



Micro Commercial Components

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**SF11  
 Thru  
 SF19**

## Features

- Fast Switching Speed
- Marking : Type Number
- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL rating 1

## 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
SF17	600V	420V	600V
SF18	800V	560V	800V
SF19	1000V	700V	1000V

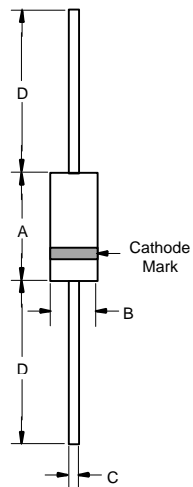
## Electrical Characteristics @ 25°C Unless Otherwise Specified

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 SF17-SF19	$V_F$	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-SF19	$C_J$	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 1000 Volts**

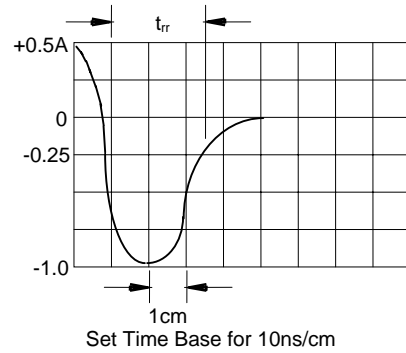
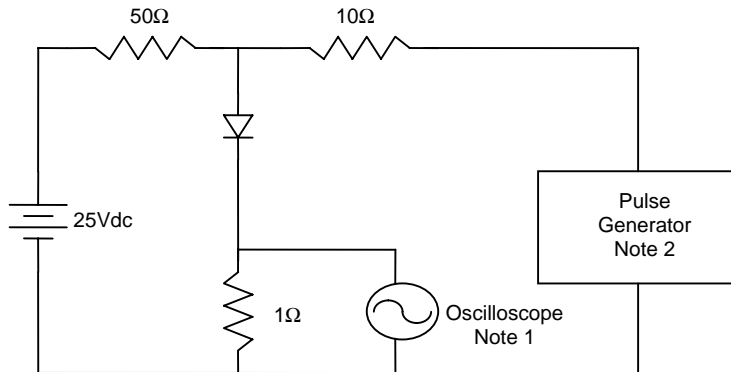
DO-41



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	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	---	

## SF11 thru SF19

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

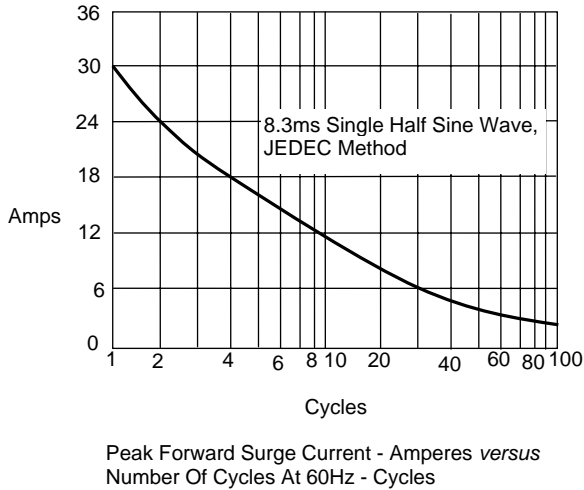
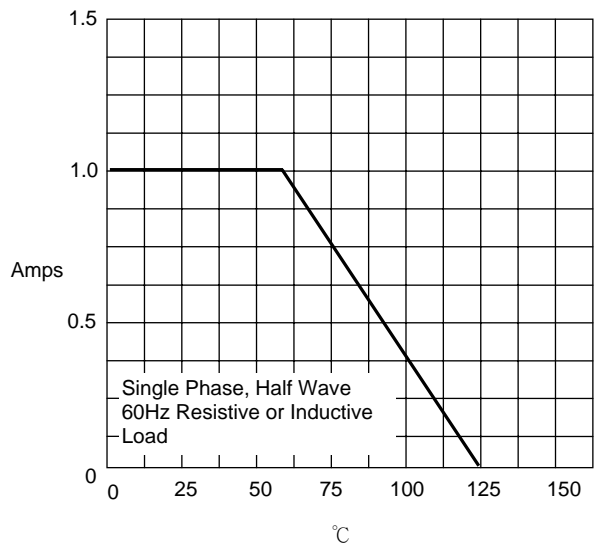


