



Optimum power handling  
Low switching losses  
Low reverse recovery charge  
High power cycling capability

**Fast Recovery Stud Diode  
Type DF261-320-14**

Mean on-state current	$I_{FAV}$	320 A		
Repetitive peak reverse voltage	$V_{RRM}$	800 ÷ 1400 V		
Reverse recovery time	$t_{rr}$	3.2 ÷ 6.3 μs		
$V_{RRM}$ , V	800	1000	1200	1400
Voltage code	8	10	12	14
$T_j$ , °C	- 60 ÷ 150			

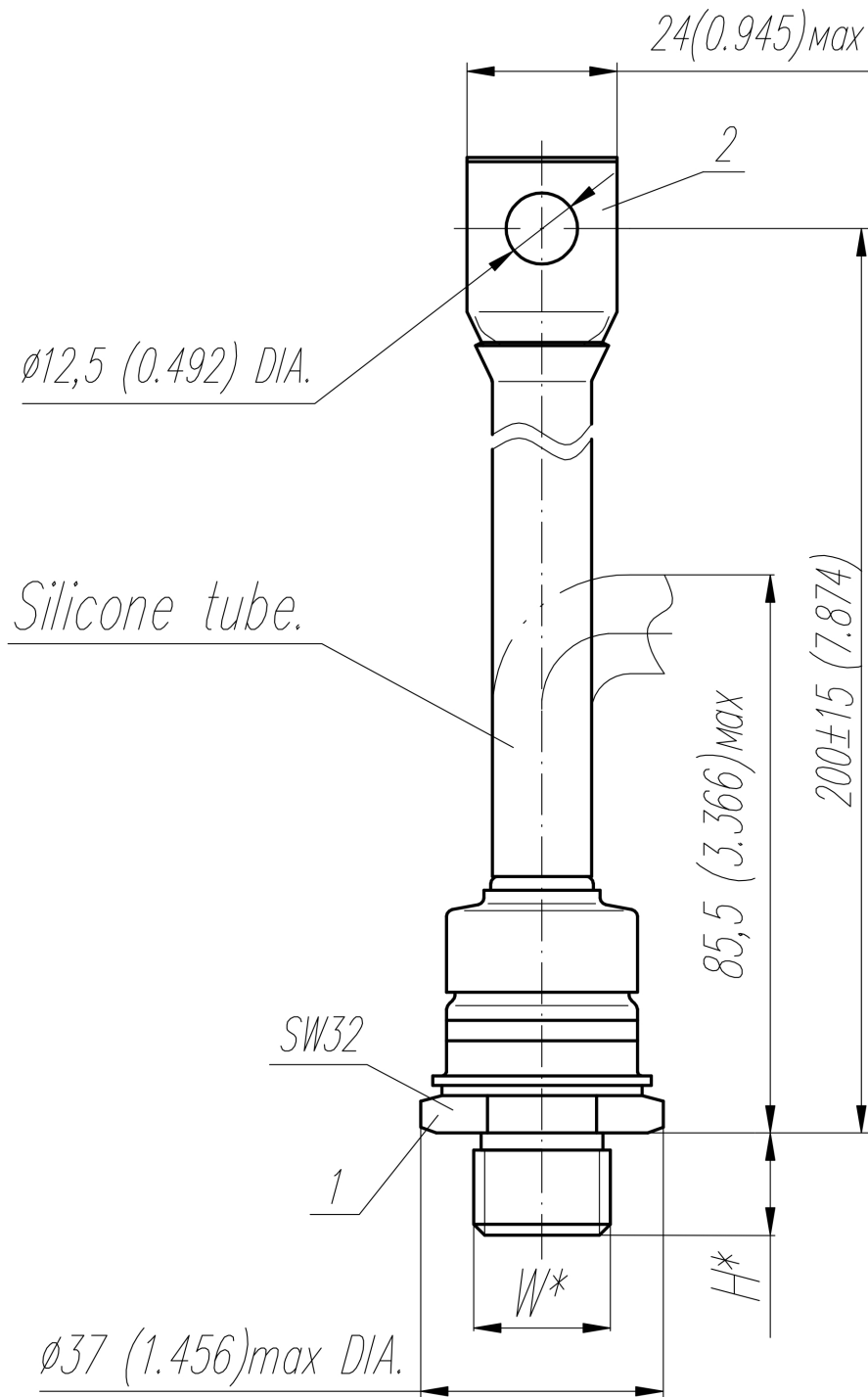
**MAXIMUM ALLOWABLE RATINGS**

Symbols and parameters		Units	Values	Test conditions
<b>ON-STATE</b>				
$I_{FAV}$	Average forward current	A	320 445	$T_c=90\text{ °C};$ $T_c=55\text{ °C};$ 180° half-sine wave; 50 Hz
$I_{FRMS}$	RMS forward current	A	503	$T_c=90\text{ °C};$ 180° half-sine wave; 50 Hz
$I_{FSM}$	Surge forward current	kA	5.3 6.1	$T_j=T_{j\max}$ $T_j=25\text{ °C}$ 180° half-sine wave; 50 Hz ( $t_p=10\text{ ms}$ ); single pulse; $V_R=0\text{ V};$
			6.0 6.9	$T_j=T_{j\max}$ $T_j=25\text{ °C}$ 180° half-sine wave; 60 Hz ( $t_p=8.3\text{ ms}$ ); single pulse; $V_R=0\text{ V};$
$I^2t$	Safety factor	$A^2s \cdot 10^3$	140 185	$T_j=T_{j\max}$ $T_j=25\text{ °C}$ 180° half-sine wave; 50 Hz ( $t_p=10\text{ ms}$ ); single pulse; $V_R=0\text{ V};$
			145 195	$T_j=T_{j\max}$ $T_j=25\text{ °C}$ 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	800÷1400	$T_{j\min} < T_j < T_{j\max};$ 180° half-sine wave; 50 Hz;
$V_{RSM}$	Non-repetitive peak reverse voltages	V	900÷1500	$T_{j\min} < T_j < T_{j\max};$ 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	°C	- 60 ÷ 50	
$T_j$	Operating junction temperature	°C	- 60 ÷ 150	
