



Optimum power handling  
Low on-state and switching losses  
Designed for traction and industrial applications

**Rectifier Stud Diode**  
**Type D161-200-18**

Mean on-state current	$I_{FAV}$		200 A		
Repetitive peak reverse voltage	$V_{RRM}$		1000 ÷ 1800V		
$V_{RRM}, V$	1000	1200	1400	1600	1800
Voltage code	10	12	14	16	18
$T_j, ^\circ C$	- 60 ÷ 190				

**MAXIMUM ALLOWABLE RATINGS**

Symbols and parameters		Units	Values	Test conditions	
<b>ON-STATE</b>					
$I_{FAV}$	Average forward current	A	200 475	$T_c=163\text{ }^\circ C$ ; $T_c=100\text{ }^\circ C$ ; 180° half-sine wave; 50 Hz	
$I_{FRMS}$	RMS forward current	A	314	$T_c=163\text{ }^\circ C$ ; 180° half-sine wave; 50 Hz	
$I_{FSM}$	Surge forward current	kA	5.5 6.3	$T_j=T_{j\max}$ $T_j=25\text{ }^\circ C$	180° half-sine wave; 50 Hz ( $t_p=10\text{ ms}$ ); single pulse; $V_R=0\text{ V}$ ;
			6.0 6.9	$T_j=T_{j\max}$ $T_j=25\text{ }^\circ C$	180° half-sine wave; 60 Hz ( $t_p=8.3\text{ ms}$ ); single pulse; $V_R=0\text{ V}$ ;
$I^2t$	Safety factor	$A^2s\cdot 10^3$	150 195	$T_j=T_{j\max}$ $T_j=25\text{ }^\circ C$	180° half-sine wave; 50 Hz ( $t_p=10\text{ ms}$ ); single pulse; $V_R=0\text{ V}$ ;
			145 195	$T_j=T_{j\max}$ $T_j=25\text{ }^\circ C$	180° half-sine wave; 60 Hz ( $t_p=8.3\text{ ms}$ ); single pulse; $V_R=0\text{ V}$ ;
<b>BLOCKING</b>					
$V_{RRM}$	Repetitive peak reverse voltages	V	1000÷1800	$T_{j\min} < T_j < T_{j\max}$ ; 180° half-sine wave; 50 Hz;	
$V_{RSM}$	Non-repetitive peak reverse voltages	V	1100÷1900	$T_{j\min} < T_j < T_{j\max}$ ; 180° half-sine wave; 50 Hz;single pulse;	
$V_R$	Reverse continuous voltages	V	$0.75\cdot V_{RRM}$	$T_j=T_{j\max}$ ;	
<b>THERMAL</b>					
$T_{stg}$	Storage temperature	$^\circ C$	- 60 ÷ 190		
$T_j$	Operating junction temperature	$^\circ C$	- 60 ÷ 190		
<b>MECHANICAL</b>					
M	Tightening torque	Nm	20 ÷ 30		
a	Acceleration	$m/s^2$	100		

## CHARACTERISTICS

Symbols and parameters		Units	Values	Conditions
<b>ON-STATE</b>				
$V_{FM}$	Peak forward voltage, max	V	1.35	$T_j=25\text{ }^\circ\text{C}; I_{FM}=628\text{ A}$
$V_{F(TO)}$	Forward threshold voltage, max	V	0.90	$T_j=T_{j\text{ max}};$ $0.5\pi I_{FAV} < I_T < 1.5\pi I_{FAV}$
$r_T$	Forward slope resistance, max	m $\Omega$	0.850	
<b>BLOCKING</b>				
$I_{RRM}$	Repetitive peak reverse current, max	mA	50	$T_j=T_{j\text{ max}};$ $V_R=V_{RRM}$
<b>THERMAL</b>				
$R_{thjc}$	Thermal resistance, junction to case, max	$^\circ\text{C/W}$	0.1000	Direct current
<b>MECHANICAL</b>				
w	Weight, typ	g	250	
$D_s$	Surface creepage distance	mm (inch)	12.4 (4.882)	
$D_a$	Air strike distance	mm (inch)	12.4 (4.882)	

