

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

Fast Recovery Stud Diode Type DF261-250-16

Mean on-state current	I_{FAV}		250 A		
Repetitive peak reverse voltage	V_{RRM}		800 ÷ 1600 V		
Reverse recovery time	t_{rr}		2.5 ÷ 5 μ s		
V_{RRM} , V	800	1000	1200	1400	1600
Voltage code	8	10	12	14	16
T_j , °C	- 60 ÷ 150				

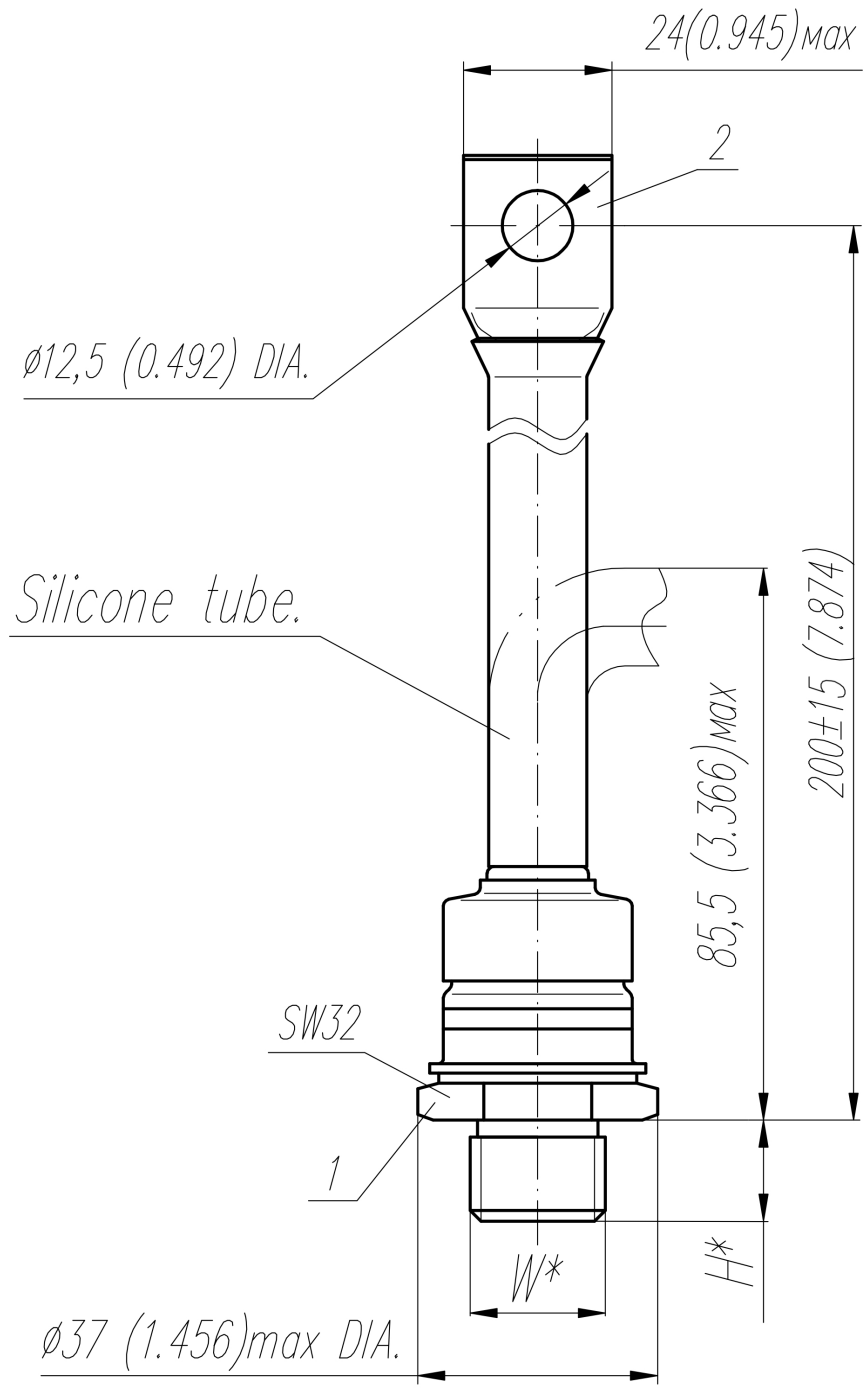
MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	Values	Test conditions
ON-STATE				
I_{FAV}	Average forward current	A	250 405	$T_c=101$ °C; $T_c=55$ °C; 180° half-sine wave; 50 Hz
I_{FRMS}	RMS forward current	A	392	$T_c=101$ °C; 180° half-sine wave; 50 Hz
I_{FSM}	Surge forward current	kA	4.5 5.2	$T_j=T_{j\max}$ $T_j=25$ °C 180° half-sine wave; 50 Hz ($t_p=10$ ms); single pulse; $V_R=0$ V;
			5.0 5.8	$T_j=T_{j\max}$ $T_j=25$ °C 180° half-sine wave; 60 Hz ($t_p=8.3$ ms); single pulse; $V_R=0$ V;
I^2t	Safety factor	$A^2s \cdot 10^3$	100 135	$T_j=T_{j\max}$ $T_j=25$ °C 180° half-sine wave; 50 Hz ($t_p=10$ ms); single pulse; $V_R=0$ V;
			105 140	$T_j=T_{j\max}$ $T_j=25$ °C 180° half-sine wave; 60 Hz ($t_p=8.3$ ms); single pulse; $V_R=0$ V;
BLOCKING				
V_{RRM}	Repetitive peak reverse voltages	V	800÷1600	$T_{j\min} < T_j < T_{j\max}$; 180° half-sine wave; 50 Hz;
V_{RSM}	Non-repetitive peak reverse voltages	V	900÷1700	$T_{j\min} < T_j < T_{j\max}$; 180° half-sine wave; 50 Hz; single pulse;
V_R	Reverse continuous voltages	V	$0.75 \cdot V_{RRM}$	$T_j=T_{j\max}$;
THERMAL				
T_{stg}	Storage temperature	°C	- 60 ÷ 50	
T_j	Operating junction temperature	°C	- 60 ÷ 150	
MECHANICAL				
M	Tightening torque	Nm	20 ÷ 30	
a	Acceleration	m/s^2	100	

