

SF11S - SF18S

1.0 AMP. Super Fast Rectifiers

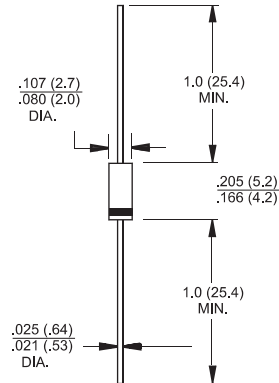
A-405

Features

- ✧ High efficiency, low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ Low power loss.
- ✧ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Pure tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 0.22 gram



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	SF 11S	SF 12S	SF 13S	SF 14S	SF 15S	SF 16S	SF 17S	SF 18S	Units	
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	500	600	V	
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	350	420	V	
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	500	600	V	
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ T _A = 55 °C	I _(AV)	1.0								A	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	30								A	
Maximum Instantaneous Forward Voltage @ 1.0A	V _F	0.95				1.3		1.7		V	
Maximum DC Reverse Current @ T _A =25 °C at Rated DC Blocking Voltage @ T _A =100 °C	I _R	5.0 100									uA uA
Maximum Reverse Recovery Time (Note 1)	T _{rr}	35								nS	
Typical Junction Capacitance (Note 2)	C _j	30				15				pF	
Typical Thermal Resistance	R _{θJA}	100								°C/W	
Operating Temperature Range	T _J	-65 to +125								°C	
Storage Temperature Range	T _{STG}	-65 to +150								°C	

- Notes:
1. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$
 2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
 3. Mount on Cu-Pad Size 5mm x 5mm on PCB.

RATINGS AND CHARACTERISTIC CURVES (SF11S THRU SF18S)

FIG.1- MAXIMUM AVERAGE FORWARD CURRENT DERATING

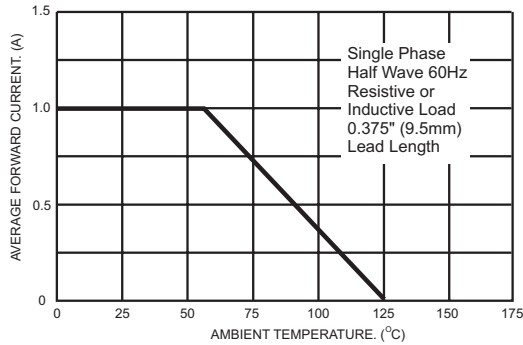


FIG.2- TYPICAL REVERSE CHARACTERISTICS

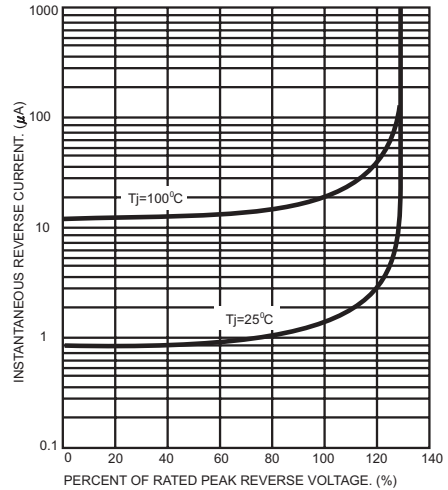


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

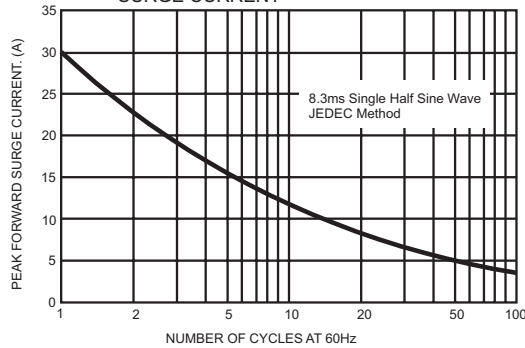


FIG.5- TYPICAL FORWARD CHARACTERISTICS

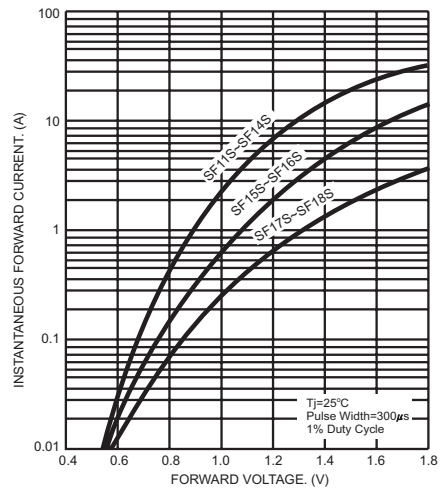


FIG.4- TYPICAL JUNCTION CAPACITANCE

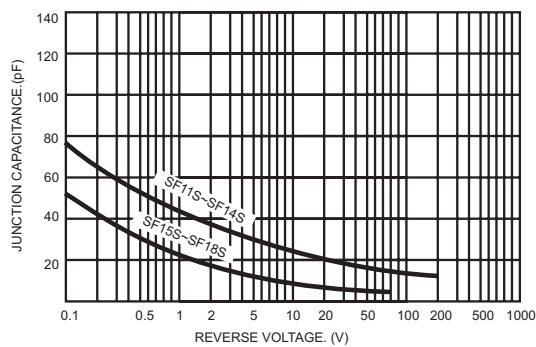


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

