



Micro Commercial Components



Micro Commercial Components  
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**SF11M  
THRU  
SF18M**

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

**Features**

- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- High Surge Capability
- Low Leakage
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Super Fast Switching Speed For High Efficiency
- Halogen free available upon request by adding suffix "-HF"

**Maximum Ratings**

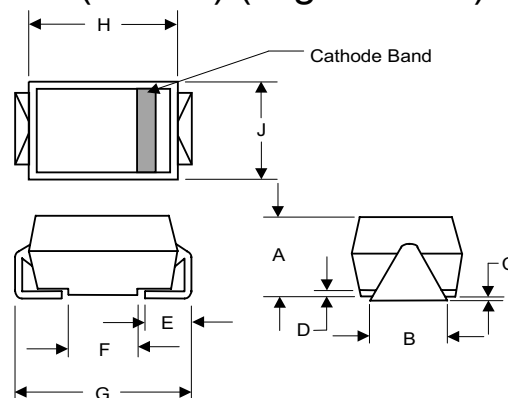
- Operating Temperature: -65°C to +150°C
- Storage Temperature: -65°C to +150°C

MCC Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
SF11M	SF11	50V	35V	50V
SF12M	SF12	100V	70V	100V
SF13M	SF13	150V	105V	150V
SF14M	SF14	200V	140V	200V
SF15M	SF15	300V	210V	300V
SF16M	SF16	400V	280V	400V
SF18M	SF18	600V	420V	600V

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

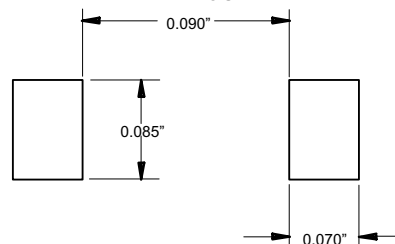
Average Forward Current	$I_{F(AV)}$	1 A	$T_A = 55^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	30A	8.3ms, half sine
Maximum Instantaneous Forward Voltage SF11M-SF15M SF16M-SF18M	$V_F$	.975V 1.75V	$I_{FM} = 1.0\text{A};$ $T_A = 25^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	5 $\mu\text{A}$ 50 $\mu\text{A}$	$T_A = 25^\circ\text{C}$ $T_A = 150^\circ\text{C}$
Maximum Reverse Recovery Time SF11M-SF15M SF16M-SF18M	$T_{rr}$	35ns 50ns	$I_F=0.5\text{A}, I_R=1.0\text{A},$ $I_{rr}=0.25\text{A}$
Typical Junction Capacitance SF11M-SF15M SF16M-SF18M	$C_J$	15pF 10pF	Measured at 1.0MHz, $V_R=4.0\text{V}$

**DO-214AC  
(HSMA) (High Profile)**



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.078	.116	1.98	2.95	
B	.067	.089	1.70	2.25	
C	.002	.008	.05	.20	
D	—	.02	—	.51	
E	.035	.055	.89	1.40	
F	.065	.096	1.65	2.45	
G	.205	.224	5.21	5.69	
H	.160	.180	4.06	4.57	
J	.100	.112	2.57	2.84	