CHARACTERISTICS

Symbols and parameters		Units	Values	Conditions
ON-STATE				
V_{FM}	Peak forward voltage, max	V	2.20	$T_j=25\text{ }^\circ\text{C}; I_{FM}=785\text{ A}$
$V_{F(TO)}$	Forward threshold voltage, max	V	1.25	$T_j=T_{j\text{ max}};$
r_T	Forward slope resistance, max	m Ω	1.100	$0.5\pi I_{FAV} < I_T < 1.5\pi I_{FAV}$
BLOCKING				
I_{RRM}	Repetitive peak reverse current, max	mA	40	$T_j=T_{j\text{ max}};$ $V_R=V_{RRM}$
SWITCHING				
Q_{rr}	Total recovered charge, max	μC	250	$T_j=T_{j\text{ max}}; I_{FM}=250\text{ A};$
t_{rr}	Reverse recovery time, max	μs	2.5 ÷ 5	$di_R/dt=-100\text{ A}/\mu\text{s};$
I_{rrM}	Peak reverse recovery current, typ	A	200	$V_R=100\text{ V};$
THERMAL				
R_{thjc}	Thermal resistance, junction to case, max	$^\circ\text{C}/\text{W}$	0.1000	Direct current
MECHANICAL				
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							GROUP OF RECOVERY TIME				
DF	261	250		16	M4	N	Group Symbol	M4	K4	H4	E4
1	2	3	4	5	6	7	$t_{rr}, \mu\text{s}$	2.5	3.2	4	5
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	DF261-250-16		-	Red tube
Reverse	Cathode to stud	DF261-250X-16		Black tube	-

All dimensions in millimeters (inches)