



Micro Commercial Components



Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311

Phone: (818) 701-4933

Fax: (818) 701-4939

**SF11  
Thru  
SF18**

## Features

- Fast Switching Speed
- Marking : Type Number
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

## Maximum Ratings

- Operating Temperature: -55°C to +125°C
- Storage Temperature: -55°C to +150°C
- Typical Thermal Resistance: 50.0°C/W Junction To Ambient

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

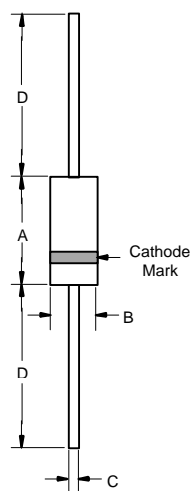
## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0A	$T_A = 55^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	30.0A	8.3ms, half sine
Maximum Instantaneous Forward Voltage SF11-SF14 SF15-SF16 SF18	$V_F$	0.95V 1.30V 1.70V	$I_{FM} = 1.0A$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	5.0uA 100uA	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$
Maximum Reverse Recovery Time	$T_{RR}$	35.0nS	$I_F = 0.5A$ , $I_R = 1.0A$ , $I_{RR} = 0.25A$
Typical Junction Capacitance SF11-SF14 SF15-SF18	$C_J$	40pF 25pF	Measured at 1.0MHz, $V_R = 4.0V$

Note: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7.

**1.0 Amp Super Fast  
Recovery Rectifiers  
50 to 600 Volts**

**DO-41**

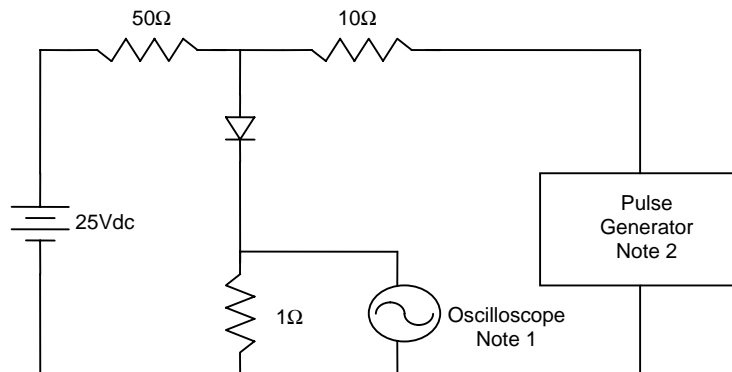


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.166	.205	4.10	5.20	
B	.080	.107	2.00	2.70	
C	.028	.034	.70	.90	
D	1.000	---	25.40	---	

[www.mccsemi.com](http://www.mccsemi.com)

## SF11 thru SF18

Figure 1  
Reverse Recovery Time Characteristic And Test Circuit Diagram



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

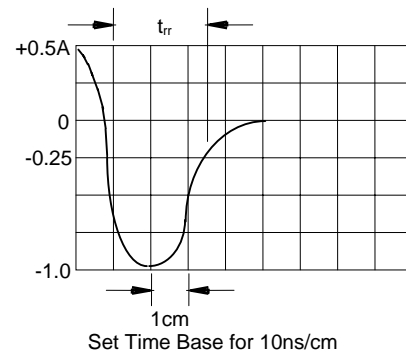


Figure 2  
Peak Forward Surge Current

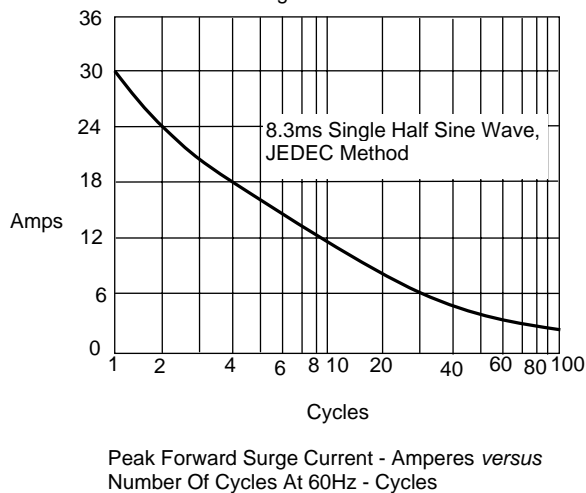
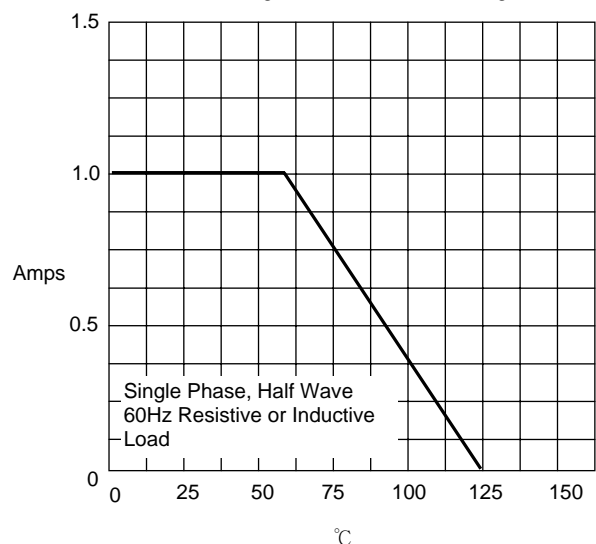