### PART NUMBERING GUIDE

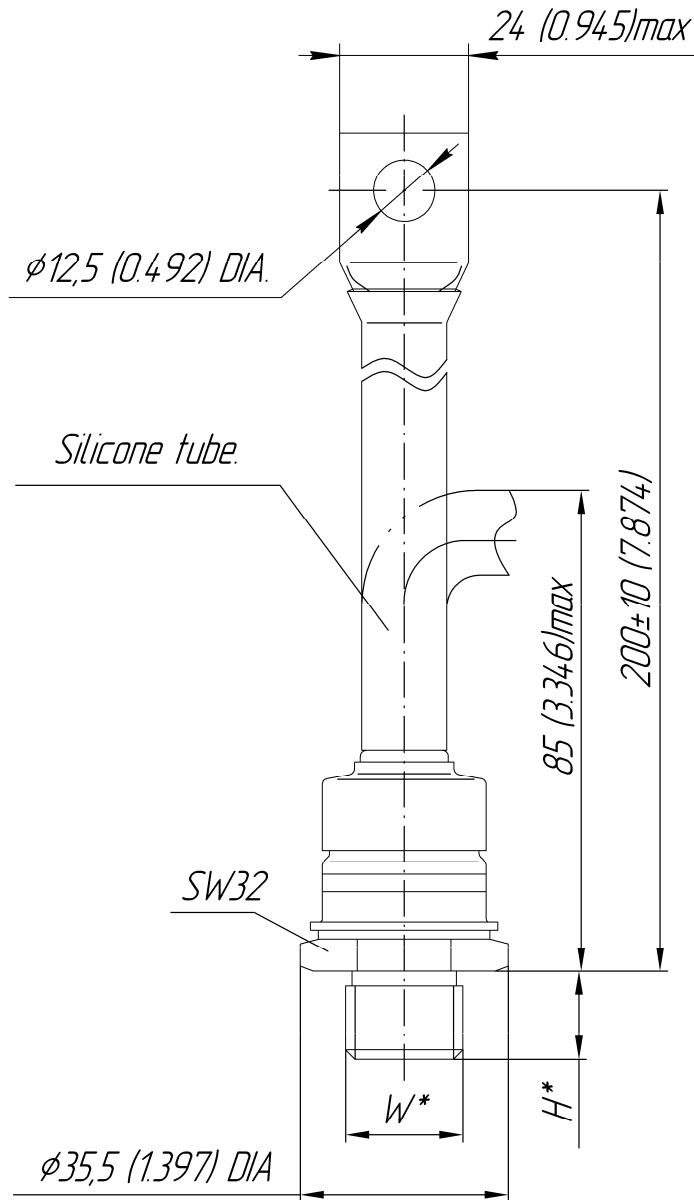
D	161	200		18	N
1	2	3	4	5	6

1. D — Rectifier Diode
2. Design version
3. Average forward current, A
4. Polarity: X – Cathode to Stud; Anode to Stud – no symbol
5. Voltage code
6. Ambient conditions: N – normal; T – tropical

### JSC "PROTON-ELECTROTEX"

19 Leskova, 302027, Orel, RUSSIA, Fax : +7 (4862) 41-00-56 Phones : +7 (4862) 43-41-39 / 43-41-40

E-mail: [eletex@eletex.ru](mailto:eletex@eletex.ru) / [eltex@orel.ru](mailto:eltex@orel.ru); I-net: [www.eletex.ru](http://www.eletex.ru)



Type of screw	W	H
Metric Screw Type B	M20x1,5	16
Metric Screw Type A (upon request)	M16x1,5	13

Polarity	Example of code designation	Reference designation	Colors	
			Anode	Cathode
Normal	Anode to stud	D161-200-18	-	Red tube
Reverse	Cathode to stud	D161-200X-18	Black tube	-

All dimensions in millimeters (inches)

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.

**JSC "PROTON-ELECTROTEX"**

19 Leskova, 302027, Orel, RUSSIA, Fax : +7 (4862) 41-00-56 Phones : +7 (4862) 43-41-39 / 43-41-40

E-mail: [eletex@eletex.ru](mailto:eletex@eletex.ru) / [eltex@orel.ru](mailto:eltex@orel.ru); I-net: [www.eletex.ru](http://www.eletex.ru)