

**SF11
THRU
SF18**

Features

- High Surge Capability
- Low Leakage
- Low Forward Voltage Drop
- High Current Capability
- Super Fast Switching Speed For High Efficiency

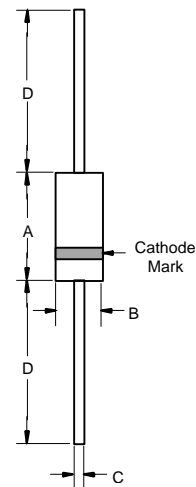
**1 Amp Glass
Passivated Super Fast
Recovery Rectifier
50 to 600 Volts**

Maximum Ratings

- Operating Temperature: -65°C to +150°C
- Storage Temperature: -65°C to +150°C

Microsemi Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
SF11	SF11	50V	35V	50V
SF12	SF12	100V	70V	100V
SF13	SF13	150V	105V	150V
SF14	SF14	200V	140V	200V
SF15	SF15	300V	210V	300V
SF16	SF16	400V	280V	400V
SF18	SF18	600V	420V	600V

DO-41



Electrical Characteristics @ 25°C Unless Otherwise Specified

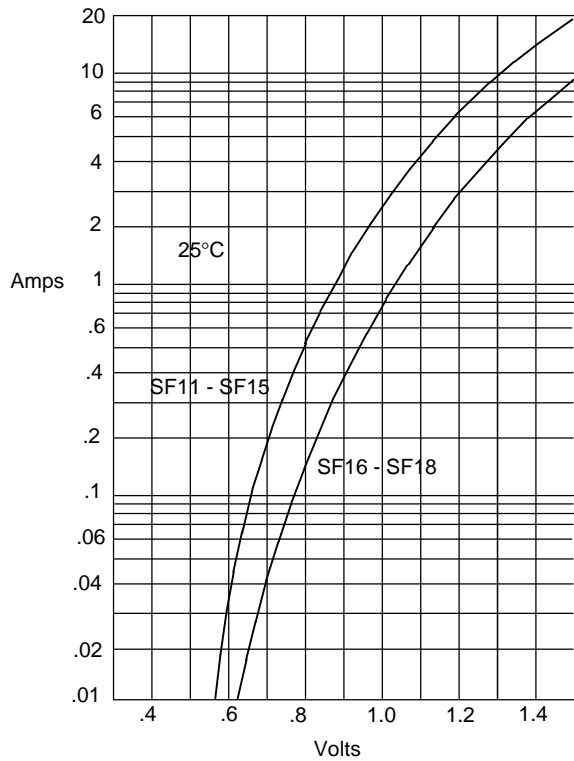
Average Forward Current	$I_{F(AV)}$	1 A	$T_A = 55^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	30A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	V_F	.95V 1.25V	$I_{FM} = 1.0\text{A};$ $T_A = 25^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5 μA 50 μA	$T_A = 25^\circ\text{C}$ $T_A = 150^\circ\text{C}$
Maximum Reverse Recovery Time	T_{rr}	35ns	$I_F=0.5\text{A}, I_R=1.0\text{A},$ $I_{rr}=0.25\text{A}$
Typical Junction Capacitance	C_J	15pF 10pF	Measured at 1.0MHz, $V_R=4.0\text{V}$

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.166	.205	4.10	5.20	
B	.080	.107	2.00	2.70	
C	.028	.034	.70	.90	
D	1.000	---	25.40	---	

*Pulse Test: Pulse Width 300 μsec , Duty Cycle 1%

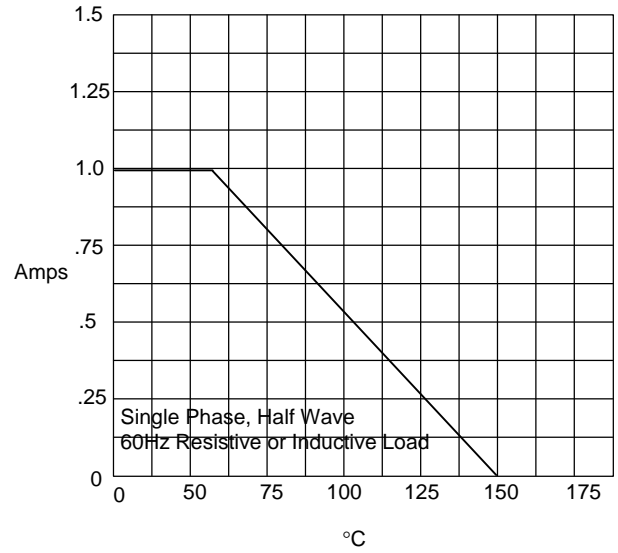
SF11 thru SF18

Figure 1
Typical Forward Characteristics



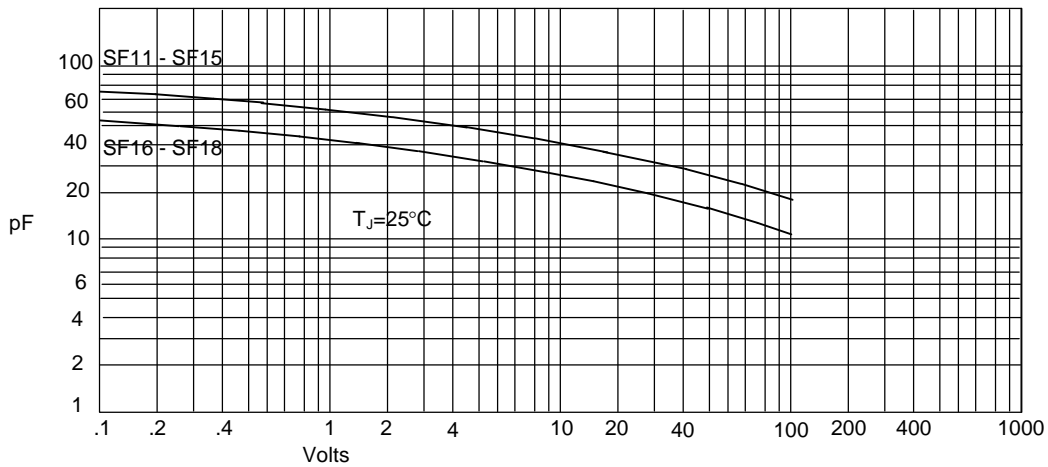
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