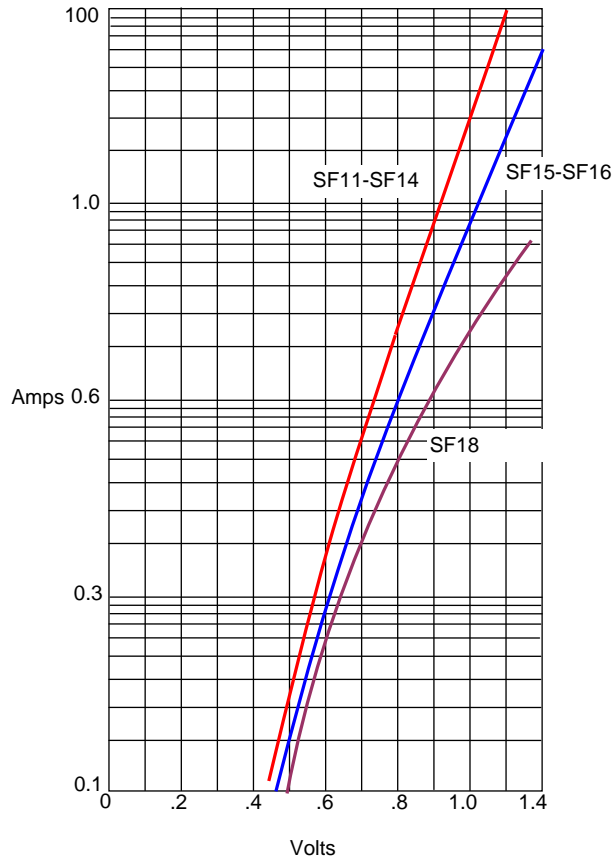
Figure 3  
Maximum Average Forward Current Rating



Average Forward Rectified Current Per Leg - Amperes versus  
Ambient Temperature - °C

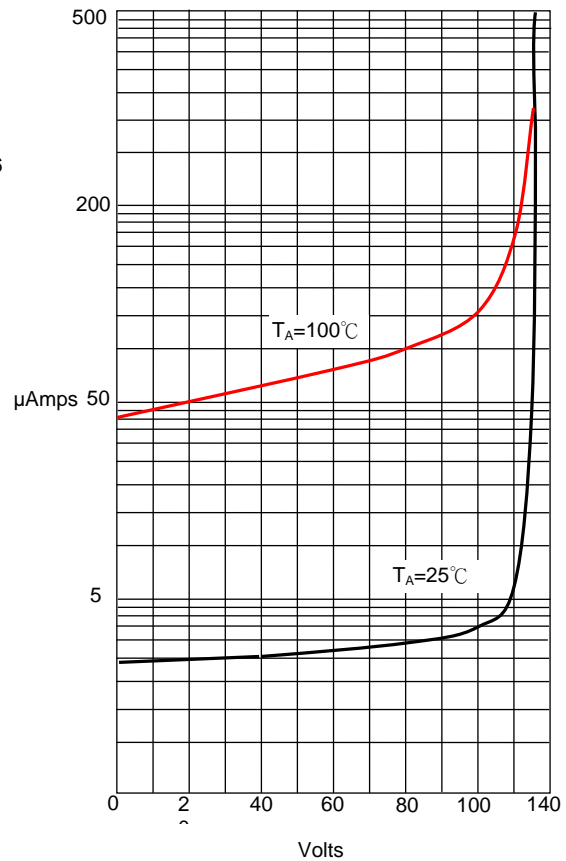
## SF11 thru SF18

Figure 4  
Typical Junction Characteristics



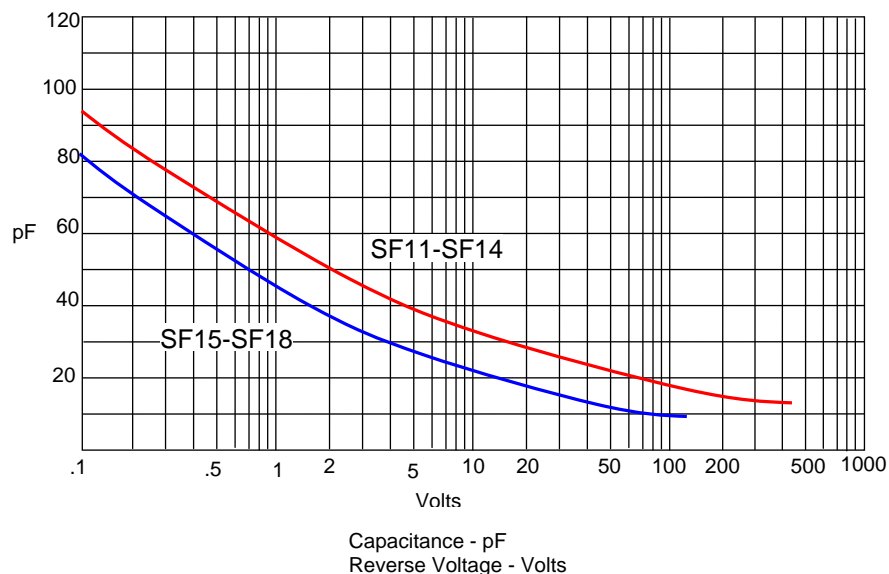
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 5  
Typical Reverse Characteristics



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

Figure 6  
Typical Junction Characteristics



Capacitance - pF  
Reverse Voltage - Volts

## Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 5Kpcs/Reel
Part Number-AP	Ammo Packing: 5Kpcs/Ammo Box
Part Number-BP	Bulk: 50Kpcs/Carton

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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