

# M·C·C·

Micro Commercial Components



Micro Commercial Components  
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FR10A  
THRU  
FR10M

## Features

- 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
- Marking : Cathode band and type number
- Fast Switching Speed For High Efficiency
- Halogen free available upon request by adding suffix "-HF"

## 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

## Electrical Characteristics @ 25°C Unless Otherwise Specified

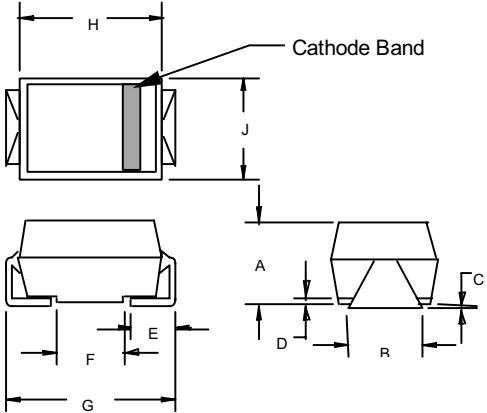
Average Forward Current	$I_{F(AV)}$	10 A	$T_A = 55^\circ C$
Peak Forward Surge Current	$I_{FSM}$	300A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	$V_F$	1.30V	$I_{FM} = 10.0A$ ; $T_A = 25^\circ C$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	10µA 50µA	$T_A = 25^\circ C$ $T_A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

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

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

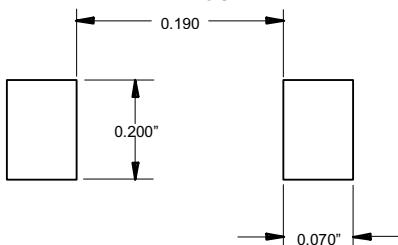
10 Amp Fast Recovery Rectifier  
50 to 1000 Volts

DO-214AB  
(HSMC) (Round Lead)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.200	.214	5.08	5.43	
B	.177	.203	4.70	5.30	
C	.002	.005	.05	.13	
D	—	.02	—	.51	
E	.047	.066	1.20	1.42	
F	.168	.179	4.27	4.55	
G	.309	.322	7.85	8.18	
H	.239	.243	6.08	6.18	
J	.234	.240	5.95	6.10	

