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 DR40-800-44

Maximum allowable average forward current[1)]			I_{FAV}	800 A			
Repetitive peak reverse voltage			V_{RRM}	3200...4400 V			
V_{RRM}, V	3200	3400	3600	3800	4000	4200	4400
Voltage code	32	34	36	38	40	42	44
T_j, °C	–60...+150						

MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	Values	Test conditions	
ON-STATE					
I_{FAV}	Maximum allowable average forward current[1)]	A	800 813	T_c=101 °C; Double side cooled; T_c=100 °C; Double side cooled; 180° half-sine wave; 50 Hz	
I_{FRMS}	RMS forward current[1)]	A	1256	T_c=101 °C; Double side cooled; 180° half-sine wave; 50 Hz	
I_{FSM}	Surge forward current[1)]	kA	13.0 15.0	T_j=$T_{j\,max}$ T_j=25 °C	180° half-sine wave; t_p=10 ms; single pulse; V_R=0 V
			14.0 16.0	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^2t	Safety factor[1)]	$A^2s\cdot10^3$	840 1120	T_j=$T_{j\,max}$ T_j=25 °C	180° half-sine wave; t_p=10 ms; single pulse; V_R=0 V
			810 1060	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	3200...4400	$T_{j\,min}$< T_j <$T_{j\,max}$; 180° half-sine wave; 50 Hz	
V_{RSM}	Non-repetitive peak reverse voltages	V	3300...4500	$T_{j\,min}$< T_j <$T_{j\,max}$; 180° half-sine wave; single pulse	
V_R	Reverse continuous voltages	V	$0.6\cdot V_{RRM}$	T_j=$T_{j\,max}$	
THERMAL					
T_{stg}	Storage temperature	°C	–60...+50		
T_j	Operating junction temperature	°C	–60...+150		
MECHANICAL					
F	Mounting force[1)]	kN	14.0...16.0		

CHARACTERISTICS

Symbols and parameters		Units	Values	Conditions	
ON-STATE					
V_{FM}	Peak forward voltage[1)], max	V	2.00	T_j=25 °C; I_{FM}=2512 A	
$V_{F(TO)}$	Forward threshold voltage, max	V	0.949	$T_j=T_{j\,max}$; $0.5\ \pi\ I_{FAV} < I_T < 1.5\ \pi\ I_{FAV}$	
r_T	Forward slope resistance[1)], max	mΩ	0.552		
BLOCKING					
I_{RRM}	Repetitive peak reverse current, max	mA	70	$T_j=T_{j\,max}$; $V_R=V_{RRM}$	
THERMAL					
R_{thjc}	Thermal resistance, junction to case[1)], max	°C/W	0.030	Direct current	Double side cooled
R_{thjc-A}			0.066		Anode side cooled
R_{thjc-K}			0.054		Cathode side cooled
MECHANICAL					
m	Weight, max	g	27.00		

PART NUMBERING GUIDE

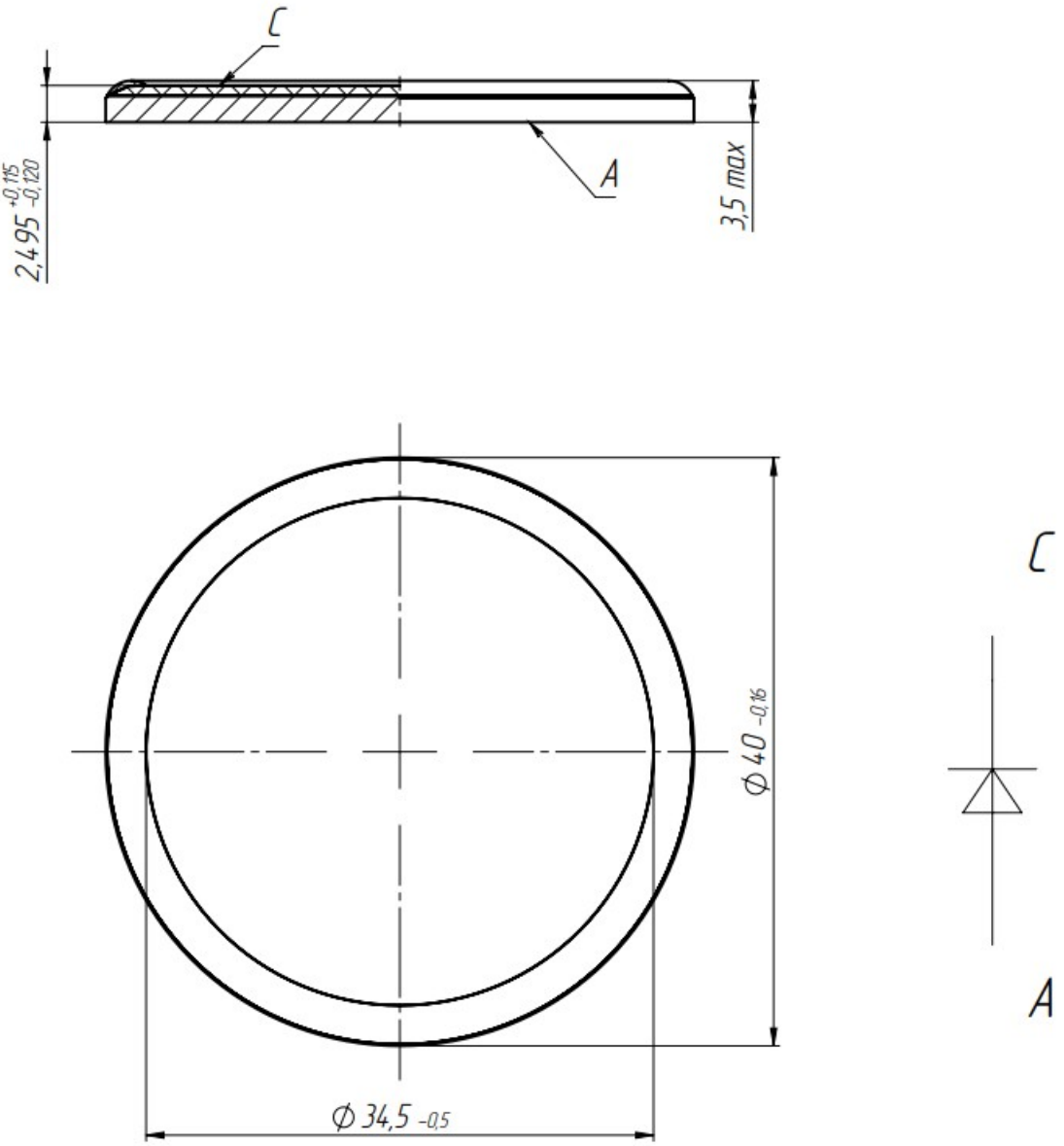
DR	40	800	44
1	2	3	4

1. Rectifier Diode Chip
2. Maximum diameter, mm
3. Average forward current, A
4. Voltage code

NOTES

[1)] Depending on the specifications of the housing used. The specified values are relevant when using the Proton-Electrotex D.C2 housing.

OVERALL DIMENSIONS



All dimensions in millimeters

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