Average Forward Rectified Current - Amperes *versus*
Ambient Temperature - °C

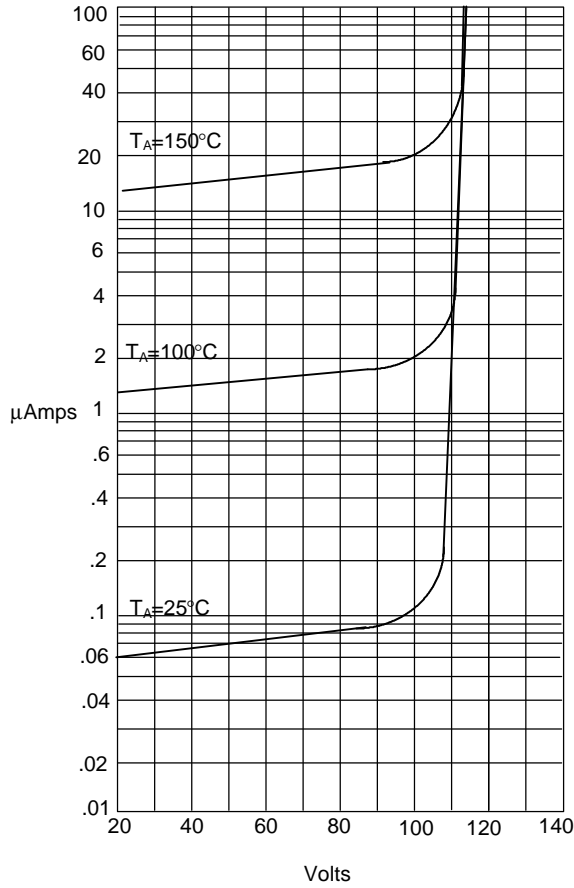
Figure 3
Junction Capacitance



Junction Capacitance - pF *versus*
Reverse Voltage - Volts

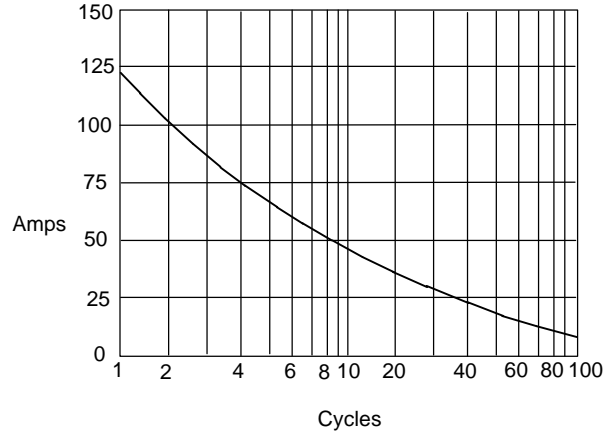
SF11 thru SF18

Figure 4
Typical Reverse Characteristics



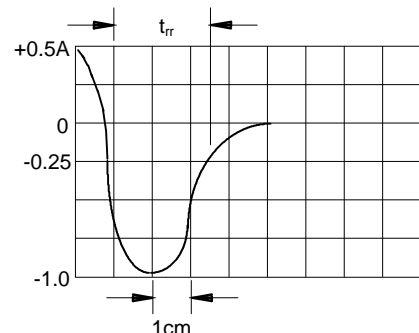
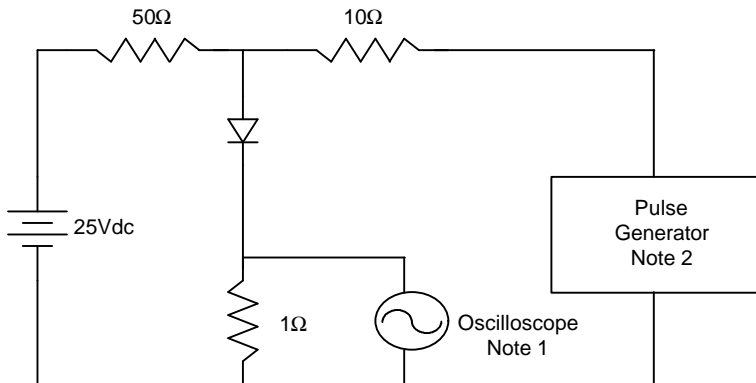
Instantaneous Reverse Leakage Current - MicroAmperes *versus*
Percent Of Rated Peak Reverse Voltage - Volts

Figure 5
Peak Forward Surge Current



Peak Forward Surge Current - Amperes *versus*
Number Of Cycles At 60Hz - Cycles

Figure 6
Reverse Recovery Time Characteristic And Test Circuit Diagram



Set Time Base for 20/100ns/cm

- Notes:
1. Rise Time = 7ns max.
Input impedance = 1 megohm, 22pF
 2. Rise Time = 10ns max.
Source impedance = 50 ohms
 3. Resistors are non-inductive