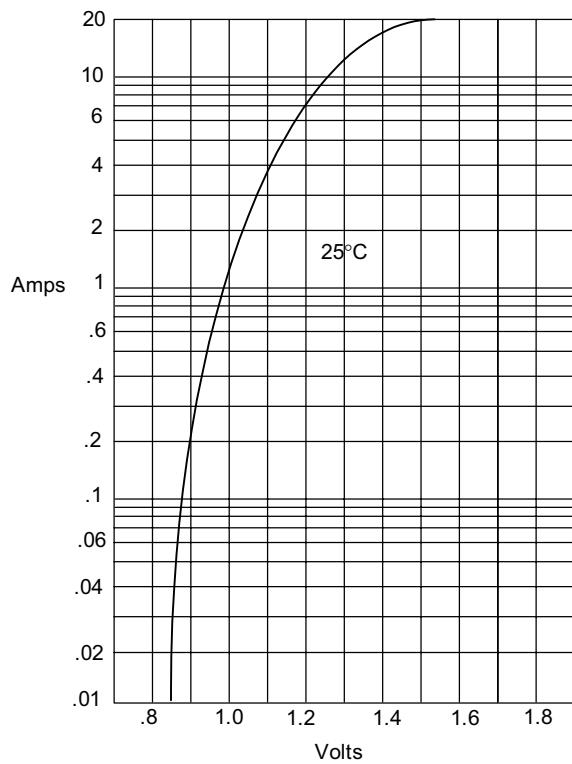
### SUGGESTED SOLDER PAD LAYOUT



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

# FR10A thru FR10M

Figure 1  
Typical Forward Characteristics



Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve

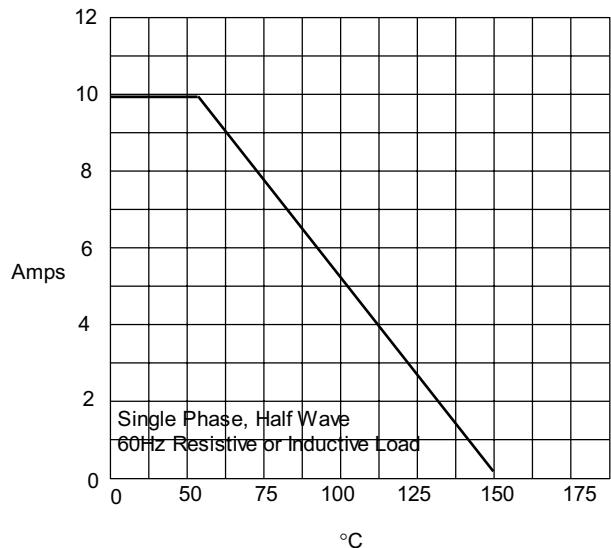
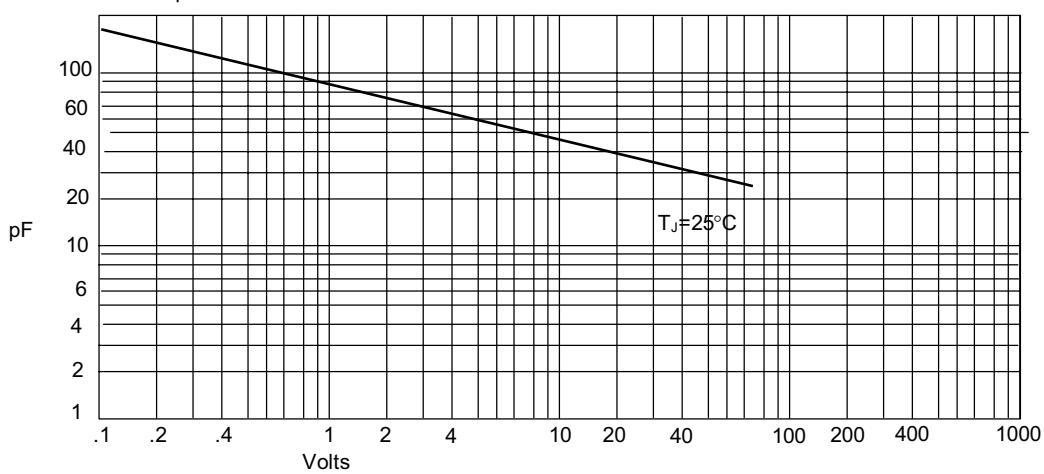
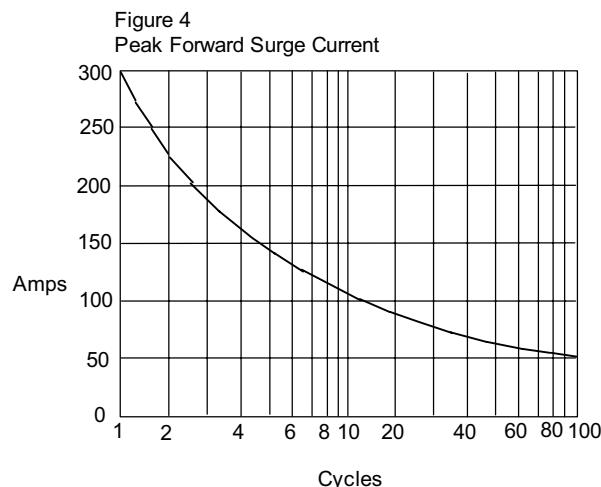


Figure 3  
Junction Capacitance



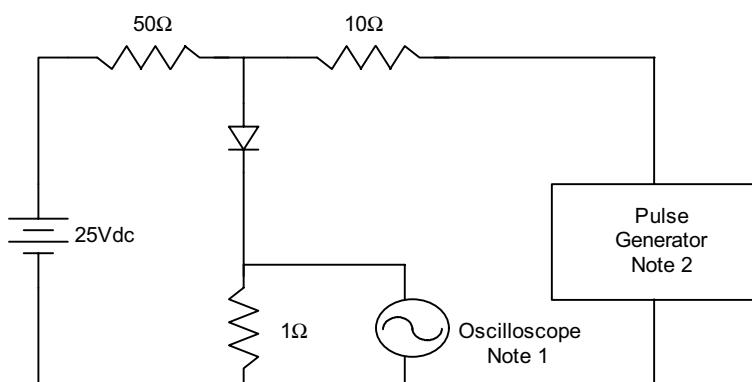
Junction Capacitance - pF versus  
Reverse Voltage - Volts

## FR10A thru FR10M



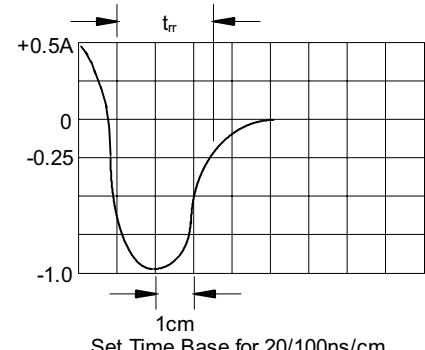
Peak Forward Surge Current - Amperes versus  
Number Of Cycles At 60Hz - Cycles

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





TM

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## Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 1.5 Kpcs/Reel

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

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