



PROTON-ELECTROTEX RUSSIA

High power cycling capability
Low on-state and switching losses
Optimized for line frequency rectifiers
Designed for traction and industrial applications

Rectifier Diode Chip Type DR24-320-28

Maximum allowable average forward current ¹⁾			I _{FAV}	320 A	
Repetitive peak reverse voltage			V _{RRM}	2000...2800 V	
V _{RRM} , V	2000	2200	2400	2600	2800
Voltage code	20	22	24	26	28
T _j , °C	-60...+175				

MAXIMUM ALLOWABLE RATINGS

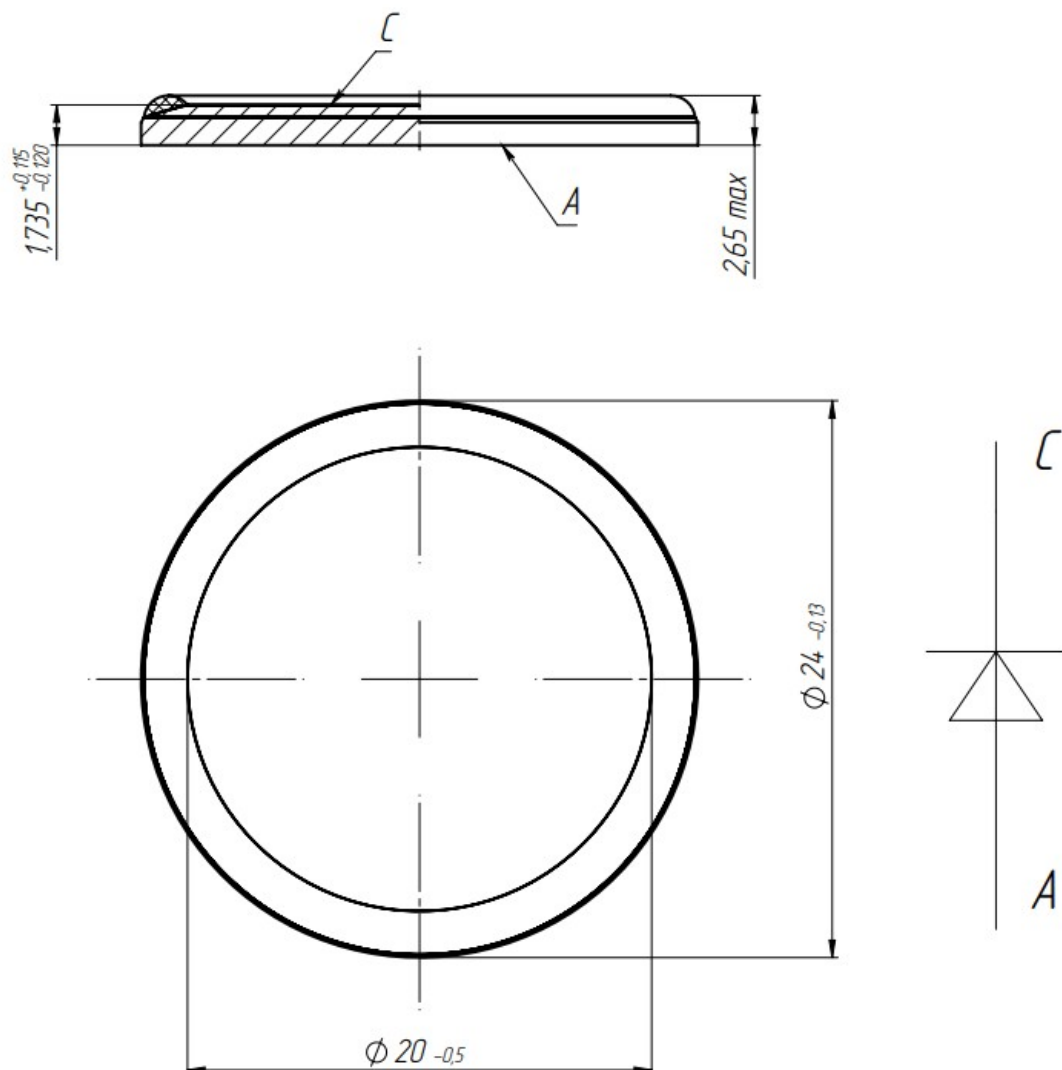
Symbols and parameters		Units	Values	Test conditions	
ON-STATE					
I _{FAV}	Maximum allowable average forward current ¹⁾	A	320 454	T _c =130 °C; Double side cooled; T _c =100 °C; Double side cooled; 180° half-sine wave; 50 Hz	
I _{FRMS}	RMS forward current ¹⁾	A	502	T _c =130 °C; Double side cooled; 180° half-sine wave; 50 Hz	
I _{FSM}	Surge forward current ¹⁾	kA	5.5 6.3	T _j =T _{j max} T _j =25 °C	180° half-sine wave; t _p =10 ms; single pulse; V _R =0 V;
			6.0 7.0	T _j =T _{j max} T _j =25 °C	180° half-sine wave; t _p =8.3 ms; single pulse; V _R =0 V;
I ² t	Safety factor ¹⁾	A ² s·10 ³	150 190	T _j =T _{j max} T _j =25 °C	180° half-sine wave; t _p =10 ms; single pulse; V _R =0 V;
			140 200	T _j =T _{j max} T _j =25 °C	180° half-sine wave; t _p =8.3 ms; single pulse; V _R =0 V;
BLOCKING					
V _{RRM}	Repetitive peak reverse voltages	V	2000...2800	T _{j min} < T _j < T _{j max} ; 180° half-sine wave; 50 Hz	
V _{RSM}	Non-repetitive peak reverse voltages	V	2100...2900	T _{j min} < T _j < T _{j max} ; 180° half-sine wave; single pulse	
V _R	Reverse continuous voltages	V	0.6·V _{RRM}	T _j =T _{j max} ;	
THERMAL					
T _{stg}	Storage temperature	°C	−60...+50		
T _j	Operating junction temperature	°C	−60...+175		
MECHANICAL					
F	Mounting force ¹⁾	kN	5.0...7.0		

CHARACTERISTICS

Symbols and parameters		Units	Values	Conditions	
ON-STATE					
V _{FM}	Peak forward voltage ¹⁾ , max	V	1.90	T _j =25 °C; I _{FM} =1005 A	
V _{F(TO)}	Forward threshold voltage, max	V	1.070	T _j =T _{j max} ;	
r _T	Forward slope resistance ¹⁾ , max	mΩ	1.158	0.5 π I _{FAV} < I _T < 1.5 π I _{FAV}	
BLOCKING					
I _{RRM}	Repetitive peak reverse current, max	mA	35	T _j =T _{j max} ; V _R =V _{RRM}	
THERMAL					
R _{thjc}	Thermal resistance, junction to case ¹⁾ , max	°C/W	0.070	Direct current	Double side cooled
R _{thjc-A}			0.154		Anode side cooled
R _{thjc-K}			0.126		Cathode side cooled
MECHANICAL					
m	Weight, max	g	6.90		

PART NUMBERING GUIDE					NOTES
DR	24	320	28	1) Depending on the specifications of the housing used. The specified values are relevant when using the Proton-Electrotex D.A1 housing.	
1	2	3	4		
1. Rectifier Diode Chip					
2. Maximum diameter, mm					
3. Average forward current, A					
4. Voltage code					

OVERALL DIMENSIONS



All dimensions in millimeters

The information contained herein is confidential and protected by Copyright.
In the interest of product improvement, Proton-Electrotex reserves the right to change data sheet without notice.