<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	1.70	$T_j=25\text{ }^\circ\text{C}; I_{FM}=1005\text{ A}$
$V_{F(TO)}$	Forward threshold voltage, max	V	1.20	$T_j=T_{j\text{ max}};$
$r_T$	Forward slope resistance, max	m $\Omega$	0.850	$0.5\pi I_{FAV} < I_T < 1.5\pi I_{FAV}$
<b>BLOCKING</b>				
$I_{RRM}$	Repetitive peak reverse current, max	mA	40	$T_j=T_{j\text{ max}};$ $V_R=V_{RRM}$
<b>SWITCHING</b>				
$Q_{rr}$	Total recovered charge, max	$\mu\text{C}$	300	$T_j=T_{j\text{ max}}; I_{FM}=320\text{ A};$
$t_{rr}$	Reverse recovery time, max	$\mu\text{s}$	3.2 ÷ 6.3	$di_R/dt=-100\text{ A}/\mu\text{s};$
$I_{rrM}$	Peak reverse recovery current, typ	A	188	$V_R=100\text{ V};$
<b>THERMAL</b>				
$R_{thjc}$	Thermal resistance, junction to case, max	$^\circ\text{C}/\text{W}$	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)	

<b>PART NUMBERING GUIDE</b>							<b>GROUP OF RECOVERY TIME</b>				
DF	261	320		14	K4	N	Group Symbol	K4	H4	E4	C4
1	2	3	4	5	6	7	$t_{rr}, \mu\text{s}$	3.2	4	5	6.3
1. Fast recovery diode 2. Design version 3. Average forward current, A 4. Polarity: X – Cathode to Stud; Anode to Stud – no symbol 5. Voltage code 6. Group of reverse recovery time 7. Ambient conditions: N – normal; T – tropical											



Type of screw	W	H
Metric Screw Type A	M16x1,5 – 8g	13
Metric Screw Type B (upon request)	M20x1,5 – 8g	15

Polarity	Example of code designation	Reference designation	Colors	
			Anode	Cathode
Normal	Anode to stud	DF261-320-14	-	Red tube
Reverse	Cathode to stud	DF261-320X-14	Black tube	-

All dimensions in millimeters (inches)

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