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 μs	
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	$A^2s\cdot10^3$	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·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 °C; I_{FM}=785 A
$V_{F(TO)}$	Forward threshold voltage, max	V	1.25	T_j=$T_{j\ max}$; 0.5 π I_{FAV} < I_T < 1.5 π I_{FAV}
r_T	Forward slope resistance, max	mΩ	1.100	
BLOCKING				
I_{RRM}	Repetitive peak reverse current, max	mA	40	T_j=$T_{j\ max}$; V_R=V_{RRM}
SWITCHING				
Q_{rr}	Total recovered charge, max	μC	250	T_j=$T_{j\ max}$; I_{FM}=250 A ; di_R/dt=-100 A/μs ; V_R=100 V;
t_{rr}	Reverse recovery time, max	μs	2.5 ÷ 5	
I_{rrM}	Peak reverse recovery current, typ	A	200	
THERMAL				
R_{thjc}	Thermal resistance, junction to case, max	°C/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

DF	261	250		16	M4	N
1	2	3	4	5	6	7

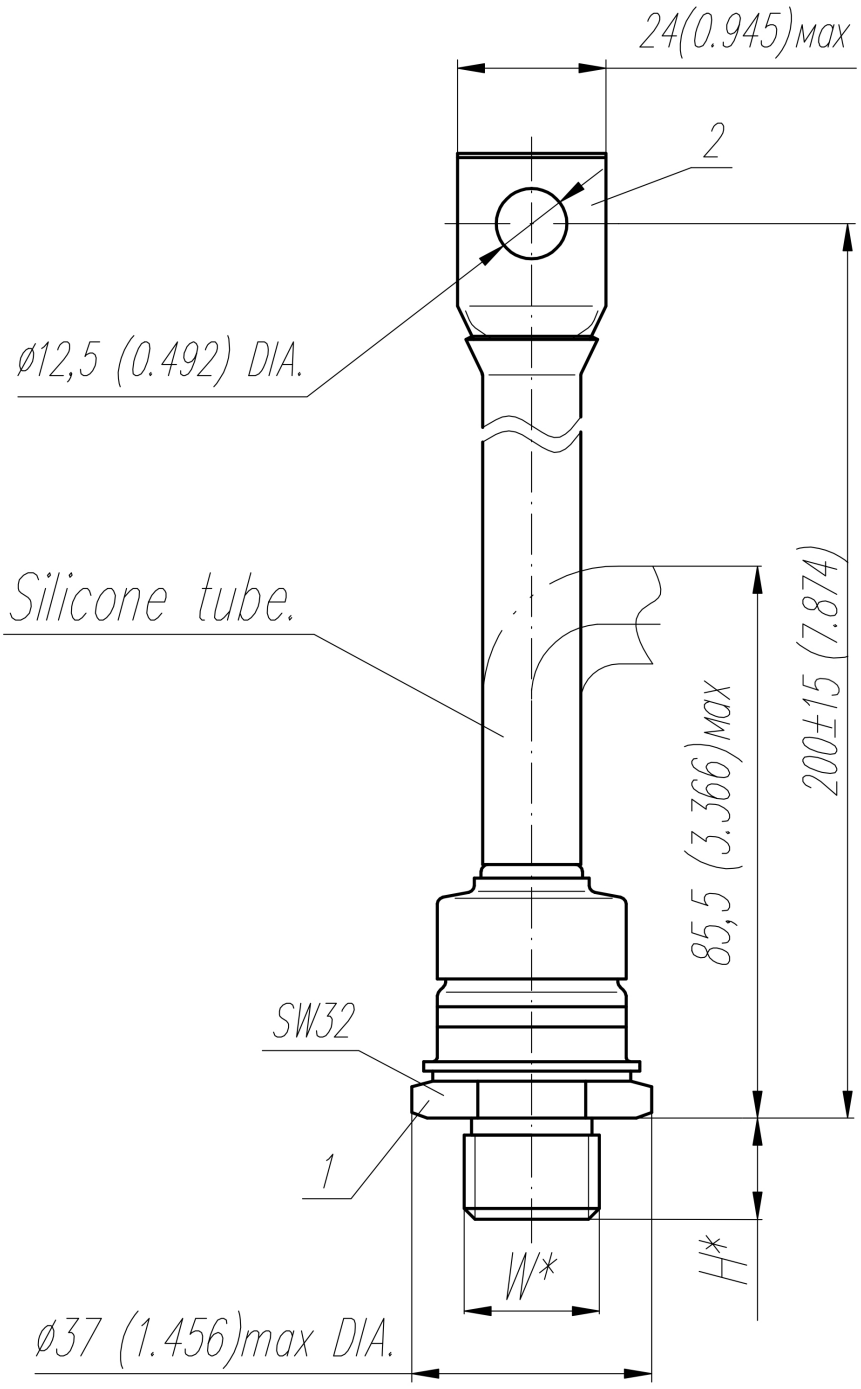
1. Fast recovery diode
2. Design version
3. Average forward current, A
4. Polarity: X – Cathode to Stud; Anode to Stud – no symbol
5. Voltage code
6. Group of reverse recovery time
7. Ambient conditions: N – normal; T – tropical

GROUP OF RECOVERY TIME

Group Symbol	M4	K4	H4	E4
t_{rr}, μs	2.5	3.2	4	5

OVERALL DIMENSIONS

Package type: D.SA2



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)

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