**SUGGESTED SOLDER  
PAD LAYOUT**

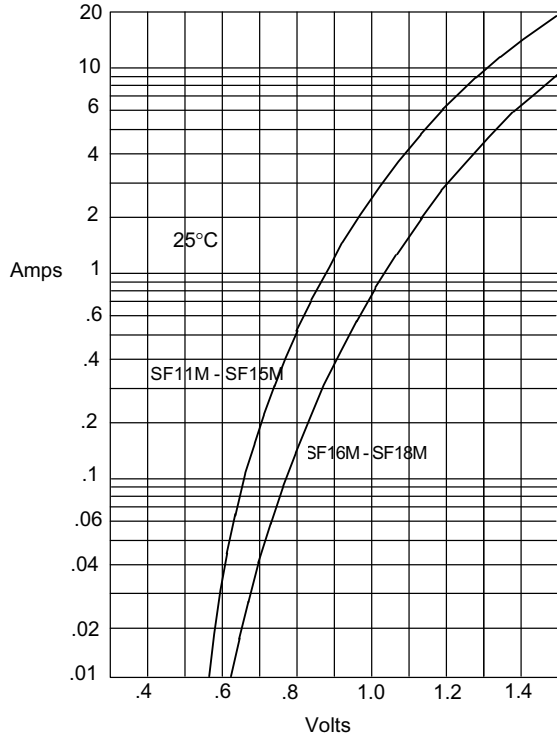


\*Pulse Test: Pulse Width 300 $\mu\text{sec}$ , Duty Cycle 1%

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

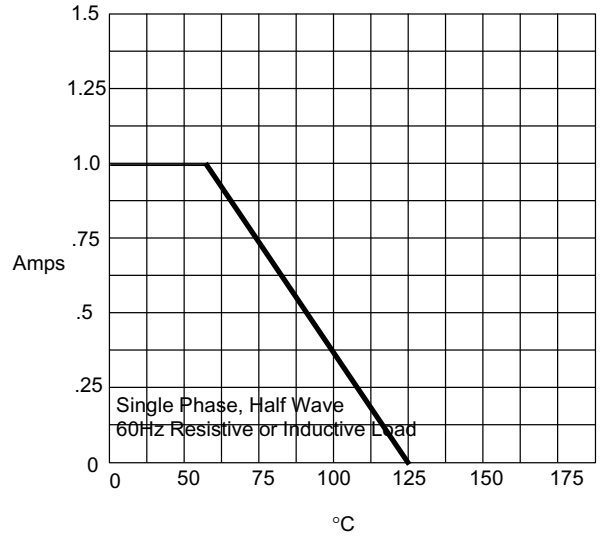
# SF11M thru SF18M

Figure 1  
Typical Forward Characteristics



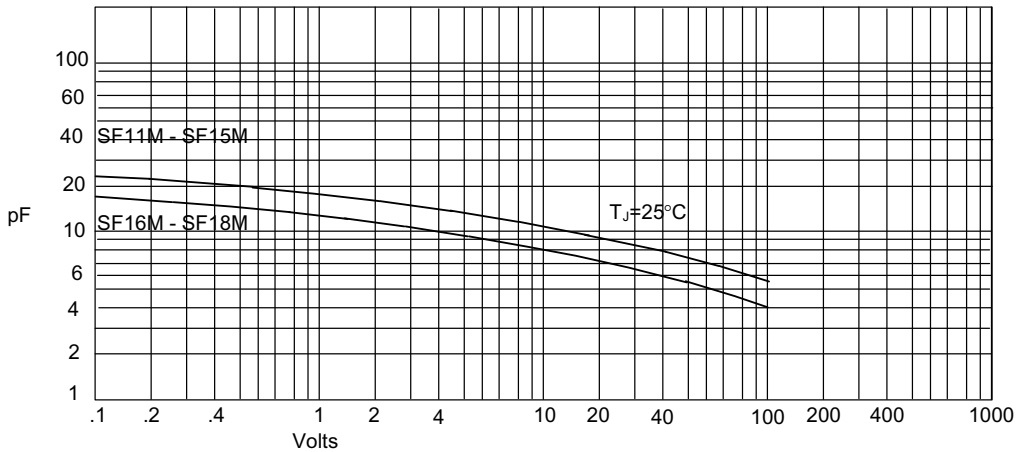
Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



