



Micro Commercial Components  
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# FR10A THRU FR10M

## Features

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

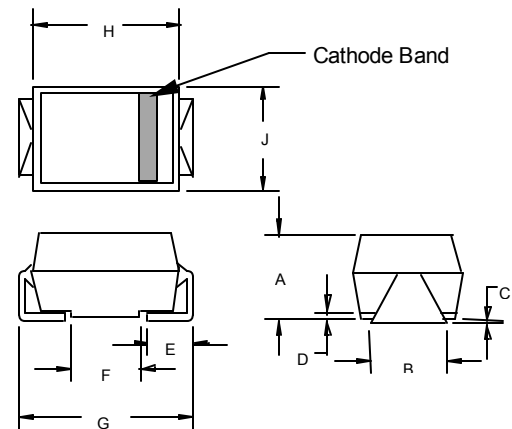
## Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C

MCC Part Number	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
FR10A	50V	35V	50V
FR10B	100V	70V	100V
FR10D	200V	140V	200V
FR10G	400V	280V	400V
FR10J	600V	420V	600V
FR10K	800V	560V	800V
FR10M	1000V	700V	1000V

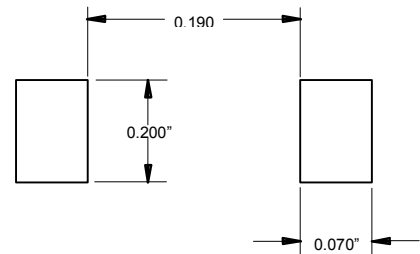
## 10 Amp Fast Recovery Rectifier 50 to 1000 Volts

### DO-214AB (SMCJ) (Round Lead)



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.200	.214	5.08	5.43	
B	.177	.203	4.70	5.30	
C	.002	.005	.05	.13	
D	—	.02	—	.51	
E	.053	.067	1.35	1.70	
F	.168	.179	4.27	4.55	
G	.320	.330	8.13	8.38	
H	.239	.243	6.08	6.18	
J	.234	.240	5.95	6.10	

### SUGGESTED SOLDER PAD LAYOUT



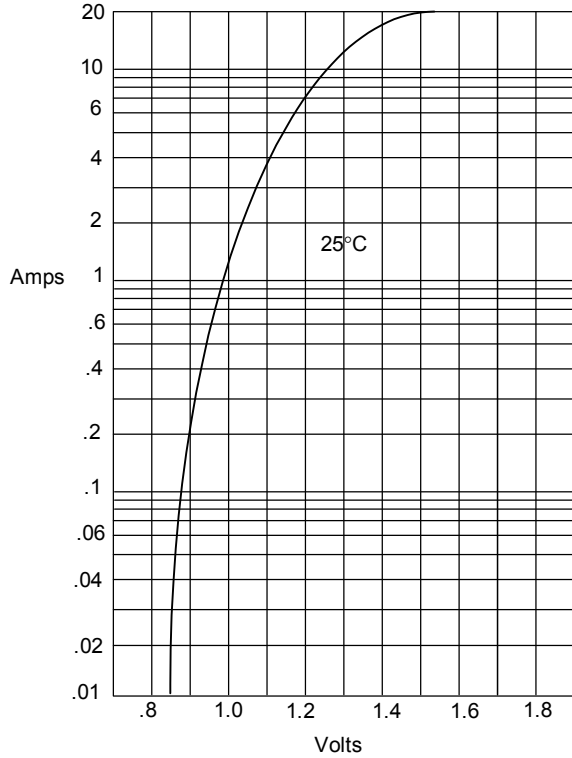
### Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	10 A	$T_A = 55^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	300A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	$V_F$	1.30V	$I_{FM} = 10.0\text{A};$ $T_A = 25^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	10 $\mu\text{A}$ 50 $\mu\text{A}$	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$
Maximum Reverse Recovery Time FR10A-FR10G FR10J FR10K-FR10M	$T_{rr}$	150ns 250ns 500ns	$I_F=0.5\text{A}, I_R=1.0\text{A},$ $I_{rr}=0.25\text{A}$