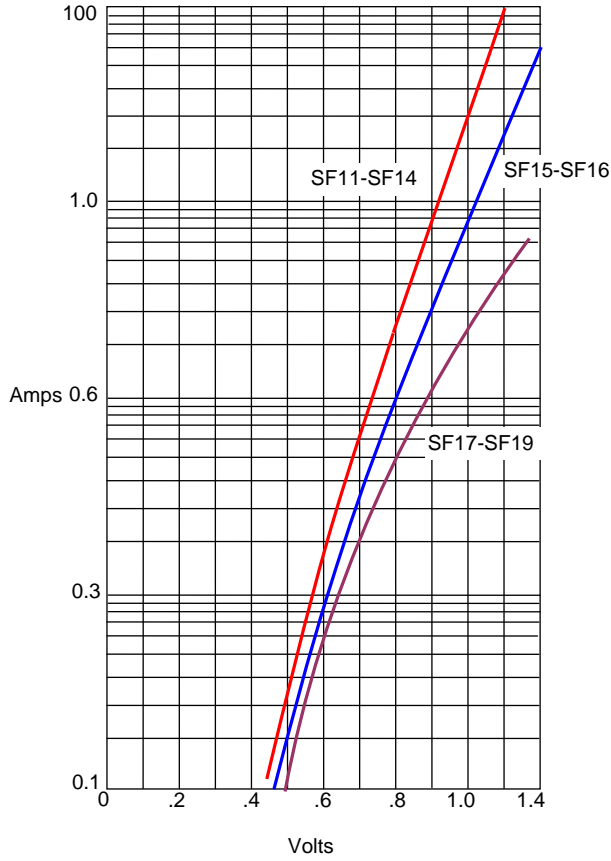
Figure 3  
Maximum Average Forward Current Rating



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

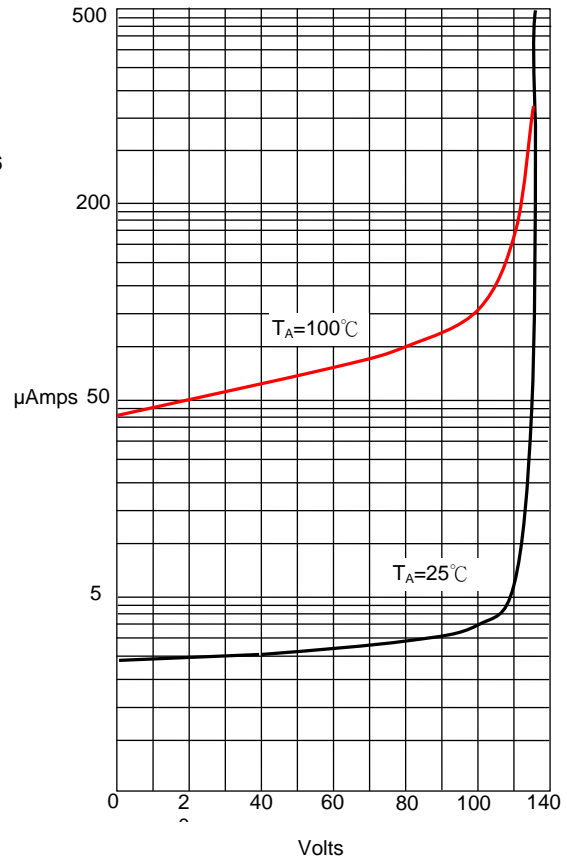
SF11 thru SF19

Figure 4  
Typical Junction Characteristics



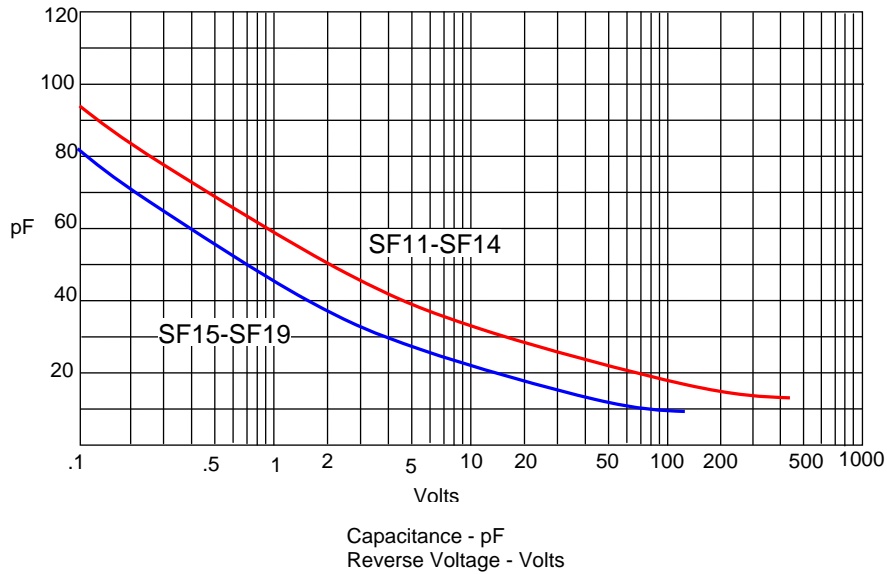
Instantaneous Forward Current -Amperes versus  
Instantaneous Forward Voltage - Volts

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



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## Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel; 5Kpcs/Reel
(Part Number)-AP	Ammo Packing;5Kpcs/AmmoBox
(Part Number)-BP	Bulk;1Kpcs/Box

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