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

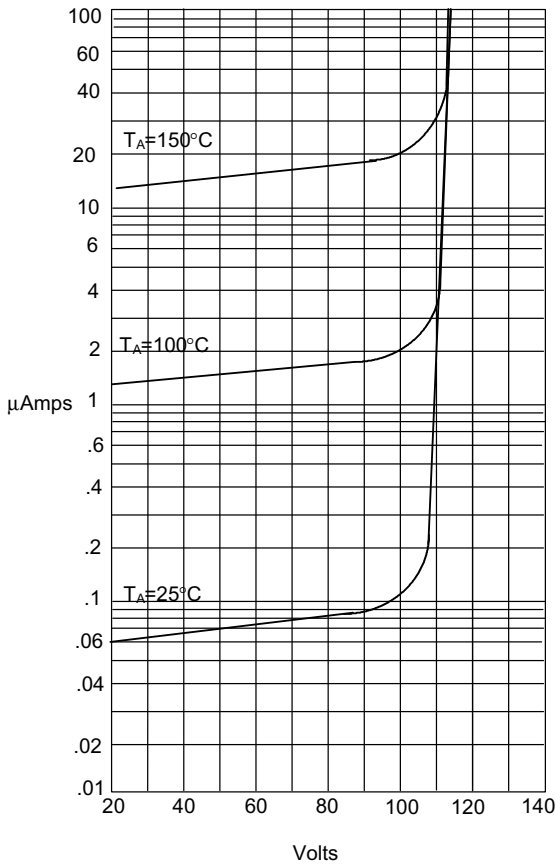
Figure 3  
Junction Capacitance



Junction Capacitance - pF *versus*  
Reverse Voltage - Volts

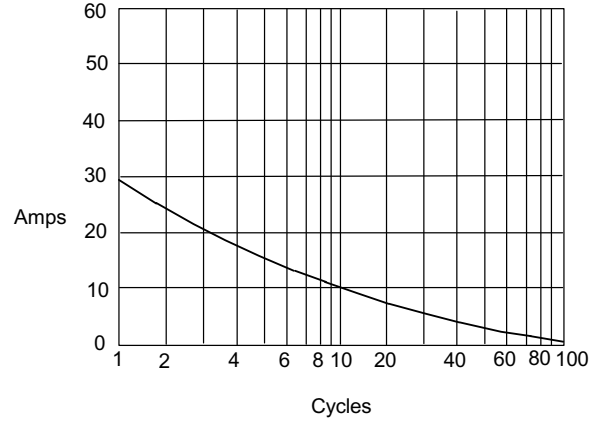
### SF11M thru SF18M

Figure 4  
Typical Reverse Characteristics



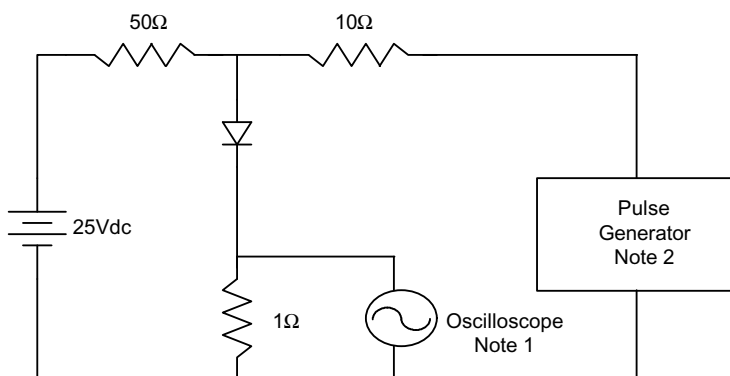
Instantaneous Reverse Leakage Current - MicroAmperes versus Percent Of Rated Peak Reverse Voltage - Volts

Figure 5  
Peak Forward Surge Current

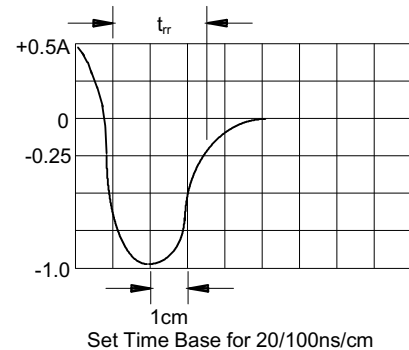


Peak Forward Surge Current - Amperes versus Number Of Cycles At 60Hz - Cycles

Figure 6  
Reverse Recovery Time Characteristic And Test Circuit Diagram



- 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





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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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

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