mounting force : 19 ÷ 28 kN

Weight : 580 grams