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

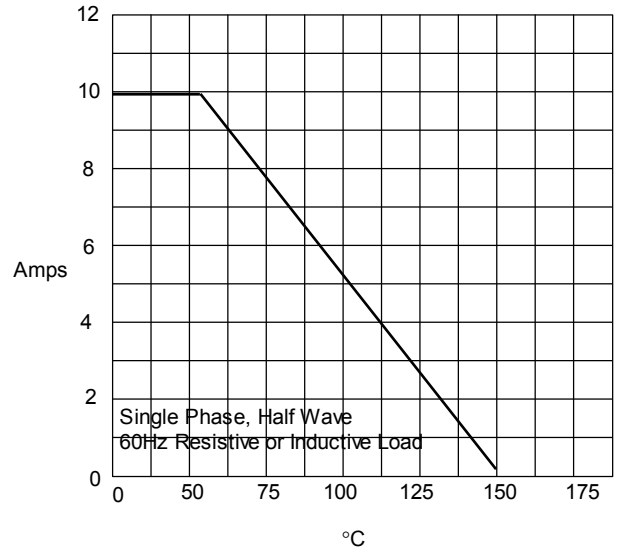
# FR10A thru FR10M

Figure 1  
Typical Forward Characteristics



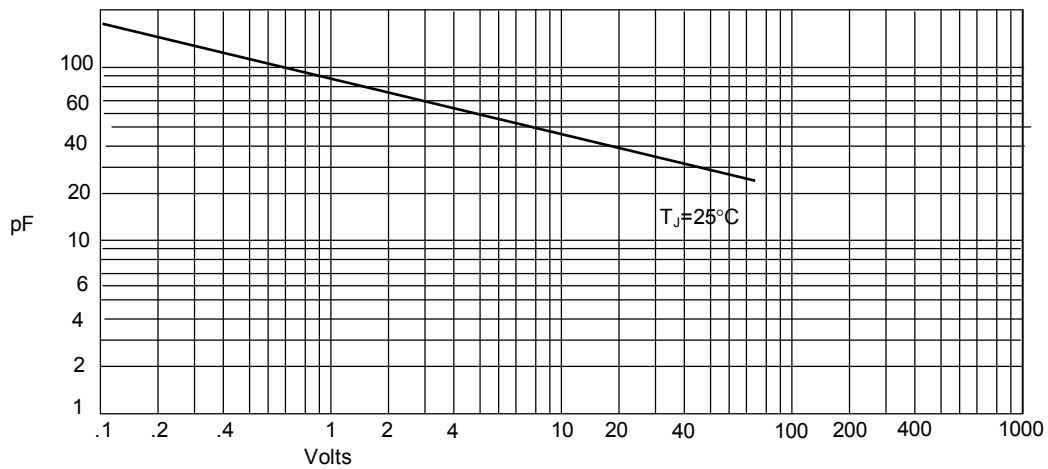
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



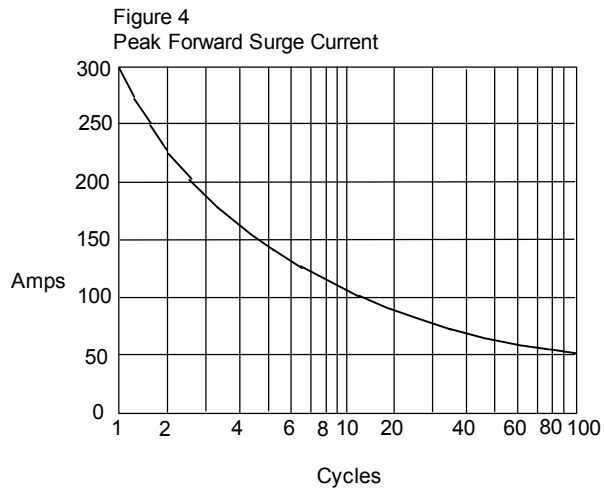
Single Phase, Half Wave  
60Hz Resistive or Inductive Load

Figure 3  
Junction Capacitance



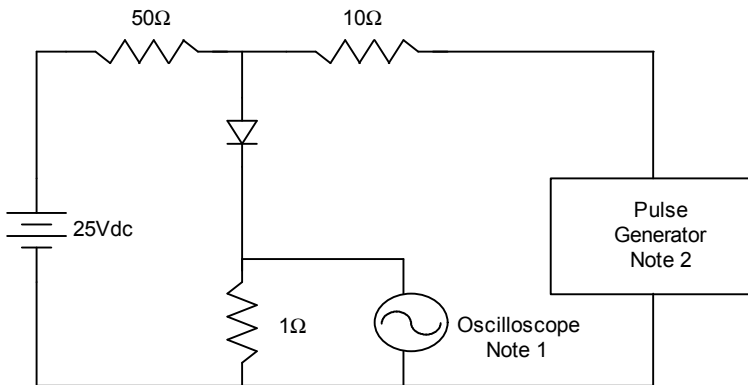
Junction Capacitance - pF versus  
Reverse Voltage - Volts

# FR10A thru FR10M



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

Figure 5  
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

